



How to Convert \$/cubic foot to \$/therm for Natural Gas

Last Updated: Thursday, September 14, 2017

Software/Versions Affected:

- RESFEN > 5
- RESFEN > 6

In order to convert \$/cubic foot for natural gas into \$/therm, which are the gas cost units in THERM, do the following conversion:

Multiply the cost of the natural gas in cubic feet (\$/cubic feet) times 0.01 to get cost per Therm (\$/Therm)

Background:

1 cubic foot of natural gas = 1,000 Btus

1 Therm = 100,000 Btus

Therefore:

1 Therm = 100 cubic feet of natural gas

or

1 cubic foot of natural gas = 0.01 Therm

Example:

\$0.10 / cubic foot of natural gas = \$0.001 / Therm

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#)

» [Large Volume Transfer/Processing Facility](#)

SWIS Facility/Site Activity Details

Gold Coast Recycling Facility (56-AA-0123)

Summary	Details	Activities 1	Inspections 357	Enforcement Actions 0
Documents 164				

Activity

Large Volume Transfer/Processing Facility

Classification

Solid Waste Facility

Category

Transfer/Processing

Operational Status

Active

Regulatory Status

Permitted

Inspection Frequency

Monthly

Max. Permitted Throughput

440

Volume Unit Type

Tons per day

Remaining Capacity

--

Remaining Capacity Date

--

Max. Permit Capacity

440

Capacity Unit Type

Tons per day

Total Acreage

2.00

Disposal Acreage

--

Permitted Elevation

--

Elevation Type

--

Permitted Depth

--

Depth Type

--

WDR Landfill Class

--

Waste Types

Mixed municipal
Construction/demolition

CalRecycle Contact: [Theodore Tasiopoulos](#) (916) 341-6084

[← Back](#)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#) » Solid Waste Landfill

SWIS Facility/Site Activity Details

Toland Road Landfill (56-AA-0005)

Summary	Details	Activities 1	Inspections 381	Enforcement Actions 0
Documents 449				

Activity

Solid Waste Landfill

Classification

Solid Waste Facility

Category

Disposal

Operational Status

Active

Regulatory Status

Permitted

Ceased Operation Date

4/30/2033

Closure Type

Estimate

Inspection Frequency

Monthly

Max. Permitted Throughput

2,864

Volume Unit Type

Tons per day

Remaining Capacity

16,068,864

Remaining Capacity Date

12/3/2018

Max. Permit Capacity

30,000,000

Capacity Unit Type

Cubic Yards

Total Acreage

216.50

Disposal Acreage

91.40

Permitted Elevation

1,435

Elevation Type

MSL

Permitted Depth

330

Depth Type

BGL

WDR Landfill Class

III

Waste Types

Tires

Sludge (BioSolids)

Mixed municipal

Inert

Industrial

Green Materials

Dead Animals

Contaminated soil

Construction/demolition

Asbestos

Agricultural

CalRecycle Contact: [Theodore Tasiopoulos](#) (916) 341-6084

[← Back](#)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » This Site

SWIS Facility/Site Summary

Toland Road Landfill (56-AA-0005)

Summary	Details	Activities 1	Inspections 381	Enforcement Actions 0
Documents 449				

Site Information

Toland Road Landfill
 3500 North Toland Road
 Santa Paula, CA 93060

Site Operational Status

Active

Site Regulatory Status

Permitted

Operator

Ventura Regional Sanitation District
 4105 W Gonzales Rd
 Oxnard, CA 93036
 Phone: (805) 658-4675






Land Owner(s)

Name ↑	Address	Phone
Ventura Regional Sanitation District	1001 Partridge Dr Ste 150, Ventura, CA, 93003-0704	

Activities

	Activity ↑	Operational Status	Regulatory Status
→	Solid Waste Landfill	Active	Permitted





Recent Inspections







	Inspection Date ↓	CalRecycle Received
	12/21/2022	1/19/2023
	11/23/2022	12/15/2022
	10/27/2022	11/22/2022
	10/27/2022	11/28/2022
	9/26/2022	10/14/2022
	8/31/2022	9/22/2022
	7/20/2022	8/15/2022
	6/22/2022	7/14/2022
	5/25/2022	6/21/2022
	4/27/2022	5/19/2022

Local Enforcement Agency (LEA)


County of Ventura
 County Resource Management Agency, Environmental Health Division
 800 S Victoria Ave
 Ventura, CA 93009-0001
 Phone: (805) 654-2813

Recent Documents

	Title	Date ↓
	02 09 2023 - TRL Emergency Waiver of Standards - Storm Debris	2/9/2023
	02 02 2023 - TRL Emergency Waiver Request for Storm Debris	2/2/2023
	12 12 2022- TRL Change of Address Form 37	12/12/2022
	TRL JTD Amendment Acceptance Letter to Operator	7/21/2022

	Title	Date ↓
	TRL JTD Amendment Acceptance Letter to CalRecycle	7/21/2022
	TRL JTD Amendment Public Notice EngSpan	7/21/2022
	Toland Road Landfill JTD Amendment New Pages	6/23/2022
	E177 Recycle Form TRL JTD Amendment	6/23/2022
	Toland Road Landfill JTD Amendment New Pages	6/1/2022
	TRL Emergency Waiver 90 Day Report Final	6/17/2021

CalRecycle Contact: [Theodore Tasiopoulos](#) (916) 341-6084

 [Back](#)

©1995, 2019 California Department of Resources Recycling and Recovery (CalRecycle)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#) » Solid Waste Landfill

SWIS Facility/Site Activity Details

Simi Valley Landfill & Recycling Center (56-AA-0007)

Summary	Details	Activities 3	Inspections 730	Enforcement Actions 1
Documents 422				

Activity

Solid Waste Landfill

Classification

Solid Waste Facility

Category

Disposal

Operational Status

Active

Regulatory Status

Permitted

Ceased Operation Date

3/31/2063

Closure Type

Estimate

Inspection Frequency

Monthly

Max. Permitted Throughput

64,750

Volume Unit Type

Tons per week

Remaining Capacity

82,954,873

Remaining Capacity Date

1/1/2019

Max. Permit Capacity

119,600,000

Capacity Unit Type

Cubic Yards

Total Acreage

887.00

Disposal Acreage

368.00

Permitted Elevation

1,270

Elevation Type

MSL

Permitted Depth

--

Depth Type

--

WDR Landfill Class

III

Waste Types

Tires
Sludge (BioSolids)
Mixed municipal
Inert
Industrial
Green Materials
Food Wastes
Dead Animals
Contaminated soil
Construction/demolition
Asbestos
Agricultural

CalRecycle Contact: [Theodore Tasiopoulos](#) (916) 341-6084

[← Back](#)

Home » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » This Site

SWIS Facility/Site Summary

Simi Valley Landfill & Recycling Center (56-AA-0007)

Summary	Details	Activities 3	Inspections 730	Enforcement Actions 1
Documents 422				

Site Information

Simi Valley Landfill & Recycling Center
 2801 Madera Road
 Simi Valley, CA 93065

Site Operational Status

Active

Site Regulatory Status

Permitted




Operator

Waste Management Of California (Simi Val
 2801 Madera Road
 Simi Valley, CA 93065
 Phone: (805) 522-7023

Land Owner(s)

Name ↑	Address	Phone
Waste Management Of California (Simi Val	2801 N Madera Rd, Simi Valley, CA, 93065	

Activities

	Activity ↑	Operational Status	Regulatory Status
	Chipping and Grinding Facility/Operation	Active	Permitted
	Large Volume CDI Debris Processing Facility	Active	Permitted
	Solid Waste Landfill	Active	Permitted

Recent Inspections

	Inspection Date ↓	CalRecycle Received
	12/8/2022	12/20/2022
	12/8/2022	12/20/2022
	12/8/2022	12/20/2022
	11/29/2022	12/12/2022
	11/29/2022	12/12/2022
	11/29/2022	12/12/2022
	10/26/2022	11/15/2022
	10/26/2022	11/15/2022
	10/26/2022	11/15/2022
	10/26/2022	11/28/2022

Local Enforcement Agency (LEA)

County of Ventura
 County Resource Management Agency, Environmental Health Division
 800 S Victoria Ave
 Ventura, CA 93009-0001
 Phone: (805) 654-2813


Recent Enforcement Actions

	Enforcement Action Number	Program	Status
	2010-011853-NOI	State	Complete

Recent Documents

	Title	Date ↓
	Simi Valley Landfill and Recycling Center, LEA Approval of Gas Monitoring Control Program (GMCP) and Request for Concurrence	9/22/2022
	Simi Valley Landfill and Recycling Center, Subgrade Maps - Combined 09 23 2022	8/26/2022
	Simi Valley Landfill and Recycling Center Gas Monitoring and Control Program	8/3/2022
	Simi Valley Landfill and Recycling Center Gas Monitoring and Control Program, Appendix B Well Borings	8/3/2022
	LEA letter - concurrence request - LFG monitoring program expansion	5/31/2022
	SVLRC - Request for Concurrence Updated Gas Plan Replace GP-3R1	5/31/2022
	Expansion of the SVLRC LFG Monitoring Network - mitigation measures	5/9/2022
	SVLRC Biologist Report Expansion of LFG Monitoring Well Network	5/9/2022
	operator letter - transmittal cover - LFG monitoring program expansion	3/31/2022
	SVLRC - Gas Monitoring Control Plan 2022 03 31 Package	3/31/2022

CalRecycle Contact: [Theodore Tasiopoulos](#) (916) 341-6084

 [Back](#)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#) » Inert Waste Disposal Site

SWIS Facility/Site Activity Details

Azusa Land Reclamation Co. Landfill (19-AA-0013)

Summary	Details	Activities 5	Inspections 817	Enforcement Actions 12
Documents 374				

Activity

Inert Waste Disposal Site

Classification

Solid Waste Facility

Category

Disposal

Operational Status

Active

Regulatory Status

Permitted

Ceased Operation Date

1/1/2045

Closure Type

Estimate

Inspection Frequency

Monthly

Max. Permitted Throughput

8,000

Volume Unit Type

Tons per day

Remaining Capacity

51,512,201

Remaining Capacity Date

9/30/2012

Max. Permit Capacity

80,571,760

Capacity Unit Type

Cubic Yards

Total Acreage

302.00

Disposal Acreage

266.00

Permitted Elevation

580

Elevation Type

MSL

Permitted Depth

355

Depth Type

MSL

WDR Landfill Class

UC

Waste Types
Tires
Inert
Contaminated soil
Asbestos, friable
Asbestos

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

[← Back](#)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » This Site

SWIS Facility/Site Summary

Azusa Land Reclamation Co. Landfill (19-AA-0013)

Summary	Details	Activities 5	Inspections 817	Enforcement Actions 12
Documents 374				

Site Information

Azusa Land Reclamation Co. Landfill
 1211 West Gladstone Street
 Azusa, CA 91702

Site Operational Status

Active

Site Regulatory Status

Permitted

Operator

Azusa Land Reclamation Co. Inc.
 1211 West Gladstone
 Azusa, CA 91702
 Phone: (626) 969-1384



Land Owner(s)

Name ↑	Address	Phone
Azusa Land Reclamation Co. Inc.	1211 W Gladstone St, Azusa, CA, 91702	

Activities

	Activity ↑	Operational Status	Regulatory Status
	Asbestos Containing Waste Disposal Site	Active	Permitted
	Contaminated Soil Transfer/Processing Operation	Inactive	Permitted
	Inert Debris Engineered Fill Operation	Planned	Permitted
	Inert Waste Disposal Site	Active	Permitted
	Solid Waste Landfill	Inactive	Permitted











Recent Inspections

	Inspection Date ↓	CalRecycle Received
	1/9/2023	1/30/2023
	1/9/2023	2/1/2023
	12/20/2022	1/19/2023
	12/20/2022	1/19/2023
	11/15/2022	12/14/2022
	11/15/2022	12/14/2022
	10/19/2022	11/18/2022
	10/19/2022	11/18/2022
	9/29/2022	10/20/2022
	9/29/2022	10/20/2022











Local Enforcement Agency (LEA)

County of Los Angeles
 Department of Public Health
 5050 Commerce Dr
 Baldwin Park, CA 91706
 Phone: (626) 430-5540

Recent Enforcement Actions

	Enforcement Action Number	Program	Status
	2015-012217-NOI	LEA	Complete
	2014-012160-CS	LEA	Complete
	2013-012080-CS	LEA	Superseded
	2013-012077-LIS	State	Complete
	2012-012045-NOI	State	Superseded
	2010-011728-NOI	State	Complete
	2009-011669-NOI	State	Complete
	2005-010966-NAO	LEA	Complete
	2003-010441-NAO	LEA	Superseded
	2002-010331-NAO	LEA	Superseded

Recent Documents

	Title	Date ↓
	RFI amendment Transmittal letter for Azusa Land Reclamation Co. Landfill	11/23/2021
	Public notice for Azusa Landfill Reclamation Co. Landfill	11/23/2021
	New JTD for Azusa Land Reclamation Co. Landfill, Volume 1 of 3	11/1/2021
	New JTD for Azusa Land Reclamation Co. Landfill, Volume 2 of 3	11/1/2021
	New JTD for Azusa Land Reclamation Co. Landfill, Volume 3 of 3	11/1/2021
	RFI amendment application for Azusa Land Reclamation Co. Landfill	10/28/2021
	CalRecycle Letter - Approval - Landfill Gas Remediation Plan	10/13/2021
	RFI amendment Transmittal letter Azusa Land Reclamation Co. Landfill	6/10/2021
	Public Notice for Azusa Land Reclamation Co. Landfill	6/10/2021
	RFI amendment application for Azusa Land Reclamation Co. Landfill	5/17/2021

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

[← Back](#)

©1995, 2019 California Department of Resources Recycling and Recovery (CalRecycle)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#) » Solid Waste Landfill

SWIS Facility/Site Activity Details

Chiquita Canyon Sanitary Landfill (19-AA-0052)

Summary	Details	Activities 2	Inspections 425	Enforcement Actions 1
Documents 643				

Activity

Solid Waste Landfill

Classification

Solid Waste Facility

Category

Disposal

Operational Status

Active

Regulatory Status

Permitted

Ceased Operation Date

1/1/2047

Closure Type

Estimate

Inspection Frequency

Monthly

Max. Permitted Throughput

12,000

Volume Unit Type

Tons per day

Remaining Capacity

60,408,000

Remaining Capacity Date

8/24/2018

Max. Permit Capacity

110,366,000

Capacity Unit Type

Cubic Yards

Total Acreage

639.00

Disposal Acreage

400.00

Permitted Elevation

1,430

Elevation Type

MSL

Permitted Depth

--

Depth Type

--

WDR Landfill Class

UC

Waste Types
Inert
Industrial
Construction/demolition
Green Materials
Mixed municipal

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

[← Back](#)

[Home](#) » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » [This Site](#) » [Activities](#) » Green Material Composting Facility

SWIS Facility/Site Activity Details

Chiquita Canyon Sanitary Landfill (19-AA-0052)

Summary	Details	Activities 2	Inspections 425	Enforcement Actions 1
Documents 643				

Activity

Green Material Composting Facility

Classification

Solid Waste Facility

Category

Composting

Operational Status

Planned

Regulatory Status

Permitted

Inspection Frequency

None

Max. Permitted Throughput

560

Volume Unit Type

Tons per day

Remaining Capacity

--

Remaining Capacity Date

--

Max. Permit Capacity

--

Capacity Unit Type

Cubic Yards per year

Total Acreage

0.00

Disposal Acreage

--

Permitted Elevation

--

Elevation Type

--

Permitted Depth

--

Depth Type

--

WDR Landfill Class

--

Waste Types

Green Materials
Food Wastes

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

[← Back](#)

Home » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » This Site

SWIS Facility/Site Summary

Chiquita Canyon Sanitary Landfill (19-AA-0052)

- [Summary](#)
- [Details](#)
- [Activities](#) 2
- [Inspections](#) 425
- [Enforcement Actions](#) 1
- [Documents](#) 643

Site Information

Chiquita Canyon Sanitary Landfill
 29201 Henry Mayo Drive
 Castaic, CA 91384

Site Operational Status

Active

Site Regulatory Status

Permitted



Operator

Chiquita Canyon, Inc.
 29201 Henry May Drive
 Castaic, CA 91384
 Phone: (916) 608-8200

Land Owner(s)

Name ↑	Address	Phone
Chiquita Canyon, Inc.	29201 Henry May Drive, Castaic, CA, 91384	

Activities

	Activity ↑	Operational Status	Regulatory Status
	Green Material Composting Facility	Planned	Permitted
	Solid Waste Landfill	Active	Permitted

Recent Inspections

	Inspection Date ↓	CalRecycle Received
	12/5/2022	12/29/2022
	11/18/2022	11/21/2022
	10/17/2022	10/17/2022
	9/3/2022	10/4/2022
	8/17/2022	9/14/2022
	7/21/2022	8/8/2022
	6/6/2022	7/5/2022
	5/13/2022	6/16/2022
	4/11/2022	5/11/2022
	3/23/2022	5/10/2022











Local Enforcement Agency (LEA)

County of Los Angeles
 Department of Public Health
 5050 Commerce Dr
 Baldwin Park, CA 91706
 Phone: (626) 430-5540


Recent Enforcement Actions

	Enforcement Action Number	Program	Status
	1996-000228-NOI	State	Complete

Recent Documents

	Title	Date ↓
	CalRecycle Letter - Review Comments - Status Impact Report	1/18/2023
	RFI amendment Transmittal letter for Chiquita Canyon Landfill	1/6/2022
	Public Notice for Chiquita Canyon Landfill	1/6/2022
	RFI amendment application for Chiquita Canyon Landfill	11/22/2021
	Updated JTD for Chiquita Canyon Landfill Vol. 1 of 4	11/1/2021
	Updated JTD for Chiquita Canyon Landfill Vol. 2 of 4	11/1/2021
	Updated JTD for Chiquita Canyon Landfill Vol. 3 of 4	11/1/2021
	Updated JTD for Chiquita Canyon Landfill Vol. 4 of 4	11/1/2021
	Five Year Permit Review Report for Chiquita Canyon Landfill	10/18/2021
	5-Year Permit Review Transmittal letter for Chiquita Canyon Landfill	10/18/2021

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

 [Back](#)

©1995, 2019 California Department of Resources Recycling and Recovery (CalRecycle)

Home » [Solid Waste Information System \(SWIS\)](#) » [Sites](#) » This Site

SWIS Facility/Site Summary

Nu-Way Live Oak Reclamation, Inc. (19-AA-0849)

- [Summary](#)
- [Details](#)
- [Activities](#) 1
- [Inspections](#) 191
- [Enforcement Actions](#) 0
- [Documents](#) 26

Site Information

Nu-Way Live Oak Reclamation, Inc.
 13620 Live Oak Lane
 Irwindale, CA 91706

Site Operational Status

Inactive

Site Regulatory Status

Notification


Operator

Waste Management
 Walter Kutschal District Manager 766 South Ayon Avenue
 Azusa, CA 91702
 Phone: (626) 969-1384







Land Owner(s)

Name ↑	Address	Phone
Mnoian Management, Inc. & Garrett Mgt.I.	1949 S Myrtle Ave, Monrovia, CA, 91016	

Activities

	Activity ↑	Operational Status	Regulatory Status
	Inert Debris Engineered Fill Operation	Inactive	Notification


Recent Inspections









	Inspection Date ↓	CalRecycle Received
	11/29/2022	12/22/2022
	9/13/2022	10/13/2022
	6/16/2022	7/14/2022
	12/22/2021	1/20/2022
	9/23/2021	10/20/2021
	5/12/2021	6/9/2021
	2/23/2021	3/22/2021
	12/2/2020	12/30/2020
	9/23/2020	10/22/2020
	6/9/2020	7/8/2020

Local Enforcement Agency (LEA)

County of Los Angeles
 Department of Public Health
 5050 Commerce Dr
 Baldwin Park, CA 91706
 Phone: (626) 430-5540

Recent Documents

	Title	Date ↓
	LEA Periodic 05/06/2010 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	5/6/2010

	Title	Date ↓
	LEA Periodic 02/02/2010 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	2/2/2010
	LEA Periodic 12/09/2009 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	12/9/2009
	LEA Periodic 08/29/2008 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	9/15/2008
	LEA Periodic 07/09/2008 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	8/19/2008
	LEA Periodic 03/24/2008 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	5/7/2008
	LEA Periodic 10/23/2007 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	11/27/2007
	LEA Periodic 07/05/2007 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	8/6/2007
	LEA Periodic 05/23/2007 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	7/13/2007
	LEA Periodic 02/07/2007 Nu-Way Live Oak Reclamation, Inc. 19-AA-0849	3/2/2007

CalRecycle Contact: [Nai Teurn](#) (916) 323-1799

 [Back](#)

©1995, 2019 California Department of Resources Recycling and Recovery (CalRecycle)

ACHIEVING THE VISION

ventura's general plan

WE THE PEOPLE

of Ventura, in order to ensure that our community continues to be a great place for us to live . . .



**FINAL
ENVIRONMENTAL
IMPACT REPORT**

August 2005

SCH # 2004101014

JOE VIRNIG

**City of Ventura
2005 General Plan**

***Final* Environmental Impact Report**

SCH # 2004101014

Prepared by:

**City of Ventura
501 Poli Street
Ventura, CA 93001**

Prepared with the assistance of:

**Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, California 93001**

August 2005

**City of Ventura
2005 General Plan**

Final Environmental Impact Report

Table of Contents

	Page
Summary	S-1
1.0 Introduction	1-1
1.1 General Plan Overview and Background	1-1
1.2 Lead, Responsible, and Trustee Agencies.....	1-3
1.3 Purpose and Legal Authority	1-4
1.4 EIR Scope and Content	1-5
1.5 Environmental Review Process.....	1-6
2.0 Project Description.....	2-1
2.1 Project Applicant	2-1
2.2 Geographic Extent of the Planning Area	2-1
2.3 Project Objectives	2-5
2.4 1989 Comprehensive Plan.....	2-6
2.5 Proposed 2005 General Plan	2-8
2.6 Discretionary Actions	2-39
3.0 Environmental Setting.....	3-1
3.1 Regional Overview.....	3-1
3.2 Physical Setting.....	3-1
3.3 Transportation	3-2
3.4 Demographics.....	3-3
4.0 Environmental Impact Analysis	4-1
4.1 Aesthetics and Community Design	
4.1.1 Setting	4.1-1
4.1.2 Impact Analysis.....	4.1-9
<i>Summary Comparison of Impacts for EIR Scenarios.....</i>	<i>4.1-10</i>
4.2 Agricultural Resources	
4.2.1 Setting	4.2-1
4.2.2 Impact Analysis.....	4.2-11
<i>Summary Comparison of Impacts for EIR Scenarios.....</i>	<i>4.2-13</i>
4.3 Air Quality	
4.3.1 Setting	4.3-1
4.3.2 Impact Analysis.....	4.3-8
<i>Summary Comparison of Impacts for EIR Scenarios.....</i>	<i>4.3-10</i>
4.4 Biological Resources	
4.4.1 Setting	4.4-1



4.4.2	Impact Analysis	4.4-13
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.4-15
4.5	Cultural and Historic Resources	
4.5.1	Setting	4.5-1
4.5.2	Impact Analysis	4.5-8
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.5-11
4.6	Geologic Hazards	
4.6.1	Setting	4.6-1
4.6.2	Impact Analysis	4.6-19
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.6-20
4.7	Hazards and Hazardous Materials	
4.7.1	Setting	4.7-1
4.7.2	Impact Analysis	4.7-10
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.7-11
4.8	Hydrology and Water Quality	
4.8.1	Setting	4.8-1
4.8.2	Impact Analysis	4.8-16
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.8-17
4.9	Mineral Resources	
4.9.1	Setting	4.9-1
4.9.2	Impact Analysis	4.9-5
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.9-6
4.10	Noise	
4.10.1	Setting	4.10-1
4.10.2	Impact Analysis	4.10-11
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.10-13
4.11	Public Services	
4.11.1	Setting	4.11-1
4.11.2	Impact Analysis	4.11-22
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.11-24
4.12	Transportation and Circulation	
4.12.1	Setting	4.12-1
4.12.2	Impact Analysis	4.12-20
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.12-21
4.13	Utilities and Service Systems	
4.13.1	Setting	4.13-1
4.13.2	Impact Analysis	4.13-17
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.13-19
4.14	Land Use and Planning	
4.14.1	Setting	4.14-1
4.14.2	Impact Analysis	4.14-3
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.14-4
4.15	Population and Housing	
4.15.1	Setting	4.15-1
4.15.2	Impact Analysis	4.15-2
	<i>Summary Comparison of Impacts for EIR Scenarios</i>	4.15-4



5.0 Other CEQA-Required Discussions	
5.1 Growth Inducing Impacts.....	5-1
5.2 Significant Irreversible Effects.....	5-3
6.0 Alternatives	
6.1 No Project (No Further Development).....	6-1
6.2 No Project (1989 Comprehensive Plan).....	6-3
6.3 Restricted Growth.....	6-7
6.4 No Important Farmland Conversion.....	6-10
6.5 Upper North Avenue District Housing.....	6-13
6.6 Intensification/Reuse + Minor Map Clean-Up.....	6-17
6.7 All Expansion Areas.....	6-18
6.8 Environmentally Superior Alternative.....	6-21
7.0 References and Preparers.....	
7.1 References.....	7-1
7.2 Report Preparers.....	7-5

List of Figures

Figure 1-1	Environmental Review Process.....	1-7
Figure 2-1a	Regional Location.....	2-2
Figure 2-1b	Ventura Planning Area.....	2-3
Figure 2-2	Current Comprehensive Plan Land Use Map.....	2-9
Figure 2-3	Scenario 1 - Intensification/Reuse Only.....	2-17
Figure 2-4	Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra.....	2-19
Figure 2-5	Scenario 3 - Intensification/Reuse + North Avenue + Olivas.....	2-21
Figure 2-6	Scenario 4 - Intensification/Reuse + North Avenue + Serra.....	2-23
Figure 2-7	Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga.....	2-25
Figure 2-8	Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia.....	2-27
Figure 2-9	Roadway Classification Plan.....	2-37
Figure 4.1-1	Scenic Corridors.....	4.1-5
Figure 4.1-2	Intensification/Reuse Examples.....	4.1-13
Figure 4.1-3	Olivas Expansion Area.....	4.1-16
Figure 4.1-4	Serra and Poinsettia Expansion Areas.....	4.1-17
Figure 4.1-5	North Avenue and Western Cañada Larga Expansion Areas.....	4.1-18
Figure 4.2-1	Lands in Agriculture Use.....	4.2-3
Figure 4.2-2	Important Farmlands.....	4.2-5
Figure 4.2-3	Greenbelts, Land Conservation Act Contracts, SOAR Designated Lands, and Hillside Voter Participation Areas.....	4.2-9
Figure 4.3-1	Countywide Average CO Emissions.....	4.3-24
Figure 4.4-1	Habitat Types.....	4.4-3
Figure 4.4-2	Sensitive Elements Reported by the California Natural Diversity Database.....	4.4-7
Figure 4.4-3	Riparian Areas and Drainages.....	4.4-19
Figure 4.4-4	Sensitive Habitats.....	4.4-24



Table of Contents

Figure 4.5-1	Historic Districts.....	4.5-3
Figure 4.5-2	Farmhouses in the North Avenue and Serra Expansion Areas.....	4.5-16
Figure 4.6-1	Major Fault Systems.....	4.6-3
Figure 4.6-2	Potential Landslide Areas.....	4.6-7
Figure 4.6-3	Hillside Management Program Area.....	4.6-9
Figure 4.6-4	Liquefaction Hazard Areas.....	4.6-11
Figure 4.6-5	Expansive Soil Areas.....	4.6-13
Figure 4.6-6	Tsunami Risk Areas.....	4.6-17
Figure 4.7-1	Major Rail and Truck Transportation Corridors.....	4.7-5
Figure 4.7-2	Areas within Brownfield Assessment Demonstration Pilot Project....	4.7-7
Figure 4.8-1	Existing Major Drainages by Facility Size.....	4.8-3
Figure 4.8-2	Existing Major Drainages with Deficiencies.....	4.8-5
Figure 4.8-3	Relative Trunk Deficiencies by Neighborhood.....	4.8-7
Figure 4.8-4	FEMA Flood Zones.....	4.8-9
Figure 4.8-5	Dam Inundation Areas.....	4.8-11
Figure 4.9-1	Petroleum Resources.....	4.9-3
Figure 4.9-2	Aggregate Resources.....	4.9-4
Figure 4.10-1	Noise Compatibility Matrix.....	4.10-2
Figure 4.10-2	Noise Measurement Sites and L_{eq} Values.....	4.10-5
Figure 4.10-3	Existing Noise Contours.....	4.10-15
Figure 4.10-4	Future Noise Contours.....	4.10-17
Figure 4.11-1	Police and Fire Stations.....	4.11-3
Figure 4.11-2	Wildfire Risk Areas.....	4.11-5
Figure 4.11-3	Public Schools and Libraries.....	4.11-9
Figure 4.11-4	Parks and Recreational Facilities.....	4.11-15
Figure 4.12-1	Intersection Location Map.....	4.12-3
Figure 4.12-2	Existing Intersection Capacity Utilization (ICU).....	4.12-5
Figure 4.12-3	Existing Transit Routes.....	4.12-11
Figure 4.12-4	Existing System of Bikeways.....	4.12-13
Figure 4.12-5	Pedestrian System.....	4.12-17
Figure 4.12-6	2025 Intersection Capacity Utilization (ICU), Scenario 1.....	4.12-25
Figure 4.12-7	2025 Intersection Capacity Utilization (ICU), Scenario 2.....	4.12-31
Figure 4.12-8	2025 Intersection Capacity Utilization (ICU), Scenario 3.....	4.12-41
Figure 4.12-9	2025 Intersection Capacity Utilization (ICU), Scenario 4.....	4.12-51
Figure 4.12-10	2025 Intersection Capacity Utilization (ICU), Scenario 5.....	4.12-65
Figure 4.12-11	2025 Intersection Capacity Utilization (ICU), Scenario 6.....	4.12-77
Figure 4.13-1	Water Distribution Facilities.....	4.13-3
Figure 4.13-2	Sewage Collection Facilities.....	4.13-15
Figure 4.14-1	Coastal Zone Boundary.....	4.14-11
Figure 4.15-1	SCAG Population, Housing, and Employment Projections.....	4.15-6

List of Tables

Table S-1	Summary of Project Impacts and Mitigation Measures.....	S-8
Table 2-1	2005 General Plan Chapters.....	2-11
Table 2-2	2005 General Plan Land Use Designation Summary.....	2-12
Table 2-3	Population and Housing Projections.....	2-30
Table 2-4	Projected Job Growth by Sector, 2004-2025.....	2-30



Table of Contents

Table 2-5	Projected Housing Growth Distribution.....	2-31
Table 2-6	Non-Residential Growth Distribution (square feet).....	2-33
Table 2-7	Estimates of Expansion Area Residential and Non-Residential Development by Land Use Scenario	2-34
Table 2-8	Assumed Expansion Area Acres by Use.....	2-35
Table 3-1	2000 and 2005 Population Estimates	3-3
Table 3-2	2000 and 2005 Housing Estimates.....	3-3
Table 4.2-1	Important Farmlands Designated for Non-Agricultural Use and Within Potential Expansion Areas.....	4.2-2
Table 4.2-2	Potential Conversion of Important Farmlands	4.2-12
Table 4.2-3	Acres Subject to SOAR, Greenbelt Agreements, and LCA Contracts.....	4.2-17
Table 4.3-1	Federal and State Ambient Air Quality Standards.....	4.3-2
Table 4.3-2	Ambient Air Quality Data for the El Rio Monitoring Station.....	4.3-6
Table 4.3-3	Ambient Air Quality Data for the Emma Wood Monitoring Station ..	4.3-7
Table 4.3-4	Ambient Air Quality Data for the Ojai Monitoring Station	4.3-7
Table 4.3-5	Comparison of 2025 Population Projections	4.3-12
Table 4.3-6	Comparison of VMT and Emissions: Infill versus Greenfield Development.....	4.3-13
Table 4.3-7	Estimated Persons per Acre – 2004 and 2025	4.3-13
Table 4.3-8	2005 General Plan Consistency with VCAPCD Transportation Control Measures	4.3-14
Table 4.3-9	Project Size That Will Exceed VCAPCD Significance Thresholds for Ozone Precursors (ROC and NO _x).....	4.3-17
Table 4.4-1	Sensitive Plant Species of the Ventura Planning Area.....	4.4-8
Table 4.4-2	Sensitive Animals of the Ventura Planning Area	4.4-8
Table 4.6-1	Significant Faults and Estimated Maximum Credible Earthquake Size	4.6-5
Table 4.7-1	Potential Environmental Contaminants by Industry.....	4.7-9
Table 4.8-1	Existing Dams with Potential to Affect the Planning Area	4.8-13
Table 4.8-2	Pollutants of Concern	4.8-15
Table 4.10-1	Exterior Noise Levels	4.10-1
Table 4.10-2	Noise Survey Results	4.10-7
Table 4.10-3	Highway Traffic Noise Barrier Study Findings (dBA).....	4.10-9
Table 4.10-4	Noise from Ventura Shooting Range.....	4.10-10
Table 4.10-5	Typical Noise Levels at Construction Sites.....	4.10-23
Table 4.11-1	Police Officers to Population Ratios (2004).....	4.11-8
Table 4.11-2	Crime Rates for Various Jurisdictions	4.11-11
Table 4.11-3	Current VUSD Elementary School Enrollment.....	4.11-12
Table 4.11-4	Current VUSD Middle School Enrollment	4.11-12
Table 4.11-5	Current VUSD High School Enrollment	4.11-13
Table 4.11-6	Public Library Statistics	4.11-14
Table 4.11-7	Park Standards per 1,000 Population	4.11-17
Table 4.11-8	City Park Facilities	4.11-18
Table 4.11-9	City-Owned Linear Parks	4.11-19
Table 4.11-10	Non-City Special Use Parks and Recreational Facilities.....	4.11-21
Table 4.11-11	Maximum Daily Capacity and Current Daily Throughput at Area Landfills	4.11-22



Table 4.11-12	Projected Increase in Demand for Firefighting Personnel and Facilities	4.11-27
Table 4.11-13	Projected Increase in Demand for Police Department Personnel.....	4.11-33
Table 4.11-14	Projected School Enrollment and Capacity	4.11-36
Table 4.11-15	Projected School Demand	4.11-37
Table 4.11-16	Projected Demand for Library Services	4.11-41
Table 4.11-17	Current and Projected Solid Waste Generation (tons per day)	4.11-43
Table 4.11-18	Current and Projected Parkland Demand	4.11-47
Table 4.12-1	Arterial Intersection Performance Criteria	4.12-2
Table 4.12-2	Existing ICU Summary.....	4.12-7
Table 4.12-3	Neighborhood Pedestrian System Concerns.....	4.12-19
Table 4.12-4	Roadway Improvements – Scenario 1	4.12-24
Table 4.12-5	2025 ICU Summary – Scenario 1	4.12-27
Table 4.12-6	Roadway Improvements – Scenario 2	4.12-33
Table 4.12-7	2025 ICU Summary – Scenario 2	4.12-35
Table 4.12-8	Roadway Improvements – Scenario 3	4.12-40
Table 4.12-9	2025 ICU Summary – Scenario 3	4.12-43
Table 4.12-10	Roadway Improvements – Scenario 4	4.12-53
Table 4.12-11	2025 ICU Summary – Scenario 4	4.12-55
Table 4.12-12	Roadway Improvements – Scenario 5	4.12-67
Table 4.12-13	2025 ICU Summary – Scenario 5	4.12-69
Table 4.12-14	Roadway Improvements – Scenario 6	4.12-79
Table 4.12-15	2025 ICU Summary – Scenario 6	4.12-81
Table 4.13-1	Water Treatment Facilities	4.13-1
Table 4.13-2	Water Storage Facilities	4.13-2
Table 4.13-3	Distribution Mains	3.13-2
Table 4.13-4	Booster Pump Stations.....	4.13-5
Table 4.13-5	Pressure Zones.....	4.13-6
Table 4.13-6	Water Wells	4.13-6
Table 4.13-7	Historic and Projected Water Source Supply Availability	4.13-7
Table 4.13-8	Historic and Projected Water Production.....	4.13-9
Table 4.13-9	Water Quality Testing, 2001.....	4.13-11
Table 4.13-10	Distribution System and Well Testing, 2001	4.13-12
Table 4.13-11	Wastewater Flows, 2001	4.13-13
Table 4.13-12	Wastewater Generation Factors	4.13-14
Table 4.13-13	Lift Station Capacities (City Facilities Only)	4.13-14
Table 4.13-14	Agriculture Water Credit	4.13-20
Table 4.13-15	Projected Water Demand, Intensification/Reuse Only (Scenario 1)	4.13-21
Table 4.13-16	Projected Water Demand, Intensification/Reuse + North Avenue + Olivas + Serra (Scenario 2).....	4.13-23
Table 4.13-17	Projected Water Demand, Intensification/Reuse + North Avenue + Olivas (Scenario 3)	4.13-25
Table 4.13-18	Projected Water Demand, Intensification/Reuse + North Avenue + Serra (Scenario 4).....	4.13-27
Table 4.13-19	Projected Water Demand, Intensification/Reuse + North Avenue + Western Cañada Larga (Scenario 5)	4.13-29



Table of Contents

Table 4.13-20	Projected Water Demand, Intensification/Reuse + North Avenue + Poinsettia (Scenario 6)	4.13-31
Table 4.13-21	Wastewater Generation, Intensification/Reuse Only (Scenario 1)	4.13-34
Table 4.13-22	Wastewater Generation, Intensification/Reuse + North Avenue + Olivas + Serra (Scenario 2)	4.13-36
Table 4.13-23	Wastewater Generation, Intensification/Reuse + North Avenue + Olivas (Scenario 3)	4.13-38
Table 4.13-24	Wastewater Generation, Intensification/Reuse + North Avenue + Serra (Scenario 4)	4.13-40
Table 4.13-25	Wastewater Generation, Intensification/Reuse + North Avenue + Western Cañada Larga (Scenario 5)	4.13-42
Table 4.13-26	Wastewater Generation, Intensification/Reuse + North Avenue + Poinsettia (Scenario 6)	4.13-44
Table 4.13-27	Projected Wastewater Flow Summary	4.13-45
Table 4.14-1	Regional Performance Indicators	4.14-24
Table 4.15-1	SCAG Population, Household, and Employment Forecasts for the Ventura Council of Governments (VCOG) Subregion	4.15-5
Table 4.15-2	Comparison of Population, Housing, and Employment Growth Projections	4.15-7
Table 4.15-3	Current and Projected Future Jobs/Housing Ratios	4.15-10
Table 6-1	Comparison of Alternatives' 2025 Development Characteristics	6-2

Appendices

Appendix A:	Notice of Preparation and Responses
Appendix B:	2005 General Plan Actions
Appendix C:	Project Description Information
Appendix D:	Cultural Resources List
Appendix E:	Traffic Study
Appendix F:	2004 Biennial Water Supply Report
Appendix G:	Responses to Comments on the Draft EIR
Appendix H:	Mitigation Monitoring and Reporting Program



SUMMARY

This section summarizes the characteristics of the proposed 2005 General Plan, alternatives, environmental impacts associated with the General Plan, recommended mitigation measures, and the level of significance of impacts after mitigation.

PROJECT SYNOPSIS

Project Proponent

City of San Buenaventura
501 Poli Street
Ventura, California 93001

Project Description

Project Characteristics

The 2005 Ventura General Plan is an update to the 1989 Comprehensive Plan, which is the current general plan for the City. The 2005 General Plan is a policy document that sets over-arching goals for the future development of the City and specifies policies and actions to achieve these overall goals. The EIR analysis focuses on the possible physical effects of two primary components of the proposed General Plan: 1) physical development potential; and 2) the goals, policies, and actions. Because the goals, policies, and actions are specifically intended to mitigate the environmental effects associated with future growth in the City, they are discussed as part of an overall mitigation strategy, where applicable, for a given issue.

The City Council directed City and consultant staff to include analysis of six separate land use scenarios in the EIR. These scenarios range from an “intensification/reuse” only option in which only minimal changes to the City’s sphere of influence (SOI) would occur to an option that includes three “expansion areas” that include a total of 1,423 acres currently in agricultural use for possible future development. The six land use scenarios, which are discussed in detail in Section 2.0, *Project Description*, are summarized below.

- 1. Intensification/Reuse Only Scenario** – This scenario assumes that future development will be limited almost exclusively to areas within the current Sphere of Influence and that none of the possible expansion areas would be considered.
- 2. Intensification/Reuse + North Avenue + Olivas + Serra** – This scenario assumes an emphasis on infill development at an intensity level similar to that of the Intensification/Reuse Only, but includes the following potential expansion areas:
 - North Avenue (55 acres)
 - Olivas (930 acres)
 - Serra (438 acres)



3. **Intensification/Reuse + North Avenue + Olivas Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - *North Avenue (55 acres)*
 - *Olivas (930 acres)*

4. **Intensification/Reuse + North Avenue + Serra Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - *North Avenue (55 acres)*
 - *Serra (438 acres)*

5. **Intensification/Reuse + North Avenue + Western Cañada Larga Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - *North Avenue (55 acres)*
 - *Western Cañada Larga (110 acres)*

6. **Intensification/Reuse + North Avenue + Poinsettia Scenario** - This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - *North Avenue (55 acres)*
 - *Poinsettia (418 acres)*

For the purpose of environmental analysis and forecasting future residential growth through 2025, two population growth scenarios were used. A 1.14% annual growth rate was used for the five scenarios that include expansion areas (Scenarios 2-6), while a lower growth rate of 0.88% annually was used for Scenario 1 (the Intensification/ Reuse Only scenario). The lower growth rate was used for Scenario 1 because it was assumed that limiting growth to the current SOI would result in a lower overall growth rate. The 1.14% growth rate represents the annual growth rate for the City from 1984-2004 (20-year rate), while the 0.88% growth rate represents the annual growth rate from 1994-2004 (10-year rate). Population and housing projections associated with each of these growth rates are summarized in the table on the following page.

Varying levels of non-residential (employment) growth were also assumed, with a lower rate corresponding to the lower population growth rate for Scenario 1 and a higher employment growth rate for Scenarios 2-6. For Scenario 1, it is anticipated that a total of just over 14,000 jobs would be added citywide through 2025. For Scenarios 2-6, overall citywide employment growth through 2025 is projected at just over 20,000 jobs. Projected growth in employment and non-residential building area is discussed in detail in Section 2.0.



Population and Housing Projections

	2004 Levels ^a	2025 Estimates		Change from 2004-2025	
		0.88% Annual Growth	1.14% Annual Growth	0.88% Annual Growth	1.14% Annual Growth
Population	104,952	126,153	133,160	21,201	28,208
Housing Units ^b	40,880	49,138	51,867	8,258	10,987

^a Source: California Department of Finance, City/County Population and Housing Estimates, 1/1/2004.

^b Housing unit estimates assume that the current ratio of 2.57 persons per household remains constant through 2025. In reality, the number of persons per unit could go up or down, depending upon housing costs, the types of housing built in the City, population growth, and other factors.

Project Objectives

The proposed 2005 General Plan includes the following over-arching goals for the City of Ventura:

- **Our Natural Community** - Our goal is to be a model for other communities of environmental responsibility, living in balance with our natural setting of coastline, rivers, and hillside ecosystems.
- **Our Prosperous Community** - Our goal is to attract and retain enterprises that provide high-value, high wage jobs; to diversity the local economy; to increase the local tax base; and to anticipate our economic future in order to strengthen our economy and help fund vital public services.
- **Our Well Planned and Designed Community** - Our goal is to protect our hillsides, farmlands, and open spaces; enhance Ventura’s historic and cultural resources; respect our diverse neighborhoods; reinvest in older areas of our community; and make great places by insisting on the highest standards of quality in architecture, landscaping and urban design.
- **Our Accessible Community** - Our goal is to provide residents with more transportation choices by strengthening and balancing bicycle, pedestrian and transit connections in the City and surrounding region.
- **Our Sustainable Infrastructure** - Our goal is to safeguard public health, well being and prosperity by providing and maintaining facilities that enable the community to live in balance with natural systems.
- **Our Active Community** - Our goal is to add to and enhance our parks and open spaces to provide enriching recreation options for the entire community.
- **Our Healthy and Safe Community** - Our goal is to build effective community partnerships that protect and improve the social well being and security of all our citizens.
- **Our Educated Community** - Our goal is to encourage academic excellence and life-long learning resources to promote a highly-educated citizenry.
- **Our Creative Community** - Our goal is to become a vibrant cultural center by weaving the arts and local heritage into everyday life.



- **Our Involved Community** - Our goal is to strive to work together as a community to achieve the Ventura Vision through civic engagement, partnerships, and volunteer service.

Required Approvals

The City of Ventura Planning Commission and City Council will need to take the following discretionary actions in conjunction with the proposed 2005 General Plan:

- *Certification of the Final EIR on the 2005 General Plan*
- *Approval of the proposed 2005 General Plan*
- *Approval of the 2005 Local Coastal Program Amendment (LCPA), including the revised Land Use Plan (LUP) component of the Local Coastal Program*

Any future adjustments to the SOI will require approval from the Ventura County LAFCO. Because a portion of the City of Ventura is within the Coastal Zone, the Comprehensive Plan Update also involves an update to the City's Local Coastal Program (LCP). The LCP update will require approval by the California Coastal Commission. The California Department of Conservation, Division of Mines and Geology, will review the plans and policies relating to seismic safety for compliance with state regulations.

ALTERNATIVES

In addition to the six land use scenarios for the 2005 General Plan, this EIR examines six alternatives, as described below.

- **No Project (no further development)** - This alternative assumes that no further development occurs in the City and environmental conditions do not change.
- **No Project (1989 Comprehensive Plan)** - This alternative assumes that growth continues under the 1989 Comprehensive Plan. Overall growth is assumed to be similar to that associated with General Plan Scenarios 2-6, but with areas in the hillsides above the City potentially developed rather than the expansion areas.
- **Restricted Growth** - This alternative assumes that population growth through 2025 would be limited to an annual average rate of 0.78%. This is consistent with the growth rate upon which the Ventura County AQMP and SCAG Regional Transportation Plan are based.
- **No Important Farmland Conversion** - This alternative assumes that no Prime, Statewide Importance, or Unique Farmland is converted. The average annual population growth rate for this alternative is assumed to be 0.88%.
- **Upper North Avenue District Housing** - This alternative is a derivative of General Plan Scenario 5. It assumes that a portion of the residential and non-residential development assumed to occur in the North Avenue and Western Cañada Larga expansion areas would instead be built in the Upper North Avenue district.



- **Intensification/Reuse + Minor Map Clean-Up** – This alternative is a minor variation of General Plan Scenario 1 that changes the land use designation for a limited number of properties in Saticoy and West Ventura.
- **All Expansion Areas** – This alternative assumes that all five expansion areas are developed with a mix residential and non-residential uses. The average annual growth rate for this alternative is assumed to be 1.6%.

Although the No Project (no further development) alternative is not feasible (from either a legal or practical standpoint) and may not be desirable in many respects, it can be considered environmentally superior overall since it would avoid all impacts associated with future growth. However, it would not meet RHNA requirements or housing needs identified in the City's Housing Element. Among the remaining alternatives, either the Restricted Growth or No Important Farmland Conversion alternative would be environmentally superior, depending upon which issue(s) are deemed most important. The Restricted Growth alternative would incrementally reduce impacts in most issues areas due to the overall reduction in future development and would avoid the significant impact of the 2005 General Plan relating to exceedance of Ventura County AQMP and SCAG Regional Transportation Plan population forecasts. The No Important Farmland Conversion alternative would avoid the significant impact relating to conversion of agricultural lands to urban uses. A combination of the Restricted Growth alternative and the No Important Farmland Conversion alternative would achieve both a reduction of agricultural land impacts, as well as AQMP and SCAG consistency.

AREAS OF PUBLIC CONTROVERSY

The primary area of known public controversy with respect to the 2005 General Plan relates to which of the five expansion areas, if any, should be considered for future development. The inclusion of expansion areas was the source of substantial discussion among the public, the Comprehensive Plan Advisory Committee (CPAC), the Planning Commission, and the City Council during the development of the draft General Plan. Much of the controversy revolved around whether to consider future development of the Cañada Larga area near the north end of the Ventura River valley. Scenario 5 of this EIR considers the possible future development of an approximately 110-acre portion of the larger Cañada Larga area that was contemplated by the CPAC and Planning Commission. It should be noted that, with the exception of a portion of the Western Cañada Larga expansion area included in Scenario 5, future development of any of the potential expansion areas considered in this EIR could occur only following voter approval under the City's SOAR Ordinance.

INCORPORATION OF STUDIES, REPORTS AND OTHER DOCUMENTS

This EIR contains references to studies, reports and other documents that were used as a basis for, or a source of, information summarized in the body of the EIR. These documents are incorporated by reference in this EIR in accordance with Section 15150 of the CEQA Guidelines. Where a study, report or document is briefly cited or referred to for convenience in the body of this EIR, the reader may consult Section 7.0 of this document for the full citation.



SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table S-1 lists the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts. Impacts are categorized by classes. Each individual impact analysis subsection in Section 4.0, *Environmental Impact Analysis*, also includes a summary comparison of the impacts associated with each General Plan land use scenario.

Class I impacts are defined as significant, unavoidable adverse impacts, which require a statement of overriding considerations pursuant to Section 15093 of the *CEQA Guidelines* if the project is approved. Class II impacts are significant adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the *CEQA Guidelines*. Class III impacts are adverse, but less than adopted significance thresholds. Class IV effects are those where there is no impact or the effect would be beneficial.

As noted in Table S-1, most of the potential impacts associated with growth accommodated under the 2005 General Plan can be mitigated to a less than significant level through implementation of proposed policies and actions. However, certain significant impacts could occur under any of the EIR land use scenarios. The Class I and Class II impacts of the 2005 General Plan, along with the scenarios to which each impact applies, are listed below.

Class I, Unavoidably Significant, Impacts

- **Aesthetics** – change in overall community character and alteration of views from scenic corridors due to agricultural land conversion (all scenarios)
- **Agricultural Land Conversion** – potential conversion of Prime, Statewide Importance, and Unique farmlands (all scenarios) and potential conflicts with agricultural land use designations (Scenarios 2-6)
- **AQMP Inconsistency** – inconsistency with Ventura County AQMP due to possible exceedance of citywide growth projections upon which the 1994 AQMP is based (all scenarios)
- **Solid Waste Disposal Facilities** – generation of solid waste exceeding disposal facility capacity given that landfills serving the City are projected to close within or close to the timeframe of the General Plan (all scenarios)
- **Transportation and Circulation** – potential exceedance of proposed performance standard at the Johnson Drive/North Bank Drive intersections (Scenario 2 only)
- **Coastal Act Inconsistency** – potential inconsistency with Coastal Act policy to preserve Prime farmland within the Coastal Zone (Scenarios 2 and 3 only)
- **Exceedance of SCAG Population Forecast** – possible exceedance of the Southern California Association of Government’s 2025 population growth projection for the City (all scenarios)

Class II, Significant but Mitigable, Impacts

- **Traffic Noise** – potentially significant increases in traffic noise along North Ventura Avenue (all scenarios) and Johnson Drive (Scenario 6 only); this impact can be mitigated through re-surfacing of streets using rubberized



- asphalt or other sound-reducing paving material (which can reduce noise by 3-5 decibels)
- **Storm Drain System** - potential impacts due to system deficiencies in older parts of the City, including Ventura Avenue corridor and Downtown district (all scenarios); this impact can be mitigated through development of funding mechanisms to address system deficiencies
 - **Fire Protection Service** - potentially significant impacts to fire protection service in the North Ventura Avenue area (Scenarios 2-6); this impact can be mitigated through development of a new fire station in the North Ventura Avenue area
 - **Police Protection Service** - potentially significant impacts relating to the need for new facilities (all scenarios); this impact can be mitigated through expansion of facilities as necessary
 - **Traffic Performance Standards** - potentially significant impacts to roadway intersections (Scenarios 1, 3, 4, 5, and 6); impacts can be mitigated through policies and actions directing implementation of feasible system improvements as needed
 - **Wastewater Treatment Capacity** - potentially significant impact relating to the capacity of the Ojai Valley Sanitary District plant (Scenario 5 only); this impact can be mitigated through restrictions on development in the North Ventura Avenue area until planned plant capacity expansions are completed



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
AESTHETICS and COMMUNITY DESIGN		
<p>Impact AES-1 All six General Plan land use scenarios emphasize intensification and reuse of already urbanized lands and would therefore create a more densely settled, urban environment in some areas of the City. The reuse of urbanized areas in lieu of further growth at the City's periphery would be expected to generally enhance the visual character of the community and minimize impacts to existing natural and agricultural areas and is generally considered a beneficial effect. Nevertheless, all of the scenarios would change the visual character of the community and would accommodate the conversion of some agricultural lands in the Planning Area to urban uses. This change in visual character is considered Class I, unavoidably significant, under any of the six scenarios.</p>	<p>Changing the fundamental character of the areas to be converted from agricultural and open space uses to urban use cannot be avoided if these areas are to be developed. Each of the proposed growth scenarios focuses development on intensification of the existing urban areas and encourages infill over city expansion. In addition, Actions 1.22 and 1.23 require the preservation of mature trees and agricultural windrows.</p>	<p>Unavoidably significant for all scenarios.</p>
<p>Impact AES-2 Development that would be accommodated under any of the 2005 General Plan land use scenarios would potentially alter and/or block views from various public view corridors. The magnitude of impact would vary among the scenarios and the 2005 General Plan includes several policies and actions to preserve public views. Nevertheless, the impact of all six scenarios is considered Class I, unavoidably significant.</p>	<p>Policies included in the proposed 2005 General Plan, as described above, would reduce impacts on view corridors associated with intensification and reuse to a less than significant level. Other than the actions listed above and General Plan Action 1.23, which would preserve windrows on agricultural lands, additional mitigation is not available for the change in views from scenic corridors related to the conversion of agricultural lands.</p>	<p>Unavoidably significant for all scenarios.</p>
<p>Impact AES-3 Development accommodated under any of the 2005 General Plan land use scenarios would introduce new sources of light and glare. Light and glare conditions are not expected to change dramatically throughout most of the Planning Area because of the focus on intensification and reuse of already developed lands. Therefore, impacts would be Class III, less than significant, for any of the six scenarios.</p>	<p>None required.</p>	<p>Less than significant for all scenarios.</p>
AGRICULTURAL RESOURCES		
<p>Impact AG-1 Any of the six scenarios for the 2005 General Plan would accommodate the development that would involve the conversion of State-designated Prime, Statewide Importance, and Unique farmland. The overall acreage of agricultural land that could be converted would range from</p>	<p>Implementation of proposed General Plan policies and actions would minimize the premature conversion of agricultural land under any of the land use scenarios. However, outside of re-designating important farmlands for continued agricultural use, additional mitigation is not available.</p>	<p>Unavoidably significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
about 674 acres under Scenario 1 to about 2,075 acres under Scenario 2. Conversion of farmland would represent a Class I, unavoidably significant, impact for any of the six scenarios.		
Impact AG-2 Five of the six land use scenarios under consideration for the 2005 General Plan would accommodate the future conversion of agricultural land that is designated for agricultural use, subject to the City SOAR Ordinance, within the Ventura-Oxnard Greenbelt, and/or under LCA contract. This is considered a Class I, unavoidably significant, impact of Scenarios 2 through 6. The impact for Scenario 1 (Intensification/Reuse Only) is considered Class III, less than significant.	Proposed General Plan policies and actions would reduce potential conflicts with policies relating to the preservation of agricultural land to the degree feasible. Additional mitigation outside of avoiding conversion of lands designated for agricultural use is not available.	Less than significant for Scenario 1. Unavoidably significant for Scenarios 2-6.
Impact AG-3 Development that could be accommodated under any of the 2005 General Plan land use scenarios could generally reduce agricultural compatibility conflicts in some locations. Though certain areas of agricultural/urban conflict would remain within the Planning Area, any of the six scenarios would generally reduce the potential for such conflicts. With the policies and actions recommended in the 2005 General Plan, effects under any of the six scenarios would be Class IV, beneficial.	Implementation of proposed General Plan policies and actions would generally reduce the potential for agricultural/urban compatibility conflicts. In particular, Action 3.21 would minimize effects to farming operations and adjacent urban uses by requiring that non-farm operations provide buffers between urban and agricultural uses. Mitigation beyond the General Plan policies and actions is not required.	Beneficial for all scenarios.
AIR QUALITY		
Impact AQ-1 Anticipated growth under any of the six land use scenarios exceeds Ventura County Air Quality Management Plan population forecasts. This is largely because AQMP forecasts are outdated and the 2005 General Plan is not expected to hinder attainment of state or federal air quality standards. Nevertheless, the exceedance of population projections used for regional air quality planning represents a potential inconsistency with the AQMP. This is considered a Class I, unavoidably significant, impact of any of the six scenarios.	The 2005 General Plan includes various policies and actions that encourage mixed use and infill development. Implementation of these policies/actions would reduce air pollutant emissions to the maximum degree feasible given the amount of growth anticipated under the 2005 General Plan. However, outside of restricting population growth to be within SCAG and VCAPCD forecasts, the potential inconsistency with the AQMP cannot be avoided.	Unavoidably significant for all scenarios.
Impact AQ-2 Individual projects accommodated under the proposed 2005 General Plan would generate air pollutant emissions. The significance of air quality impacts associated with individual projects would depend upon	None required. The following actions are recommended for inclusion in the 2005 General Plan. AQ-2 Additional Air Quality Actions. The following actions should be added to the 2005	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
<p>the characteristics of the projects and the availability of feasible mitigation measures. However, implementation of existing programs, in combination with proposed 2005 General Plan policies and actions, would reduce impacts associated with individual development projects to a Class III, less than significant, level for all six scenarios.</p>	<p>General Plan to address air quality impacts of future development on a case-by-case basis:</p> <ul style="list-style-type: none"> • Require air quality analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval. • In accordance with Ordinance 93-37, continue to require payment of fees to fund regional transportation demand management (TDM) programs for all projects generating emissions in excess of Ventura County APCD thresholds. <p>The following action should be added if a land use scenario that includes expansion areas is adopted:</p> <ul style="list-style-type: none"> • Require the development of specific plans for expansion areas for which overall air pollutant emissions shall be estimated to establish a TDM fund as required under Ordinance 93-37. Require individual developers within expansion areas to contribute pro rata fees to the TDM fund. 	
<p>Impact AQ-3 Construction of individual projects accommodated under the 2005 General Plan would result in temporary emissions of air pollutant emissions. The Ventura County APCD has not adopted significance thresholds for construction impacts because of their temporary nature; therefore, impacts would be Class III, less than significant, for all six scenarios. Nevertheless, implementation of standard emission and dust control techniques will be required on all future development regardless of the land use scenario selected.</p>	<p>None required, but the following is recommended to reduce construction-related emissions to the maximum degree feasible.</p> <p>AQ-3 Construction Mitigation. The following action should be added to the 2005 General Plan to address air quality impacts of future construction projects on a case-by-case basis:</p> <ul style="list-style-type: none"> • Require individual construction contractors to implement the construction mitigation measures included in the most recent version of the Ventura County APCD's Ventura County Air Quality Assessment Guidelines. 	<p>Less than significant for all scenarios.</p>
<p>Impact AQ-4 Increased traffic congestion associated with projected growth under any of the General Plan land use scenarios would potentially increase carbon monoxide (CO) concentrations at congested intersections. However, because of the low ambient CO concentrations and anticipated reduction in emissions associated with less polluting vehicles, exceedance of state and federal CO</p>	<p>None required.</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
standards is not expected. Impacts relating to CO "hot spots" are therefore considered Class III, less than significant, for all six scenarios.		
BIOLOGICAL RESOURCES		
Impact BIO-1 All of the 2005 General Plan land use scenarios generally avoid direct impacts to riparian, wetland, and open water habitats. However, in certain areas, development could adversely affect the quality of riparian and wetland habitat. Implementation of proposed General Plan policies and actions, including Action 1.8 (which provides buffers from rivers, creeks, and barrancas), would reduce potential impacts to a Class III, less than significant, level for any of the six land use scenarios.	Implementation of General Plan Actions 1.8 and 1.9 would reduce potential impacts to wetland and riparian habitats to a less than significant level. No additional mitigation measures are required.	Less than significant for all scenarios.
Impact BIO-2 All of the General Plan land use scenarios would largely avoid impacts to sensitive habitats and mature native trees by emphasizing intensification/reuse of urbanized areas. Implementation of General Plan policies and actions that aim to protect sensitive habitats and mature trees would reduce potential impacts to a Class III, less than significant, level for all six scenarios.	Compliance with proposed General Plan actions would reduce potential impacts to sensitive habitats to a less than significant level. No additional mitigation measures are required.	Less than significant for all scenarios.
Impact BIO-3 All of the General Plan land use scenarios would largely avoid impacts to special-status plant and animal species by emphasizing intensification/reuse of already urbanized areas rather than developing greenfields at the City's periphery. Potential impacts could occur in certain locations, but would be addressed through implementation of proposed General Plan policies and actions. Impacts are considered Class III, less than significant, for all six scenarios.	Implementation of General Plan Action 1.19 would require protect state and federally listed species and buffer such species from urban uses. Actions 1.22, 1.23, and 1.24 would preserve existing mature trees, including windrows. Additional mitigation is not needed.	Less than significant for all scenarios.
Impact BIO-4 All of the General Plan land use scenarios would largely avoid impacts to wildlife movement corridors by emphasizing intensification/reuse of existing urbanized areas. Implementation of General Plan Actions 1.8, 1.9, and 1.10 would maintain ecological connectivity corridors through urban spaces and potentially enhance connectivity in some locations. Therefore, impacts to wildlife movement are considered Class III, less than	Compliance with proposed General Plan policies and actions would reduce potential impacts to wildlife corridors to a less than significant level. No additional mitigation measures are required.	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
significant, for all six scenarios.		
CULTURAL and HISTORIC RESOURCES		
<p>Impact CR-1 Growth accommodated under any of the six scenarios could adversely affect previously identified and unidentified pre-historic archaeological resources. However, implementation of policies and actions included in the 2005 General Plan would reduce impacts to a Class III, less than significant, level for any of six land use scenarios.</p>	<p>Implementation of Policy 9D and Actions 9.14 and 9.15 would reduce potential archaeological resource impacts to a less than significant level for all six land use scenarios. Mitigation is not required.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact CR-2 Several of the growth districts and corridors include identified historic resources, as does the Western Cañada Larga expansion area. The other expansion areas also include structures that meet the minimum age criterion for eligibility for the National and California Registers of Historic Places. However, implementation of proposed 2005 General Plan policies and action, in combination with existing regulatory requirements, would reduce impacts to a Class II, less than significant, level for Scenarios 1-6.</p>	<p>Implementation of the City of Ventura Historic Preservation Regulations and HD Overlay Zone regulations would reduce impacts to historical resources within designated Historic Districts under Scenarios 1-6. These existing requirements, in combination with the policies included in the 2005 General Plan, would reduce historic resource impacts to a less than significant level. Mitigation is not required.</p>	<p>Less than significant for all scenarios.</p>
GEOLOGIC HAZARDS		
<p>Impact GEO-1 Future seismic events could produce groundshaking throughout the Planning Area as well as surface rupture in some areas where future development could be accommodated. Groundshaking and surface rupture could damage structures and/or create adverse safety effects. However, compliance with City policies, in combination with the requirements of the CBC and the Alquist-Priolo legislation, would reduce the risk associated with groundshaking and surface rupture to a Class III, less than significant, level for six scenarios.</p>	<p>Compliance with the California Building Code and General Plan Action 7.7 would reduce impacts to a less than significant level. No mitigation measures are required.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact GEO-2 The Planning Area contains several steep slopes that present a potential slope stability hazards. However, none of the General Plan land use scenarios encourage substantial new development in areas of high landslide risk. In addition, General Plan actions require geotechnical analysis and case-by-case mitigation for any development in an area with a high potential for landslides. Therefore, impacts due to landslide risk are</p>	<p>Compliance with applicable General Plan policies/actions and the City Hillside Management Program would reduce potential impacts from development in hillside areas to a less than significant level. No mitigation would be required.</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
considered Class III, less than significant, for all scenarios.		
Impact GEO-3 Future seismic events could result in liquefaction of soils in portions of the Planning Area. Development in certain areas within the City could be subject to liquefaction hazards under any of the 2005 General Plan land use scenarios. However, compliance with City General Plan policies would reduce potential impacts to Class III, less than significant, for all six scenarios.	Compliance with the California Building Code and implementation of General Plan Action 7.7 would reduce impacts due to liquefaction risk to a less than significant level. Additional mitigation is not required.	Less than significant for all scenarios.
Impact GEO-4 Expansive soil or other soil conditions leading to subsidence could result in foundation and building distress problems and cracking of concrete slabs. Areas that could accommodate development could be subject to subsidence hazards under any of the six land use scenarios. However, compliance with 2005 General Plan policies would reduce potential impacts to Class III, less than significant, for all six scenarios.	Compliance with the California Building Code and implementation of General Plan Action 7.7 would reduce impacts due to expansive soils to a less than significant level. Additional mitigation is not required.	Less than significant for all scenarios.
Impact GEO-5 Development along the coast and near rivers may be susceptible to inundation from tsunamis. However, provided that the City continues its participation in the Seismic Sea Wave Warning System and the SEMS Multihazard Functional Response Plan, impacts would be Class III, less than significant, for all six scenarios.	Continuing participation in the Seismic Sea Wave Warning System and maintenance of the SEMS Multihazard Functional Response Plan would reduce impacts related to tsunami risk to less than significant. No additional mitigation would be required.	Less than significant for all scenarios.
HAZARDS and HAZARDOUS MATERIALS		
Impact HAZ-1 Some industrial and agricultural operations within the Planning Area use hazardous materials to which current and future residents could be exposed. Potential development near hazardous material users could expose individuals to health risks due to soil/groundwater contamination or emission of hazardous materials into the air. However, compliance with proposed General Plan policies and actions, in combination with existing regulations, would reduce potential impacts associated with hazardous material use to a Class III, less than significant, level for any of the six land use scenarios.	Compliance with federal, state, and local regulations, in combination with the proposed 2005 General Plan policies and actions, would reduce impacts to a less than significant level. No mitigation is required.	Less than significant for all scenarios.
Impact HAZ-2 The transportation of hazardous materials could potentially	Compliance with existing hazardous materials transportation regulations as well as	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
<p>create a public safety hazard for new development that could be accommodated along major transportation corridors under the General Plan Update. Provided that the City continues its participation in the SEMS Multihazard Functional Response Plan, impacts would be Class III, less than significant for any of the six land use scenarios.</p>	<p>continuing participation and maintenance of the SEMS Multihazard Functional Response Plan would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.</p>	
<p>Impact HAZ-3 Future development on brownfields and other sites with potential soil or groundwater contamination could create a public safety hazard. However, compliance with City policies requiring soil and groundwater assessments on these sites would reduce impacts to Class III, less than significant, for any of the six land use scenarios.</p>	<p>Compliance with General Plan Action 7.27 would reduce impacts to a less than significant level. No mitigation measures are required.</p>	<p>Less than significant for all scenarios.</p>
<p>HYDROLOGY AND WATER QUALITY</p>		
<p>Impact HWQ-1 Most of the areas within the Planning Area that could accommodate new development are outside the 100-year flood zone. Limited portions of the Planning Area that could accommodate new development under any of the six land use scenarios are within the 100-year flood zones. However, compliance with the City Flood Plain Ordinance and proposed General Plan actions would reduce impacts to a Class III, less than significant, level for any of the six land use scenarios.</p>	<p>As noted above, proposed 2005 General Plan actions require continued compliance with the City's Flood Plain Ordinance and other applicable requirements. Additional mitigation is not needed.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact HWQ-2 Development accommodated through the year 2025 under any of the land use scenarios under consideration for the 2005 General Plan would increase the amount of impervious surfaces within the Planning Area, potentially increasing surface runoff in areas where existing storm drain systems are deficient. This is considered a Class II, significant but mitigable, impact for all scenarios.</p>	<p>HWQ-2 Additional Drainage Actions. The following actions shall be added to the 2005 General Plan to address existing storm drain system deficiencies:</p> <ul style="list-style-type: none"> • Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City. • Adopt assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist (e.g., Downtown district, Ventura Avenue corridor, and Harbor district). <p>The following actions are recommended to minimize the impact of future development on the local storm drain system and implement</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
	City goals regarding sustainable infrastructure: <ul style="list-style-type: none"> • As feasible, require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff. Such methods may include, but are not limited to, (1) the use of pervious paving material within parking lots and other paved areas to facilitate rainwater percolation; and (2) construction of retention/detention basins to limit runoff to pre-development levels and to encourage infiltration into the groundwater basin. • Where deemed appropriate, require new developments adjacent to Ventura County Watershed Protection District channels to dedicate necessary right-of-way to meet future District needs. 	
Impact HWQ-3 Development accommodated under any of the General Plan land use scenarios would incrementally increase the generation of urban pollutants in surface runoff. Point and non-point sources of contamination could affect water quality in the Ventura and Santa Clara Rivers, the Pacific Ocean, and groundwater. However, implementation of existing regulatory requirements and proposed General Plan policies and actions would reduce impacts to a Class III, less than significant, level for all scenarios.	None required.	Less than significant for all scenarios.
MINERAL RESOURCES		
Impact M-1 None of the 2005 General Plan land use scenarios would significantly reduce access to mineral resources. Impacts under Scenarios 1-6 are considered to be Class III, less than significant.	None required.	Less than significant for all scenarios.
Impact M-2 Scenarios 1-6 could introduce new development that is located adjacent to, and potentially incompatible with, existing oil production activity in the North Avenue and Upper North Avenue districts. However, policies and actions included in the 2005 General Plan would address potential incompatibilities. Impacts would be Class III, significant but mitigable, for any of the six land use scenarios.	Actions included in the 2005 General Plan would reduce compatibility conflicts between residential uses and mineral extraction activity to a less than significant level. Mitigation is not required.	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
NOISE		
<p>Impact N-1 Growth accommodated through 2025 under any of the six land use scenarios would incrementally increase noise along area roadways and potentially expose new noise sensitive uses to noise exceeding City standards. Implementation of proposed General Plan policies would address potential exposure to excessive noise for new development. Noise levels would generally increase for existing uses adjacent to transportation corridors. Impacts on most roadways would not be significant, but a potentially significant noise increase could occur along North Ventura Avenue under any scenario and along Johnson Drive under Scenario 6. Impacts are therefore considered Class II, significant but mitigable, for all six scenarios.</p>	<p>Compliance with existing regulations and proposed General Plan policies and actions would reduce potential noise impacts in most locations to a less than significant level. Construction of a sound wall along SR 33 as indicated under General Plan Action 7.33 could address noise exposure along North Ventura Avenue by reducing noise from the nearby SR 33. The following measure is also recommended.</p> <p>N-1 Rubberized Asphalt. The following action shall be added to the 2005 General Plan to reduce general traffic noise:</p> <ul style="list-style-type: none"> As feasible, use rubberized asphalt or other sound reducing material for paving and re-paving of City streets. <p>Studies have indicated that rubberized asphalt can reduce overall roadway noise by 3-5 dBA as compared to conventional asphalt.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact N-2 Construction of individual projects throughout the Planning Area could intermittently generate high noise levels under any of the land use scenarios. This may affect sensitive receptors near construction sites. However, compliance with Noise Ordinance restrictions on construction timing would reduce this impact to a Class III, less than significant level.</p>	<p>Compliance with the Ventura Noise Ordinance would reduce temporary impacts associated with construction noise to less than significant.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact N-3 The placement of residential and other noise-sensitive uses in proximity to industrial and commercial uses could potentially expose such uses to high noise levels. The City Noise Ordinance restrictions do not apply to noise-sensitive uses within commercial or industrial zones. Therefore, impacts would be Class II, significant but mitigable, for any of the six land use scenarios.</p>	<p>The following measure is required for any of the six land use scenarios.</p> <p>N-3 Noise Ordinance Update. The following action shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Update the Noise Ordinance in conjunction with the new development code to provide noise standards for residential projects and residential components of mixed use projects within commercial and industrial zones. 	<p>Less than significant for all scenarios.</p>
<p>Impact N-4 Noise-sensitive land uses near the UPRR corridor may be exposed to noise exceeding City noise standards. However, proposed General</p>	<p>None required assuming implementation of 2005 General Plan Action 7.32.</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
Plan actions require acoustical analysis for any development in an area with a built within the 60 dBA CNEL contour. Therefore, impacts due to railroad noise are considered Class III, less than significant for all six scenarios.		
Impact N-5 Operation of recreational uses, including the Ventura County Fairgrounds, Ventura Shooting Range, and the Ventura Raceway could continue to create noise disturbance for existing and planned noise-sensitive uses. City policies pursue termination, relocation, or restriction of these noise-generating activities. Impacts due to recreational uses are considered Class III, less than significant.	Impacts are not significant for any scenario. Therefore, mitigation is not required. Implementation of proposed General Plan policies may eliminate and/or reduce noise associated with activities at the Ventura Fairgrounds.	Less than significant for all scenarios.
PUBLIC SERVICES		
Impact PS-1 Development under any of the 2005 General Plan land use scenarios would increase the City's population and density of development, and introduce new development into high fire hazard areas. This would increase demand for fire protection services and potentially create the need for new fire protection facilities. With proposed General Plan policies, impacts for Scenario 1 are Class III, less than significant. Impacts for Scenarios 2-6 are considered Class II, significant but mitigable.	<p>PS-1(a) North Avenue and Western Cañada Larga Expansion Areas. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the North Avenue expansion area or the Western Cañada Larga expansion area is adopted:</p> <ul style="list-style-type: none"> • Add a fire station in the North Avenue area as determined necessary by the Ventura Fire Department. Consider an assessment district for the North Avenue area to fund a new station. <p>PS-1(b) Poinsettia Expansion Area. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the Poinsettia expansion area is adopted:</p> <ul style="list-style-type: none"> • Include a fire station site in any future specific plan for the Poinsettia expansion area if determined necessary by the Ventura Fire Department. 	Less than significant for all scenarios.
Impact PS-2 Possible future development under Scenarios 1-6 would increase the City's population and density of development, thereby resulting in the need to construct new facilities in order to provide effective police protection service. Impacts would be Class II, significant but mitigable, for any of the six land use scenarios.	<p>PS-2 Police Protection Service. The following actions shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> • Establish a new Downtown storefront to meet the needs of the growing Downtown population • Expand the Police Department headquarters as necessary to accommodate staff growth. 	Less than significant for all scenarios.
Impact PS-3 Projected enrollment growth under the 2005 General Plan would exceed the capacity of existing	None required, but the following are recommended:	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
<p>schools within the Ventura Unified School District, thereby creating the need to construct additional facilities. However, payment of State-mandated school impact fees is presumed to provide funding for needed new school facilities. Therefore, although available land for new schools may be limited (particularly for Scenarios 1 and 5), impacts to schools would be reduced to a Class III, less than significant, level for any of the six land use scenarios.</p>	<p>PS-3(a) School Coordination. The following action should be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> • Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development. <p>PS-3(b) Expansion Area Schools. The following action should be added to the 2005 General Plan if any land use scenario that includes an expansion area is adopted:</p> <ul style="list-style-type: none"> • Require expansion area specific plans to be prepared in coordination with the Ventura Unified School District and set aside land needed for new school facilities. 	
<p>Impact PS-4 Ventura libraries are currently undersized to serve the City's existing population and, given the projected population growth rates for Scenarios 1-6, the existing library services would be inadequate to serve the future service area population. Although new facilities would be needed to meet projected demand under Scenarios 1-6, facilities could be constructed without causing significant environmental impacts. This is considered to be a Class III, less than significant, impact for all six scenarios.</p>	<p>Mitigation is not needed, though increased funding of libraries would be needed if new facilities are to be developed.</p>	<p>Less than significant for all scenarios.</p>
<p>Impact PS-5 Existing landfills have adequate capacity to accommodate projected citywide increases in solid waste generation for the next 15-17 years. However, regional waste generation increases could exceed the daily capacity of area landfills. In addition, area landfills are projected to close in the 2022-2027 period; therefore, expanded or new facilities will be needed to accommodate solid waste generated in the City through 2025. Although the identification of new facilities is physically feasible, the City cannot ensure that new facilities are sited. Impacts are therefore considered Class I, unavoidably significant, for all six land use scenarios.</p>	<p>PS-5 Solid Waste Disposal Facilities. The following actions shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> • Coordinate with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, or develop alternative means of disposing of solid waste that will provide sufficient capacity for waste generated in the City. • Develop incentives for new residences and businesses to incorporate recycling and waste diversion practices using guidelines provided by the Environmental Services Office. 	<p>Unavoidably significant for all scenarios. Development of new or expanded solid waste disposal facilities could have significant secondary effects.</p>
<p>Impact PS-6 Population growth accommodated under any of the 2005 General Plan land use scenarios would increase demand for recreational facilities and programs. With continued</p>	<p>Continued payment of required park fees and dedication of land for parks on a case-by-case basis would reduce impacts to a less than significant level. Mitigation is not required for any of the six scenarios.</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
<p>payment of Quimby fees and parkland dedication in conjunction with new development, impacts could be reduced to a Class III, less than significant, level for all six scenarios. It should be noted, however, that Scenario 1 does not include land that could accommodate new citywide park facilities, while the expansion areas included in Scenario 5 do not include sufficient land to provide park acreage meeting the demands of projected expansion area population growth.</p>		
TRANSPORTATION and CIRCULATION		
<p>Impact TC-1 Growth accommodated under any of the General Plan land use scenarios could result in deficiencies to the local circulation system based on recommended level of service standards. The number of locations that could have deficiencies based on the projected growth scenarios ranges from one (for Scenario 1) to four (for Scenarios 2 and 4). Feasible improvements are available to address all projected deficiencies for Scenarios 1, 3, 4, 5, and 6; therefore, impacts associated with those scenarios are considered Class II, significant but mitigable. For Scenario 2, implementation of feasible improvements would not achieve performance standards at the Johnson Drive/North Bank Drive intersection. The impact at that location is considered Class I, unavoidably significant, for Scenario 2.</p>	<p>To ensure that impacts are addressed and that the improvements identified in this EIR (or other feasible improvements that achieve the same objectives) are identified, the following measure is required:</p> <p>TC-1 Additional Circulation Actions. The following actions shall be added to the 2005 General Plan to ensure that traffic impacts of future developments are addressed and mitigated:</p> <ul style="list-style-type: none"> • Require project proponents to analyze traffic impacts and implement mitigation as appropriate prior to development. Depending upon the nature of the impacts and improvements needed, mitigation may either consist of implementing needed physical improvements, contributing “fair share” fee toward implementation of needed improvements, or some combination thereof. • Update the traffic mitigation fee program to fund necessary citywide circulation and mobility system improvements needed in conjunction with new development. 	<p>Less than significant for Scenarios 1, 3, 4, 5, and 6. Unavoidably significant at Johnson Drive/North Bank Drive intersection for Scenario 2.</p>
<p>Impact TC-2 Implementation of any of the 2005 General Plan land use scenarios would be expected to generally enhance the use of alternative transportation modes, including transit, bicycling, and walking. Impacts relating to alternative transportation are considered Class IV, beneficial, under any scenario.</p>	<p>None required.</p>	<p>Beneficial for all scenarios.</p>
<p>Impact TC-3 None of the 2005 General Plan land use scenarios would accommodate design features that would create traffic hazards. The</p>	<p>None required.</p>	<p>Less than significant for all scenarios.</p>



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
placement of new residential development along highly traveled thoroughfares may incrementally increase hazards for pedestrians; however, implementation of proposed policies relating to traffic calming and improving walkability would reduce such impacts to a Class III, less than significant, level for any of the General Plan land use scenarios.		
Impact TC-4 None of the 2005 General Plan land use scenarios would affect air traffic patterns. Impacts relating to air traffic are considered Class III, less than significant, under any scenario.	None required.	Less than significant for all scenarios.
UTILITIES and SERVICE SYSTEMS		
Impact U-1 Development accommodated under any of the 2005 General Plan land use scenarios would increase water demand, with net increases in demand ranging from about 2,700 acre-feet per year (AFY) to 5,900 AFY. The total estimated water available from Lake Casitas, the Ventura River diversion, and groundwater basins of approximately 28,300 acre-feet per year is sufficient to meet these projected demand increases. Therefore, water supply impacts are considered Class III, less than significant, for all six scenarios .	The 2005 General Plan includes various policies and actions aimed at reducing water consumption. No mitigation is required, but the following action will be added to ensure that future . U-1 Water System Analysis. The following action shall be added to the 2005 General Plan: <ul style="list-style-type: none"> • Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage requirements for the proposed development in order to determine if there are any system deficiencies or needed improvements for the proposed development. 	Less than significant for all scenarios.
Impact U-2 New development under any of the 2005 General Plan land use scenarios would increase wastewater generation. Projected future wastewater flows to the City's wastewater treatment plant are projected to remain within the current capacity for all six scenarios. Projected flows to the Ojai Valley Sanitary District plant would be within the capacity of the plant for all scenarios except Scenario 5 (Intensification/Reuse + North Avenue + Western Cañada Larga). Therefore, the impacts of Scenarios 1-4 and 6 are considered Class III, less than significant, while the impact of Scenario 5 is considered Class II, significant but mitigable.	In addition to 2005 General Plan policies and actions, the following measure is recommended for all six scenarios. U-2(a) Sewer System Analyses. The following action should be added to the 2005 General Plan: <ul style="list-style-type: none"> • Require project proponents to conduct sewer collection system analysis to determine if downstream facilities are adequate to handle the proposed development. The following measure is required for Scenario 5. U-2(b) Ojai Valley Sanitary District Capacity. The following action shall be added to the 2005 General Plan if Scenario 5 or any other scenario that includes both the	Less than significant for all scenarios.



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
	North Avenue and Western Cañada Larga expansion areas is selected: <ul style="list-style-type: none"> Allow development within the North Avenue expansion area or Western Cañada Larga expansion only when the Ojai Valley Sanitary District has adequate treatment capacity for projected wastewater flows or other mitigation is approved by the City Engineer. 	
LAND USE and PLANNING		
Impact LU-1 No boundary adjustments are being sought at this time and all of the General Plan scenarios emphasize intensification and reuse over expansion of the City. Annexations and Sphere of Influence adjustments could be sought at some point in the future under any of the scenarios and certain possible annexations/Sphere of Influence adjustments could potentially conflict with relevant State and LAFCO policies. However, because any conflicts would need to be resolved prior to LAFCO approval of any boundary adjustment, impacts can be reduced to a Class III, less than significant, level for all six scenarios.	None required.	Less than significant for all scenarios.
Impact LU-2 Scenarios 1, 4, 5, and 6 could be found to be consistent with applicable policies of the California Coastal Act. Impacts would be Class III, less than significant. However, Scenarios 2 and 3 would potentially accommodate the conversion of Prime agricultural land within the Olivas expansion area, which is within the Coastal Zone. Such conversion could be found inconsistent with California Coastal Act policies relating to the maintenance of Prime agricultural land within the coastal zone. Impacts for these two scenarios would be Class I, unavoidably significant.	None available for the potential inconsistency of Scenarios 2 and 3 with Coastal Act policy pertaining to Prime farmland preservation.	Less than significant for Scenarios 1, 4, 5, and 6. Unavoidably significant for Scenarios 2 and 3.
Impact LU-3 Scenarios 1-6 could be found to be consistent with SCAG Regional Comprehensive Plan and Guide (RCPG) Growth Management, Air Quality, Outdoor Recreation, and Water Quality policies. Impacts would be Class III, less than significant, for any of the six 2005 General Plan land use scenarios.	With implementation of the policies and actions of the 2005 General Plan, Scenarios 1-6 could be found to be consistent with RCPG policies. No mitigation measures would be required.	Less than significant for all scenarios.
Impact LU-4 Scenarios 1-6 could be	With implementation of the proposed 2005	Less than significant for



**Table S-1
 Summary of Environmental Impacts and Mitigation Measures**

Impact	Mitigation Measures	Significance After Mitigation
found to be consistent with the Southern California Association of Governments' Regional Transportation Plan (RTP). Impacts would be Class III, less than significant, for any of the six land use scenarios.	General Plan policies and actions, Scenarios 1-6 could all be found to be consistent with the SCAG 2004 RTP. No mitigation is required.	all scenarios.
Impact LU-5 Scenarios 1-6 could all be found to be consistent with the Southern California Association of Governments' Growth Visioning Report. Impacts would be Class III, less than significant, for any of the six 2005 General Plan land use scenarios.	With implementation of the 2005 General Plan policies and actions, Scenarios 1-6 could be found to be consistent with SCAG's Visioning Report. No mitigation is required.	Less than significant for all scenarios.
POPULATION and HOUSING		
Impact PH-1 Scenarios 1-6 would not result in the displacement of substantial numbers of people or housing. Any displacement would be more than offset by new housing that would be accommodated under the 2005 General Plan. Impacts would be Class III, less than significant, for any of the General Plan land use scenarios.	None required.	Less than significant for all scenarios.
Impact PH-2 Proposed General Plan policies implement most SCAG policies relating to growth. However, growth accommodated under Scenarios 1-6 exceeds SCAG's Regional Comprehensive Plan and Guide and Ventura County AQMP population forecasts. This is largely because regional growth forecasts have not been updated to reflect current conditions in the City. Nevertheless, exceedance of regional forecasts is considered a Class I, unavoidably significant, impact of any of the six scenarios.	The 2005 General Plan includes various policies that encourage mixed use and infill development and would be expected to reduce vehicle miles traveled (VMT) and associated air pollutant emissions as compared to continued low density development at the City's periphery. Additional mitigation beyond restricting growth to SCAG forecasts is not available.	Unavoidably significant for all scenarios.
Impact PH-3 The 2005 General Plan could be found to be consistent with the Southern California Association of Governments Growth Visioning Report. Impacts would be Class III, less than significant, for any of the six land use scenarios.	None required.	Less than significant for all scenarios.
Impact PH-4 Any of the 2005 General Plan land use scenarios would provide for a balance of jobs and housing through 2025. Impacts relating to jobs/housing balances would be Class III, less than significant, for any of the six land use scenarios.	None required.	Less than significant for all scenarios.



1.0 INTRODUCTION

This document is a Final Environmental Impact Report (EIR) that evaluates the environmental impacts that could occur as a result of the growth and development envisioned in the City of San Buenaventura (Ventura) 2005 General Plan. The EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA).

The 2005 General Plan is an update to the 1989 Comprehensive Plan,¹ which is the current general plan for the City. The EIR analysis focuses on the possible physical effects of two primary components of the proposed General Plan: 1) physical development potential; and 2) the goals/policies and subsequent action items/ implementation measures.

This section: (1) provides an overview of the background behind the 2005 General Plan; (2) describes lead, responsible, and trustee agencies for the EIR; (3) describes the purpose of and legal authority of the document; (4) summarizes the scope and content of the EIR; and (5) provides a synopsis of the environmental review process required under CEQA.

The contents of other EIR sections are as follows:

- Section 2.0, *Project Description*, provides a detailed discussion of the proposed Plan.
- Section 3.0, *Environmental Setting*, describes the general environmental setting for the City.
- Section 4.0, *Environmental Impact Analysis*, describes the environmental effects associated with each of six development scenarios.
- Section 5.0, *Other CEQA Requirements*, discusses issues such as growth inducement and significant irreversible environmental effects.
- Section 6.0, *Alternatives*, discusses alternatives to the proposed Plan, including the CEQA-required “no project” alternative.
- Section 7.0, *References and Preparers*, lists informational sources for the EIR and persons involved in the preparation of the document.

1.1 GENERAL PLAN OVERVIEW AND BACKGROUND

The City of Ventura is in the process of updating all of the General Plan elements other than the Housing Element, an update of which was approved by the City Council in 2004. The 2005 General Plan will guide future development within the existing City limits as well as in areas being considered for possible future annexation and those areas potentially affected by City land use decisions. The study area evaluated in this EIR consists of this entire “planning area.”

State law (Government Code Section 65300) requires that each city and county adopt a comprehensive general plan. The proposed project fulfills this requirement by updating the City’s existing Comprehensive (General) Plan, which was last updated in 1989. The General

¹ The terms “General Plan” and “Comprehensive Plan” are interchangeable in the context of this EIR. The current plan is termed a “Comprehensive Plan.” However, a change to the term “General Plan” is proposed for consistency with State General Plan law and to better reflect the broader nature of the plan.



Plan defines the framework by which the City's physical and economic resources are to be managed and used in the future. The 2005 General Plan's planning horizon is 2025.

The 2005 General Plan embodies more than six years of intensive communitywide effort to chart a clear course for the future of Ventura. Based on that extensive public participation, the primary focus of the plan is the intensification and reuse of vacant or underutilized parcels in the established urban area of Ventura to provide housing and businesses that complement the needs of the community in attractive buildings and settings that enhance the unique character and identity of the City. This emphasis means that hillside open space will remain undeveloped and agriculturally-designated lands within the Planning Area will not be considered for urban development (which would require voter approval) unless and until they are needed to achieve community planning goals that cannot be met within the existing City limits.

The 2005 General Plan is the second in a series of three connected documents that will guide future conservation and change in the city. The Ventura Vision, published in 2000, set the stage for the policies and actions in the General Plan by establishing citizen desires for environmental preservation and resource protection, community character and design, infrastructure and services, and cultural, recreational, and educational programs. The final piece of the trilogy will be a form-based Development Code. This new approach to zoning prioritizes the appearance of development, while still ensuring that neighboring land uses are compatible and appropriate. The General Plan anticipates that the Code will focus on the districts, corridors, and neighborhood centers where future change will be concentrated.

Following publication of the Ventura Vision, the City Council established a 19-member Comprehensive Plan Advisory Committee (CPAC) to help translate the Vision concepts into issues and priorities to be addressed in the General Plan. The CPAC included people representing neighborhoods, agricultural interests, seniors, and schools, as well as one member from the Planning Commission and one from the City Council. The committee met more than 30 times over almost three years to formulate an issues summary and recommended future land use scenarios, which are presented in the September 2003 CPAC Issues & Alternatives Report.

During the course of the CPAC process, the City published the August 2002 Comprehensive Plan Update Background Report, which provides a detailed account and analysis of the range of existing conditions, opportunities, and constraints that affect planning and land use in Ventura. CPAC took this information into account in refining its recommendations to the Planning Commission and City Council. After several months of review of the CPAC recommendations, the City Planning Commission in December 2003 made some modifications to the CPAC recommended land use scenario.

The City Council met 11 times from February through August 2004 to review the CPAC and Planning Commission recommendations, consider relevant data, and formulate broad goals, policies, and a diagram to guide growth and change in the City until 2025. In July 2004, the City Council selected a general plan diagram for consideration in the Draft EIR, including five potential "expansion areas," and directed City staff to proceed with the preparation of a draft general plan policy document.

In September 2004, the City Council established an ad-hoc General Plan Committee consisting of three Planning Commissioners and three City Council members to work with City staff and consultants to ensure that the General Plan would be completed by July 2005 with ample public



participation, and to ensure open communication, transparency, and coordination among all parties interested in the creation of the General Plan. All of the CPAC, Planning Commission, City Council, and General Plan Committee workshops, meetings, and hearings were open to the public and included significant, meaningful, and often extensive citizen input and participation.

1.2 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The City of Ventura is the Lead Agency for this EIR under CEQA. The City has primary discretionary authority to determine whether or how to approve the 2005 General Plan.

In addition to the City, other public agencies have discretionary authority over certain aspects of the General Plan. These agencies, called “Responsible Agencies,” are responsible for carrying out or approving components of the 2005 General Plan (such as an annexation or an amendment of the City’s sphere of influence). Section 15381 of the *State CEQA Guidelines* defines a “responsible agency” as:

A public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For purposes of CEQA, responsible agencies include all public agencies other than the lead agency that have discretionary approval authority over the project.

The “responsible agencies” for the 2005 General Plan are listed below, along with their general approval responsibilities.

- California Coastal Commission – The coastal areas of the City are within the Coastal Zone. Therefore, the 2005 General Plan will also serve as an update to the City’s Local Coastal Program (LCP). The updated LCP will require approval by the California Coastal Commission.
- California Department of Conservation – The State Geologist is responsible for the review and approval of the City’s program for minimizing exposure to geologic hazards and for regulating surface mining activities.
- Ventura County LAFCO – Possible future adjustments to the City’s Sphere of Influence (SOI) are subject to review and approval by the Ventura County Local Agency Formation Commission (LAFCO). In addition, any future annexations by the City that occur under the guise of the General Plan would be subject to LAFCO approval.

Though not responsible for approval of the 2005 General Plan, the Ventura County Transportation Commission and Caltrans are responsible for the review and approval of future regional transportation improvement projects (design, funding, and construction) that may be approved in concept as part of the General Plan. Similarly, the California Department of Fish and Game does not have specific permit authority over the General Plan, but may have review and permit authority over specific future developments that involve alterations of streambeds or that affect sensitive plant or animal species. Similarly, the Ventura County Watershed Protection District has review and permit authority over alterations to flood control facilities, while the Los Angeles Regional Water Quality Control Board (RWQCB) has permit authority over projects with the potential to affect surface water quality under the Clean Water Act.



The U.S. Army Corps of Engineers (USACOE) is a federal agency and therefore is not a responsible agency under CEQA. However, the USACOE has permit authority over individual projects that would affect waters of the United States. Therefore, the USACOE may have authority over certain future developments that could occur under the 2005 General Plan.

Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have legal authority over approving or carrying out the project. *CEQA Guidelines* Section 15386 designates four agencies as Trustee Agencies: (1) the California Department of Fish and Game with regards to fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves; (2) the State Lands Commission, with regard to state-owned "sovereign" lands, such as the beds of navigable waters and state school lands; (3) the California Department of Parks and Recreation, with regard to units of the state park system; and, (4) the University of California, with regard to sites within the Natural Land and Water Reserves System.

1.3 PURPOSE AND LEGAL AUTHORITY

This EIR is as an informational document for use in the City's review and consideration of the proposed 2005 General Plan. The Plan will guide subsequent actions taken by the City in its review of new development projects and its establishment of new and/or revised citywide programs. The EIR will also be used by various responsible agencies (listed above) to facilitate informed decision-making with respect to their discretionary authority over the project.

The EIR has been prepared in accordance with the requirements of CEQA and the *State CEQA Guidelines*. In accordance with Section 15121(a) of the *State CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3), the purpose of an EIR is to:

Inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This EIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and contain a more comprehensive discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the *State CEQA Guidelines*, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the City (as Lead Agency) with the opportunity to consider broad policy alternatives and program-wide mitigation measures. It also provides the City with greater flexibility to address environmental issues and/or cumulative impacts on a comprehensive basis.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document needs to be prepared. However, subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required if the Program EIR addresses all of the impacts of the subsequent activity [Guidelines Section 15168(c)]. When a Program EIR is relied on for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities [Guidelines Section 15168(c)(3)]. If a subsequent activity would have effects not identified in the Program EIR, the Lead



Agency must prepare a new Initial Study, leading to either a Negative Declaration (ND), a Mitigated Negative Declaration (MND), or an EIR.

The *CEQA Guidelines* [Section 15168(b)] encourage the use of Program EIRs, citing five advantages:

- *Provision of a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR*
- *Focus on cumulative impacts that might be slighted in a case-by-case analysis*
- *Avoidance of duplicative reconsideration of basic policy issues*
- *Consideration of broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them*
- *Reduction of paperwork by encouraging the reuse of data (through tiering)*

This document also serves as a Master Environmental Assessment (MEA) of the City. According to Section 15169 of the *CEQA Guidelines*, an MEA serves as an inventory or database describing the environmental characteristics of the Planning Area. The purpose of an MEA is to identify and organize environmental information that may be used for reference in future EIRs or NDs prepared for individual projects. As noted in the *CEQA Guidelines*, an MEA is used for the following:

- *To identify the environmental characteristics and constraints of an area, information which can be used to influence the design and location of individual projects*
- *To provide information that agencies can use in initial studies to decide whether certain environmental effects are likely to occur and whether they would be significant*
- *To provide a central source of current information for use in preparing EIRs and NDs on individual projects*
- *To serve as a reference for EIRs and NDs on individual projects*
- *To assist in identifying long range, areawide, and cumulative impacts of individual projects*
- *To assist a City or County in formulating a general plan*
- *To serve as a reference document to assist public agencies that review other environmental documents dealing with activities in the area that are covered by the assessment*

1.4 EIR SCOPE AND CONTENT

In accordance with the *CEQA Guidelines*, the City of Ventura issued a Notice of Preparation (NOP) of an EIR in October 2004. Subsequent to the release of the NOP, the City Council decided to revise the development scenarios to be studied in the EIR; therefore, a revised NOP reflecting the scenarios studied in this EIR was issued in December 2004. Both versions of the NOP and the NOP responses are contained in Appendix A. The NOP noted that the 2005 General Plan could have potentially significant impacts in each of the issue areas on the City's environmental checklist. Therefore, this EIR examines all environmental issues on the checklist, including:

- *Aesthetics*
- *Air Quality*
- *Agricultural Resources*
- *Land Use and Planning*
- *Noise*
- *Population/Housing*



- *Biological Resources*
- *Cultural Resources*
- *Energy/Mineral Resources*
- *Geology/Soils*
- *Hazards/Hazardous Materials*
(including wildland fire hazards)
- *Public Services (police, fire, schools)*
- *Recreation*
- *Utilities/Service Systems*
- *Transportation/Traffic*
- *Water (including Water Supply, Hydrology/Flooding, and Water Quality)*

The City also held two public scoping meetings for the project to solicit comments on the scope and content of the EIR. The first meeting was held on October 13, 2004. Approximately ten people attended this meeting. The second meeting was held on January 12, 2005. The primary issues raised at both meetings revolved around the assumptions to be used in the EIR analysis. No significant new environmental issues were raised at either meeting.

The focus of this EIR is to:

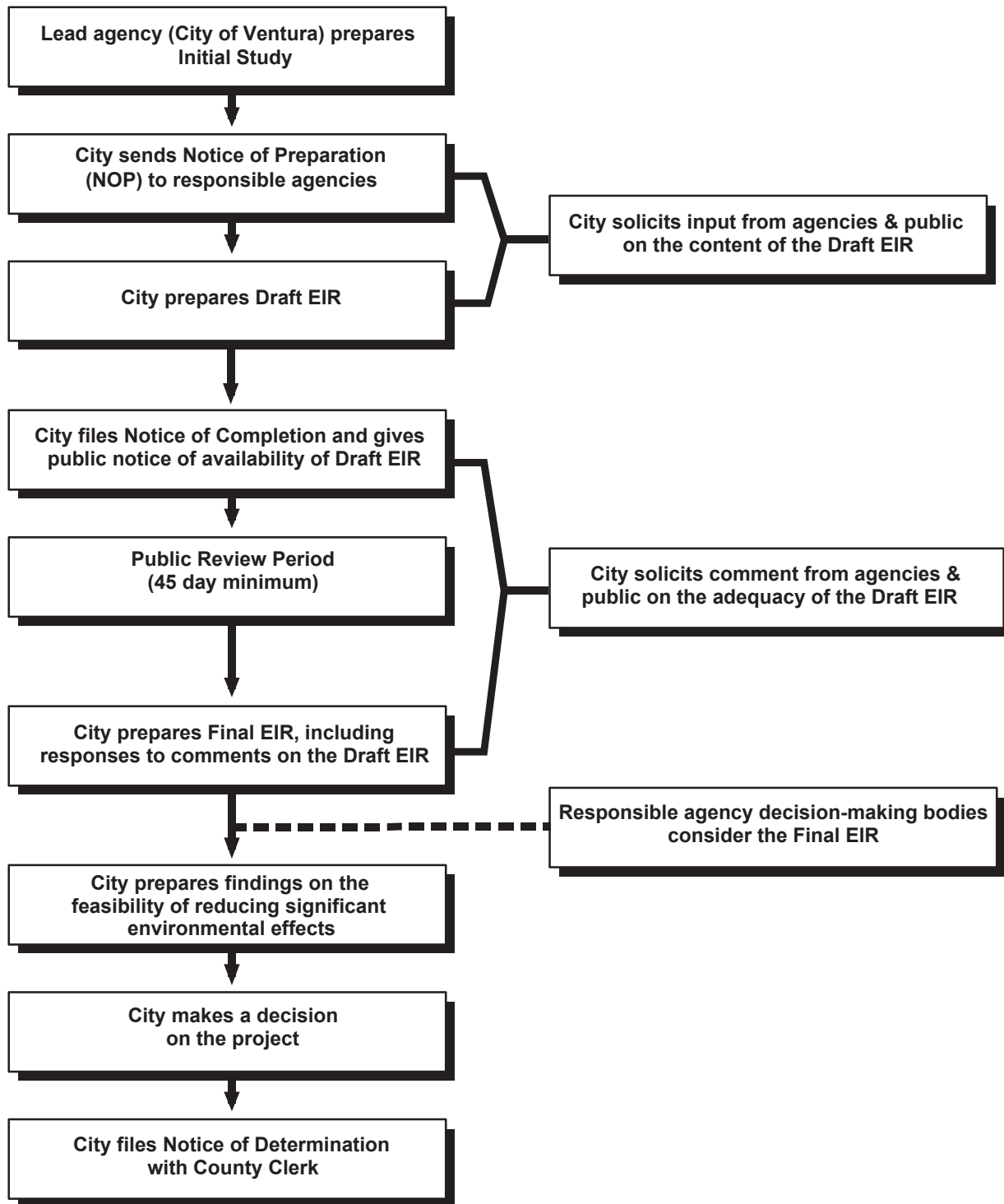
- *Provide information about the 2005 General Plan and different growth scenarios for consideration by the Planning Commission and the City Council*
- *Review and evaluate the potentially significant environmental impacts that could occur as a result of the growth and development envisioned in the 2005 General Plan and different growth scenarios*
- *Identify feasible mitigation measures that may be incorporated into the project in order to reduce or eliminate potentially significant effects.*

1.5 ENVIRONMENTAL REVIEW PROCESS

The environmental review process, as required under CEQA, is summarized below and illustrated generally on Figure 1-1.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. For projects of regional significance, the lead agency holds a scoping meeting during the 30-day NOP review period.
2. **Draft EIR.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion.** Upon completion of a Draft EIR, the lead agency must file a Notice of Completion with the State Clearinghouse and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it (*CEQA*





CEQA Environmental Review Process

Figure 1-1
City of Ventura



Guidelines Section 15087). Additionally, public notice of the availability of the Draft EIR must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off of the project site; or c) direct mailing to owners and occupants of contiguous properties and others who have requested such notification. The lead agency must solicit comments from the public and respond in writing to all written comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless a shorter period is approved by the Clearinghouse (Public Resources Code Section 21091).

4. **Final EIR.** Following the close of the Draft EIR review period, a Final EIR is prepared. The Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) a list of persons and entities commenting; and d) responses to comments.
5. **Final EIR Certification.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** Upon certification of an EIR, the lead agency makes a decision on the project analyzed in the EIR. A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision and explaining why the project's benefits outweigh the significant environmental effects.
8. **Mitigation Monitoring/Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.



2.0 PROJECT DESCRIPTION

The proposed project is an update of the City of Ventura Comprehensive (General) Plan (hereinafter referred to as the “2005 General Plan”). The 2005 General Plan, which updates the 1989 Comprehensive Plan, establishes the community’s vision for the development of Ventura through the year 2025 and will serve as the fundamental land use policy document for the City.

This section of the EIR describes the key characteristics of the 2005 General Plan, including the project applicant, the geographic extent of the plan, project objectives, required approvals, and the various development scenarios under consideration. This section also summarizes the key policy statements from the various General Plan elements that have the potential to result in physical environmental effects.

2.1 PROJECT PROPONENT

City of San Buenaventura
501 Poli Street
Ventura, California 93001

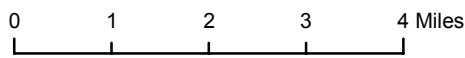
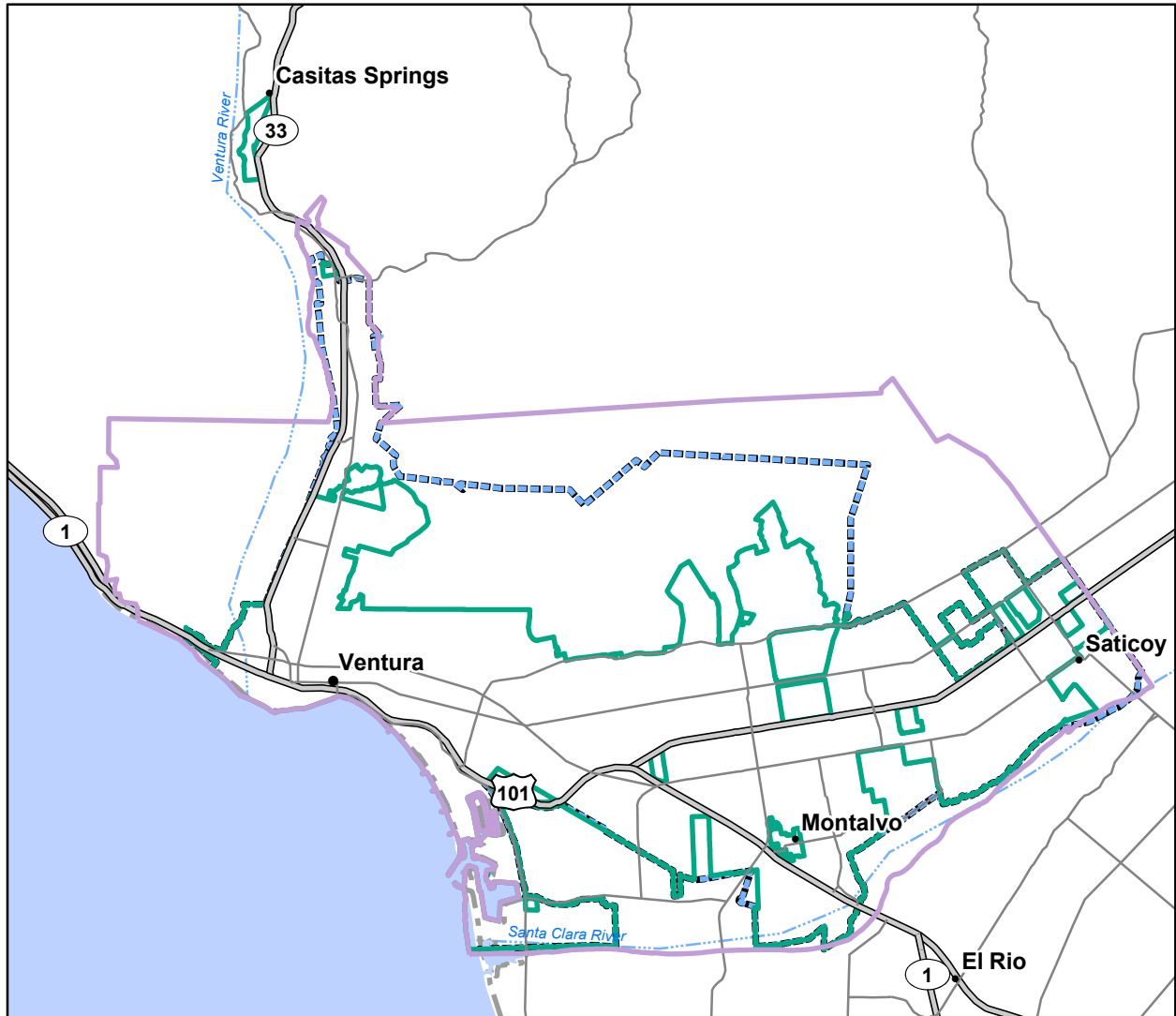
2.2 GEOGRAPHIC EXTENT OF THE PLANNING AREA





Ventura is located in western Ventura County, approximately 60 miles north of Los Angeles and 25 miles south of Santa Barbara. Figure 2-1a shows the City within the Southern California region. The City is generally bounded by the Ventura River to the west, the Pacific Ocean to the southwest, the Santa Clara River to the south, and the Transverse Range to the north. The key planning boundaries for the community – corporate limits, the sphere of influence, and the Planning Area - are illustrated on Figure 2-1a and described below. An aerial photograph of the Planning Area is presented on Figure 2-1b.

a. Corporate Limits. The corporate limits of the City currently encompass approximately 13,700 acres, or 21 square miles. The City stretches from the Pacific Ocean eastward to the community of Saticoy and northward up the Ventura River valley. The City is not currently seeking annexation of any lands outside the current City limits. However, the City may seek annexation of unincorporated islands as well as urbanized areas adjacent to the current City limits (such as in Saticoy and the North Ventura Avenue area) over the life of the 2005 General Plan. Any annexations would be sought only at such time as the area to be annexed is contiguous with the current (at that time) City limit.

b. Sphere of Influence. The Sphere of Influence (SOI) encompasses both incorporated and unincorporated territories that either are or are anticipated to be within a local agency’s ultimate service area. In other words, it represents the probable physical boundaries and service area of a local agency. Typically, an SOI encompasses the area that a local agency expects to annex. The SOI must be approved by the Local Agency Formation Commission (LAFCO). With the passage of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.), LAFCOs are required to update spheres of influence every five years either in conjunction with, or after completing, service reviews.





-  Project Location
-  City Planning Area
-  City Limits
-  Sphere of Influence



Source: US Bureau of the Census TIGER 2000 data.

Regional Location

Figure 2-1a
 City of Ventura



Aerial Date: 1994
Sources: City of Ventura, 2002 and Rincon Consultants, Inc., 2005.

Ventura Planning Area

Figure 2-1b
City of Ventura

Ventura's current SOI encompasses the entire City as well as several areas outside the current City limits. Areas outside the City, but within the current SOI include portions of the North Ventura Avenue area, the communities of Montalvo and Saticoy, and the Arundell industrial area. About 2,300 acres in the hillsides above the City are also outside the City, but within the current SOI. Finally, all or portions of four of the "expansion areas" under consideration are within the current SOI. These include all of the North Avenue and Poinsettia areas and portions of the Olivas and Serra areas, which are discussed in detail in subsection 2.5, beginning on page 2-8.

The City is not seeking any adjustments to the SOI at this time. However, the 2005 General Plan includes a land use designation ("Industrial") for a small area outside the current SOI. This area encompasses approximately 10-11 acres located north of the City's water filtration plant. The City may seek inclusion of that area within the SOI over the life of the 2005 General Plan; however, any application for an adjustment to the SOI and annexation would occur (if ever) only at such time as the City's corporate boundary has been extended to be contiguous with the boundary of the area. Similarly, should any potential expansion areas be selected for inclusion in the General Plan land use map in the future, the SOI may be proposed for adjustment at that time to encompass the expansion areas. Applications for any necessary SOI adjustments would be sought at such time as development of these areas is proposed. The SOI adjustments that would be needed for each expansion area are discussed in detail in subsection 2.5. Finally, the City is interested in having the SOI moved to be coterminous with the City's corporate boundary for the hillside areas above the City pursuant to Action 1.13 of the Draft General Plan. It is the City's understanding that the Ventura LAFCO is planning to prepare a Municipal Service Review (MSR) for the City that will likely result in the removal this area (and possibly other areas, including all of the potential expansion areas) from the SOI; therefore, the City will not seek an SOI adjustment at this time. However, if the LAFCO does not take action to remove the hillside areas from the SOI, the City may apply for such an adjustment in the future.

c. Planning Area. The Ventura Planning Area encompasses all areas within and outside the City's boundaries that bear a relation to the City's planning area as contemplated by State Government Code section 65300. The current Planning Area for the City encompasses about 31,000 acres and includes the entire City and SOI, as well as the Taylor Ranch area west of the City, additional acreage in the hillsides above the City, and farmlands south and east of the City, including the Olivas expansion area (see subsection 2.5 for discussion of this expansion area). The entire Planning Area is the focus of this EIR.

2.3 PROJECT OBJECTIVES

The 2005 General Plan is intended to function as a policy document to guide land use decisions within the City's planning area through the year 2025. The Plan includes goals, objectives, policies, and implementation programs adopted from the 1989 Comprehensive Plan, the Ventura Vision 2000, and input from the Comprehensive Plan Advisory Committee (CPAC), Planning Commission, City Council, and community received over the course of the development of the Plan.

Adopted by the Ventura City Council in March 2000, the Ventura Vision 2000 set the framework for the 2005 General Plan by setting the overall goals and direction for the



community. The Vision includes a number of vision statements covering a wide range of topics. These are presented on page 2-7 and categorized into five areas for convenience (Environmental, Economic, Social, Planning and Design, and Collaboration). Taken as a whole, the Vision principles establish the general objectives for the 2005 General Plan. Based on the vision statements and input from the community, CPAC, and Planning Commission, the City Council established the following goals to guide City decision-making.

- **Our Natural Community** - Our goal is to be a model for other communities of environmental responsibility, living in balance with our natural setting of coastline, rivers, and hillside ecosystems.
- **Our Prosperous Community** - Our goal is to attract and retain enterprises that provide high-value, high wage jobs; to diversity the local economy; to increase the local tax base; and to anticipate our economic future in order to strengthen our economy and help fund vital public services.
- **Our Well Planned and Designed Community** - Our goal is to protect our hillsides, farmlands, and open spaces; enhance Ventura's historic and cultural resources; respect our diverse neighborhoods; reinvest in older areas of our community; and make great places by insisting on the highest standards of quality in architecture, landscaping and urban design.
- **Our Accessible Community** - Our goal is to provide residents with more transportation choices by strengthening and balancing bicycle, pedestrian and transit connections in the City and surrounding region.
- **Our Sustainable Infrastructure** - Our goal is to safeguard public health, well being and prosperity by providing and maintaining facilities that enable the community to live in balance with natural systems.
- **Our Active Community** - Our goal is to add to and enhance our parks and open spaces to provide enriching recreation options for the entire community.
- **Our Healthy and Safe Community** - Our goal is to build effective community partnerships that protect and improve the social well being and security of all our citizens.
- **Our Educated Community** - Our goal is to encourage academic excellence and life-long learning resources to promote a highly-educated citizenry.
- **Our Creative Community** - Our goal is to become a vibrant cultural center by weaving the arts and local heritage into everyday life.
- **Our Involved Community** - Our goal is to strive to work together as a community to achieve the Ventura Vision through civic engagement, partnerships, and volunteer service.

2.4 1989 COMPREHENSIVE PLAN

The City Council adopted the current Comprehensive Plan Update to the Year 2010 on August 28, 1989. The 1989 Comprehensive Plan has since served as a policy document that guides land use decisions in the City.



Ventura Vision 2000 Vision Statements

Environmental

- A community that seeks sustainability by simultaneously promoting ecological health, as well as economic vitality and social well-being for current and future generations.
- An environmentally responsible coastal community serving as a model for other areas.
- A community that protects and restores the natural character of its beaches, ocean views, hillsides, barrancas, and rivers as a scenic backdrop for its high quality urban environment.

Economic

- A community that develops a flourishing and balanced economy by encouraging a broad range of high quality employment and entrepreneurial opportunities.
- A community that encourages private economic development that can in turn support public services and amenities associated with a high quality of life.
- A community that develops a vital, prosperous, and stable economy while maintaining its "small town" characteristics and qualities.
- A community where the private and public sectors cooperate to enhance economic vitality.
- A community that actively participates in regional economic development efforts.

Social

- An inclusive, diverse, and tolerant community that welcomes and celebrates all people.
- A community in which all residents have access to quality and affordable health and social services.
- A community that recognizes the importance of children and seniors by providing exceptional cultural, educational, and social support programs.
- A community that provides a diverse range of active and passive recreation for residents and visitors of all ages and abilities.
- A community dedicated to educational excellence and an emphasis on lifelong learning.
- A community that celebrates and is enriched by the arts and its diverse cultural opportunities.

Planning and Design

- A community that retains its character as an attractive coastal town by growing slowly and sustainably and by emphasizing its history, diversity, and natural environment.
- A community that cherishes its distinctive, diverse, and eclectic neighborhoods and recognizes that future changes to the community must preserve their character.
- A community with safe, accessible, and balanced transportation that promotes multiple modes of travel to local and regional destinations.

Collaboration

- A community in which residents collaborate with each other and with the city government in an informed, active, and constructive manner to assess and resolve common issues.



The 1989 Comprehensive Plan is made up of the “Visions of Ventura” and nine individual elements, including each of the seven state-mandated general plan elements plus Parks and Community Design. The elements establish goals, objectives, policies, and programs for public and private entities. The Visions of Ventura is a list of generalized principles and philosophies that serve as guidelines for long-term decision making established by the City Council.

The 1989 Comprehensive Plan land use map is shown on Figure 2-2. The current map includes about 30 individual land use designations. Most of the area within the current City limits is simply designated “Existing Urban,” a designation intended to indicate that the site is already developed with an urban use. Other designations allow a variety of residential, commercial, industrial, and institutional uses throughout the City. The hillsides above the City are currently designated Hillside Planned Residential (HPR). Many of the agricultural lands within the planning area continue to be designated Agriculture (AG). These include four of the five areas under evaluation as potential expansion areas to accommodate future growth (North Avenue, Olivas, Serra, Poinsettia). The 1995 “Save Our Agricultural Resources” initiative (“SOAR”) amended the 1989 Comprehensive Plan by, among other things, specifying that these Agriculture designations should remain in effect until the year 2030.

The current circulation map includes three roadway designations: (1) Primary Arterial; (2) Secondary Arterial; and (3) Collector.¹ The map shows planned extensions of several roadways, including Cedar Street in West Ventura, Mills Road from U.S. 101 to Harbor Boulevard, and Johnson Drive and North Bank Drive in East Ventura. The map also delineates the existing linear park system and planned improvements.

2.5 PROPOSED 2005 GENERAL PLAN

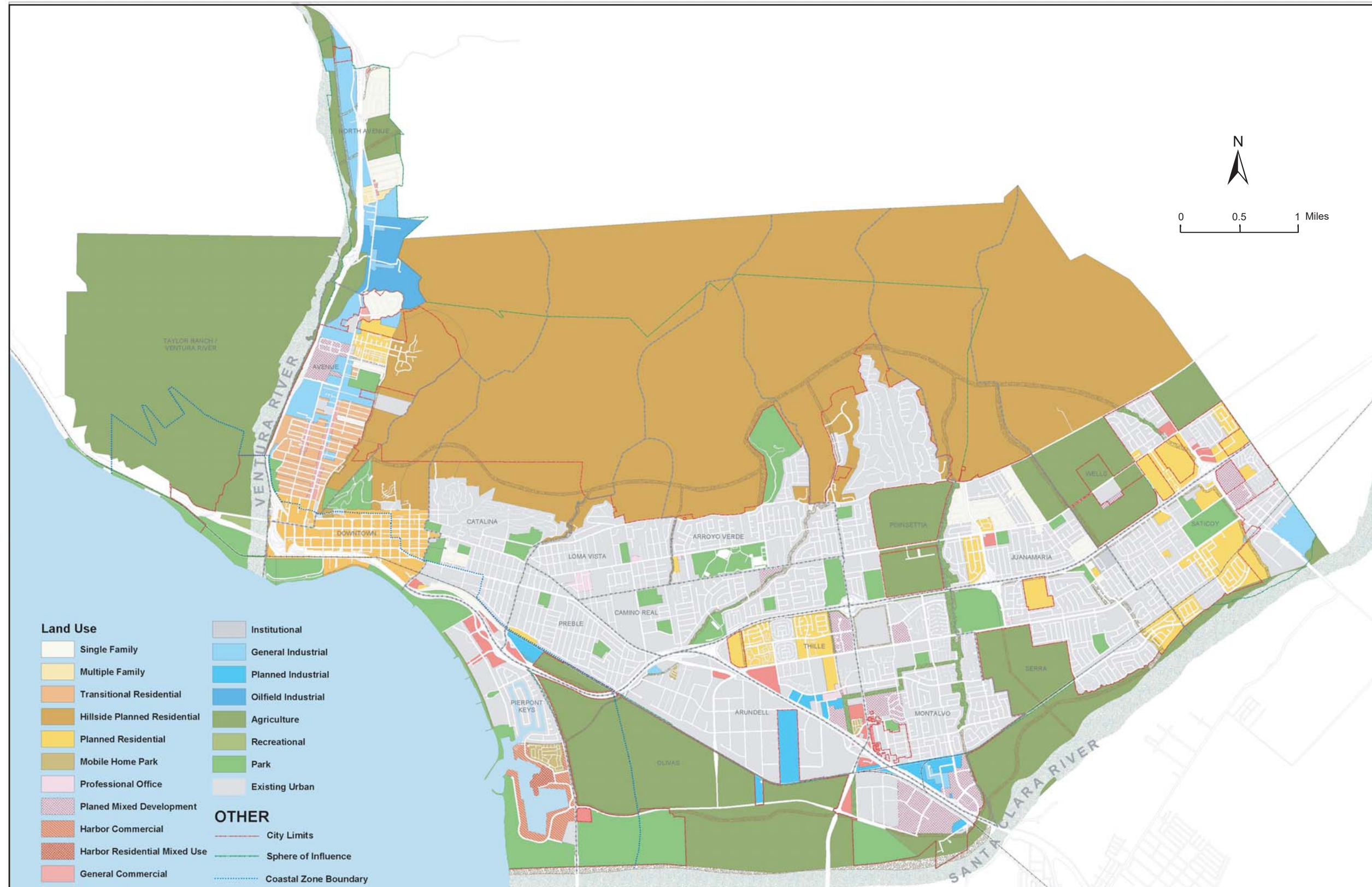
The EIR analysis focuses on two primary components of the 2005 General Plan: (1) physical development potential; and (2) the goals and policies, including subsequent actions. The potential physical development of the City is reviewed and evaluated for each of the areas of environmental impact. As appropriate, the environmental effects of the goals, policies, and actions included in the 2005 General Plan are also reviewed and evaluated for each area of potential impact. Because many of the goals, policies, and actions are specifically intended to mitigate the environmental effects associated with future growth in the City, they are discussed as part of an overall mitigation strategy, where applicable, for a given issue.

2.5.1 General Plan Organization

The proposed 2005 General Plan has been organized into ten chapters that correlate to the chapters of the Ventura Vision document. These chapters encompass the seven elements required by California General Plan law as well as some optional elements. The chapters are listed in Table 2-1. The table also shows how the chapters correlate to the required and optional General Plan elements and the types of topics covered in each chapter.

¹ Primary arterials are major streets designed to expedite through traffic, with restricted access to abutting properties. Secondary arterials provide access to Major Arterials, other Secondary Arterials, and Collectors, with some access to local roads and major traffic-generating uses. Collectors provide both land access and movement within residential, commercial, and industrial areas, as well as connecting the local areas with the arterial street system.





Source: City of San Buenaventura, May 2005

Current Comprehensive Plan
 Land Use Map

Figure 2-2
 City of Ventura

**Table 2-1
2005 General Plan Chapters**

2005 General Plan Chapters	Required/Optional Elements	Examples of Topics Covered
Our Natural Community	Conservation, Open Space	Open space, hillsides, riparian areas, sensitive plants and animals
Our Prosperous Community	<i>Economic Development</i>	Commercial and industrial growth, economic diversification, job opportunities, tourism
Our Well-planned and Designed Community	Land Use, Housing, <i>Community Design</i>	Development patterns, neighborhoods, visual character, urban design, demographics, housing needs, affordability, constraints on production
Our Accessible Community	Circulation	Traffic, street network, parking, transit services, bike routes
Our Sustainable Infrastructure	Land Use, <i>Parks and Recreation</i>	Public facilities, utilities
Our Active Community	Land Use	Park and recreation facilities, youth and senior programs
Our Healthy and Safe Community	<i>Safety, Noise, Parks and Recreation</i>	Development in hazardous areas, hazardous waste management, seismicity, flood control, water quality, brownfields, noise
Our Educated Community	Land Use	Schools, libraries, cultural and historic resources
Our Creative Community	Land Use	Arts, events, community programs
Our Involved Community	Land Use	Participation in governance

Each of the General Plan chapters listed in Table 2-1 includes specific policies and action items intended to meet the overall goals discussed under subsection 2.3, *Project Objectives*. Most of the policies either do not involve physical environmental changes or are intended to reduce the potential environmental changes associated with future development within the City. For example, Chapter 7, *Our Healthy and Safe Community*, includes policies and actions intended to minimize potential conflicts relating to noise, hazardous materials, and seismic and other natural hazards. Consequently, the policies themselves generally would not create significant environmental impacts and are not listed in this project description. A complete listing of proposed 2005 General Plan actions is included in Appendix B. Individual policies and actions with the potential to either create or address physical environmental impacts are discussed as appropriate in the individual impact discussions in Section 4.0, *Environmental Impact Analysis*.

2.5.3 Land Use Map

The purpose of the land use map is to guide the general distribution, location and extent of the various types of land uses in the City. For the 2005 General Plan, the roughly 30 existing land use designations in the current land use map are proposed to be consolidated into 10 designations in four categories, as shown in Table 2-2. Specific land use regulations for parcel development will continue to be defined in the Zoning Ordinance, which will be updated following adoption of the 2005 General Plan.



**Table 2-2
 Planning Designations**

Designation	Principal Use Development Intensity/Density
Neighborhood Low	Emphasizes detached houses with some attached units in a small mix of building types at approximately 8 dwelling units per acre. Predominantly residential
Neighborhood Medium	Anticipates a mixture of detached and attached dwellings and higher building types at approximately 9 to 20 dwelling units per acre. Predominantly residential with small scale commercial at key locations, primarily at intersections and adjacent to corridors.
Neighborhood High	Accommodates a broader mix of building types, primarily attached, at up to 54 dwelling units per acre. A mix of residential, commercial, office, and entertainment that includes mixed-use buildings.
Commerce	Encourages a wide range of building types of anywhere from two to six stories that house a mix of functions, including commercial, entertainment, office, and housing.
Industry	Encourages intensive manufacturing, processing, warehousing, and similar uses, as well as light, clean industries and support offices; also encourages limited workplace-serving retail functions and work-live residences where such secondary functions would complement and be compatible with large-scale buildings.
Public and Institutional	Accommodates civic functions such as government offices, hospitals, libraries, and schools.
Agriculture	Predominantly commercial cultivation of food and plants and raising of animals.
Parks and Open Space	Dedicates land to public recreation and leisure and visual resources.

The map specifies land uses for all areas of the City. The land use map does not change the land use designation of any agricultural lands within the Planning Area that are currently designated for agricultural or open space uses under either the City’s 1989 Comprehensive Plan or the County of Ventura General Plan. However, at the direction of the City Council, the EIR analysis considers a range of possible future land use scenarios, some of which include potential “expansion areas” that are currently used for agriculture or open space, but may be considered for future development. Discussions of areas where intensification and reuse of urbanized lands is to be emphasized and each of the expansion areas follow.

a. Intensification/Reuse. The proposed land use map is intended to primarily emphasize intensification and reuse of already urbanized lands within the current City and SOI. To that end, the map includes nine growth districts and eight growth corridors located throughout the City that are to be the focal points of future development and land use intensification. Most of the growth districts and corridors are already within the City and developed with urban uses. However, portions of the Upper North Avenue, North Avenue, Saticoy, and Arundell districts are currently either in oil or agricultural production and within the current SOI, but outside the current City limits. These areas are already designated for urban uses (primarily industrial) under the 1989 Comprehensive Plan, but would require annexation prior to development within urban uses.



The districts and corridors are primarily commercial or industrial in character, though some (Upper North Avenue, Arundell, Saticoy) include agricultural and vacant lands that are designated for urban use under the 1989 Comprehensive Plan. The districts and corridors are anticipated over time to be partially re-developed with a mix of uses that may include the underlying land use and/or residential use (for example, properties within the primarily commercial Main Street corridor could be developed with either commercial or residential uses, or some combination thereof). All or portions of three of the districts – Downtown, North Bank, and Saticoy – are to be subject to Specific Plans that specify mixed land uses. The Harbor district is subject to the draft Harbor Master Plan.

On Commerce-designated parcels, it is assumed that future developments could entail: (1) commercial only projects; (2) mixed use projects that include a commercial component and a residential component; or (3) multiple family residential only projects. For Industrial-designated parcels, industrial only projects would be allowed. Residential uses could include work/live or live/work residences or traditional housing as part of mixed use development so long as residences are not subject to significant compatibility conflicts relating to such issues as aesthetics, noise, or health and safety that cannot be addressed through site planning.

Additional development may also occur outside the growth districts and corridors as infill of vacant parcels occurs. The City is largely built out, but vacant parcels are located throughout the community. In addition, there are a number of undeveloped parcels outside the City, but within the SOI that could develop over the next 20 years. All of these areas are currently designated for urban uses under the 1989 Comprehensive Plan and therefore are not subject to the Save Our Agricultural Resources (SOAR) Ordinance (see Section 4.1, *Agriculture*, for a discussion of the SOAR Ordinance).

b. Potential Expansion Areas. As discussed above, the General Plan land use map does not include any re-designation of lands currently designated for agricultural or open space use. Nevertheless, at City Council direction, this EIR considers five separate areas for possible future expansion. These include:

- *North Avenue* – a 55-acre area west of Ventura Avenue and north of Los Cabos Lane that is currently primarily in agricultural production (orchards)
- *Olivas* – a 930-acre agricultural area (mix of row crops and orchards) located between the Midtown and Arundell communities and Ventura Harbor that is roughly bounded by the Union Pacific Railroad, Telephone Road, Olivas Park Drive, and Harbor Boulevard
- *Serra* – a 438-acre area in East Ventura that is primarily in agricultural production (mix of row crops and orchards) and is roughly bounded by Telephone Road, Montgomery Avenue, Bristol Road, and Ramelli Avenue
- *Western Cañada Larga* – a 110-acre area along the east and west sides of SR 33 at the entrance to Cañada Larga that is primarily undeveloped grazing land, with a limited amount of irrigated agriculture
- *Poinsettia* – a 418-acre agricultural area (orchards) generally bounded by SR 126 on the south, Hill Road on the west, Foothill Road on the north, and Harmon Barranca on the east.



The entirety of four of the five potential expansion areas – North Avenue, Olivas, Serra, and Poinsettia - are designated “Agriculture” in the 1989 Comprehensive Plan; therefore, a public vote is required in accordance with the City’s SOAR Ordinance prior to any re-designation of these areas to allow a non-agricultural use until 2030. An approximately 29-acre portion of the Western Cañada Larga expansion area is also subject to SOAR. The 2005 General Plan would not change the land use designation for any of these areas. Any land use designation change and subsequent development in any of these areas would need to be pursued by individual landowners and would occur only after receiving voter approval of a General Plan amendment.

The portion of the 110-acre Western Cañada Larga area east of SR 33 is outside the current SOI and has no City land use designation. This area is designated Open Space under the County of Ventura General Plan and would be subject to the County’s SOAR Ordinance if a re-designation were sought through the County. However, if considered for annexation by the City, the area would not be subject to either the County or City SOAR Ordinances. Nevertheless, no re-designation of the area is being proposed or considered at this time.

Because no re-designation or specific development concepts are currently being considered for any of the potential expansion areas, the magnitude and type of development (if any) that may occur in any of the areas cannot be predicted with certainty. It is anticipated that any of the expansion areas would only be developed in accordance with a specific plan that provides guidance with respect to land use, infrastructure, circulation, and development standards. However, the CPAC provided the following general parameters for future development in any of the expansion areas, which are assumed to form the basis for possible future development proposals:

- *Build new neighborhoods in a compact form and plan for walkability (i.e., 80-to-100 acres, ¼- mile from center);*
- *Encourage development that promotes a mix of housing types and meets affordable housing needs;*
- *Connect street systems that balance auto, pedestrian, and bicycle movement in a fine-grained block, pedestrian and park network system;*
- *Encourage mixed-use development, preferably near transit nodes;*
- *Encourage development that responds to unmet needs in nearby existing neighborhoods;*
- *Connect open spaces, parks and trails into an integrated system;*
- *Protect sensitive habitat and watershed land;*
- *Recognize traditional downtown, commercial districts and urban neighborhoods as being critical anchors for the economic and community vitality of a region; and*
- *Assume that each potential neighborhood has the opportunity not only to provide amenities to its residents directly, but also to improve quality of life for the larger community.*

c. Possible Future Changes to Sphere of Influence Boundaries. As noted in subsection 2.2, although the City is not seeking adjustment to the Sphere of Influence (SOI) at this time, implementation of the 2005 General Plan may require several adjustments to the Sphere of Influence (SOI) that would subsequently be processed and subject to approval by LAFCO. About 2,300 acres in the hillsides above the City are proposed to be removed from the SOI. This would remove these areas from consideration for future City extension of services and focus



future development on non-hillside areas. In addition, approximately 10-11 acres north of the City's water filtration plant along the west of SR 33 may need to be included in the SOI at some point in the future. This area is partly in agricultural use, but it is designated for industrial development in the Ventura County General Plan and in the 1989 Comprehensive Plan.

The SOI would not need to be adjusted at this time to include any of the expansion areas considered in this EIR. However, certain expansion areas would require expansion of the SOI if they are to be considered for future development. Such SOI expansions would be sought, if ever, at such time as development of the areas is proposed. Possible future expansions of the SOI include the following:

- **Western Cañada Larga** – This 110-acre area, located at the northern end of the Planning Area along the State Route (SR) 33 corridor, would need to be included in the SOI if selected for possible future development. Inclusion within the SOI could occur only at such time as the City's corporate boundary has been extended to be contiguous with the boundary of the expansion area.
- **Olivas** – About 55 acres of the 930-acre Olivas area (the portion of this area north of U.S. 101) are within the current SOI. However, the remaining 875 acres, which consist of agricultural land located primarily between U.S. 101 and Harbor Boulevard, would need to be included in the SOI if this area is selected for possible future development.
- **Serra** – About 160 acres of the 438-acre Serra area are currently outside the SOI. This area, which is located south of Bristol Road and along the north bank of the Santa Clara River, would need to be included in the SOI if the Serra area is selected for possible future development.

Because the Ventura LAFCO may remove all areas subject to voter approval from the SOI as a result of its Municipal Service Review, any of the expansion areas may have been removed from the SOI by the time they are considered for development. Therefore, an SOI adjustment may need to be sought for any of the expansion areas.

2.5.4 Possible Land Use and Growth Scenarios

This EIR considers six different land use scenarios selected by the City Council that represent options for accommodating future growth in the City. The options range from including no expansion areas and focusing development almost exclusively on already urbanized areas to including up to three expansion areas for possible future development. The six 2025 development scenarios include:

1. **Intensification/Reuse Only Scenario** – This scenario assumes that future development will be limited to areas within the current Sphere of Influence and that none of the possible expansion areas would be considered.
2. **Intensification/Reuse + North Avenue + Olivas + Serra** – This scenario assumes an emphasis on infill development at an intensity level similar to that of the Intensification/Reuse Only, but includes the following potential expansion areas:
 - *North Avenue (55 acres)*

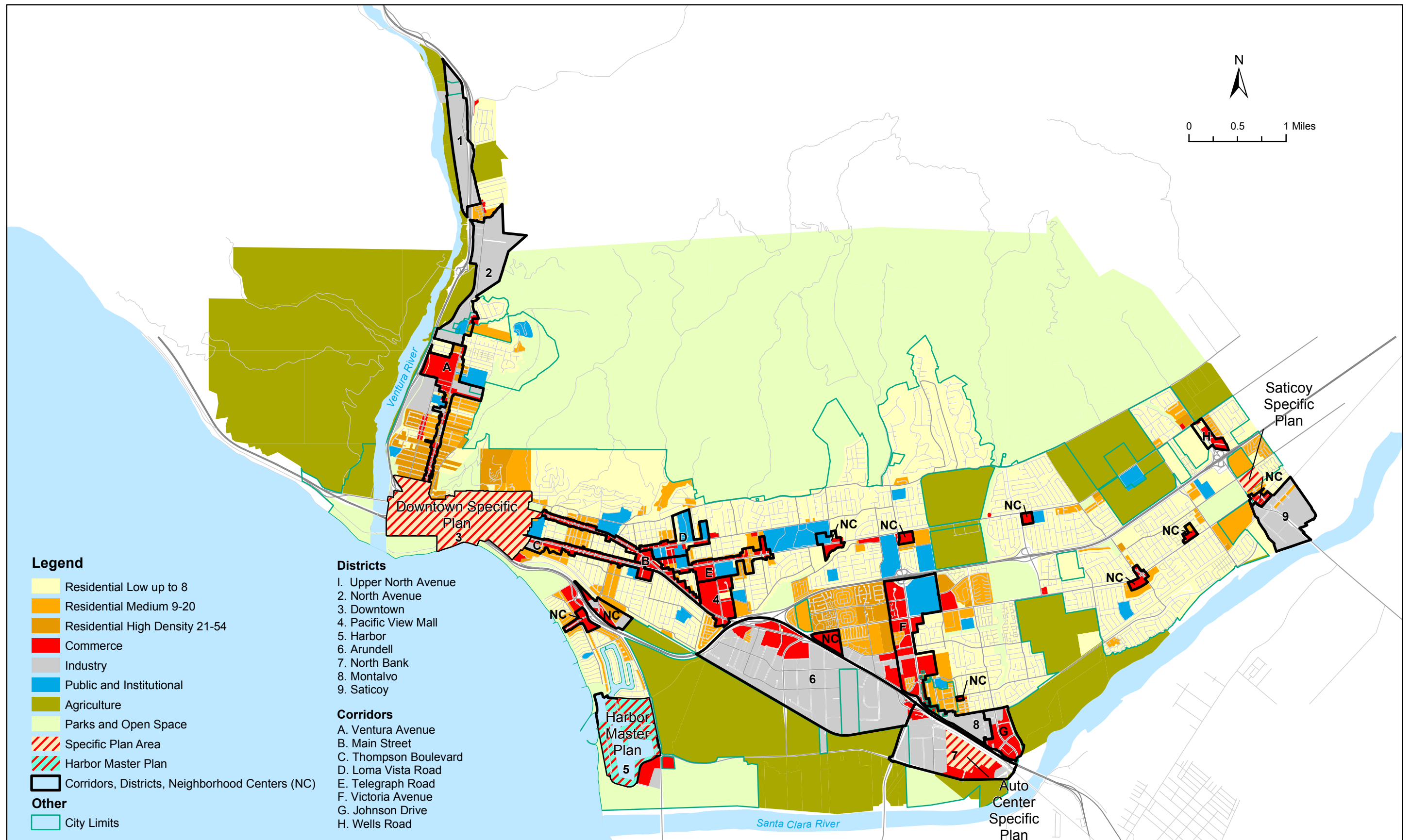


- *Olivas (930 acres)*
 - *Serra (438 acres)*
3. **Intensification/Reuse + North Avenue + Olivas Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
- *North Avenue (55 acres)*
 - *Olivas (930 acres)*
4. **Intensification/Reuse + North Avenue + Serra Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
- *North Avenue (55 acres)*
 - *Serra (438 acres)*
5. **Intensification/Reuse + North Avenue + Western Cañada Larga Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
- *North Avenue (55 acres)*
 - *Western Cañada Larga (110 acres)*
6. **Intensification/Reuse + North Avenue + Poinsettia Scenario** - This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
- *North Avenue (55 acres)*
 - *Poinsettia (418 acres)*

The various land use scenarios are shown on Figures 2-3 through 2-8.

Each of the land use scenarios emphasizes intensification and reuse of already urbanized lands prior to development of “greenfields” at the City’s periphery. As discussed previously, future growth is to be primarily focused within the nine growth districts and eight growth corridors located throughout the City.

The primary difference among the land use scenarios is in the areas included for possible future expansion of the City. The Intensification/Reuse Only scenario (Scenario 1) assumes that future growth would be limited to areas within the proposed SOI that are already designated for non-agricultural uses (this excludes the hillside areas above the City, which are proposed for removal from the SOI). The Intensification/Reuse + North Avenue + Olivas + Serra scenario (Scenario 2) assumes eventual development of three expansion areas. The other scenarios with potential expansion areas (Scenarios 3-6) include the North Avenue area plus one of the other expansion areas. The primary purpose of analyzing these scenarios is to weigh the relative impacts and benefits of considering future development of the Olivas, Serra,

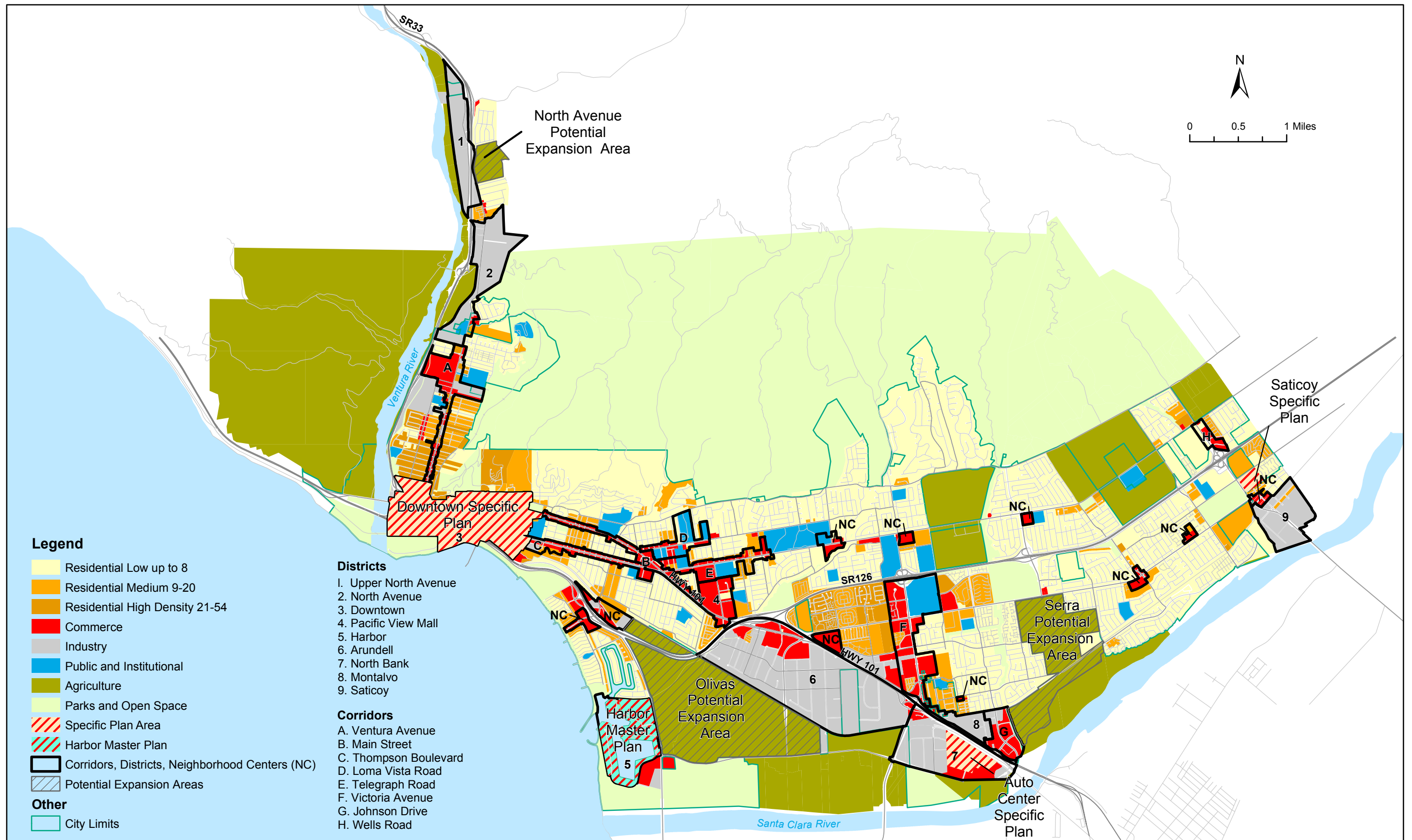


Source: City of Ventura Planning Department, August 2004.

Scenario 1 - Intensification/Reuse Only

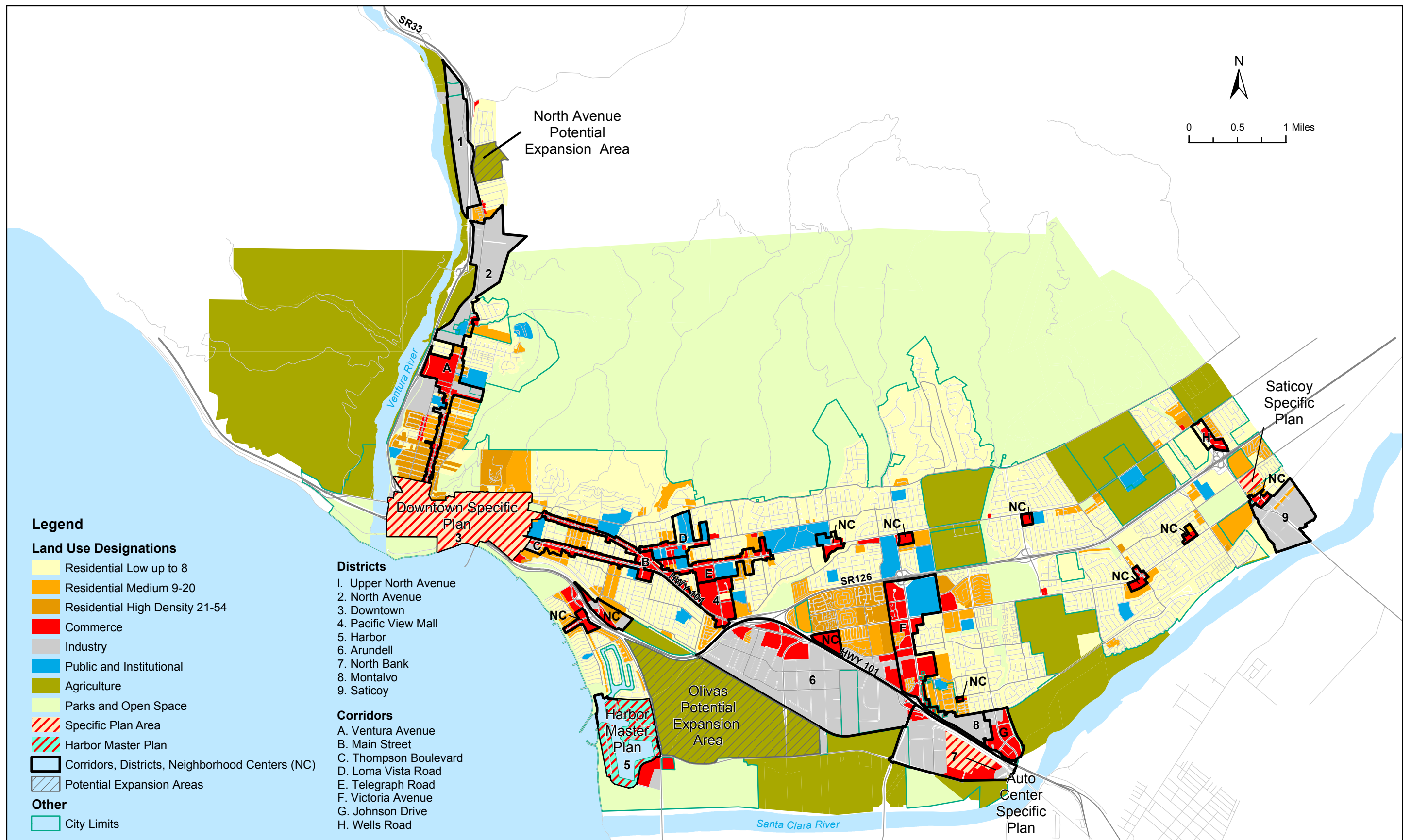
Figure 2-3

City of Ventura



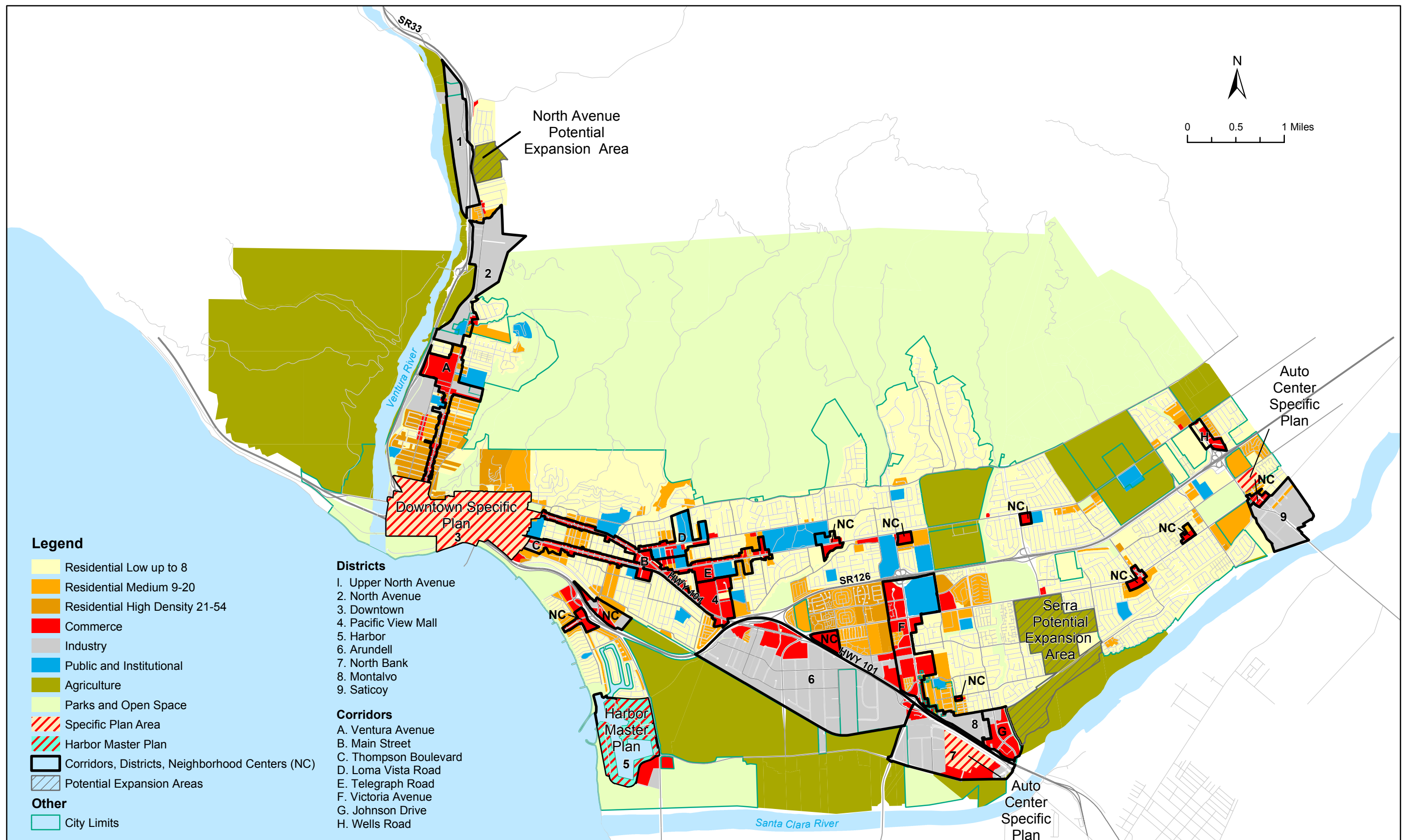
Source: City of Ventura Planning Department, August 2004.

**Scenario 2 - Intensification/Reuse +
North Avenue + Olivas + Serra** Figure 2-4
City of Ventura



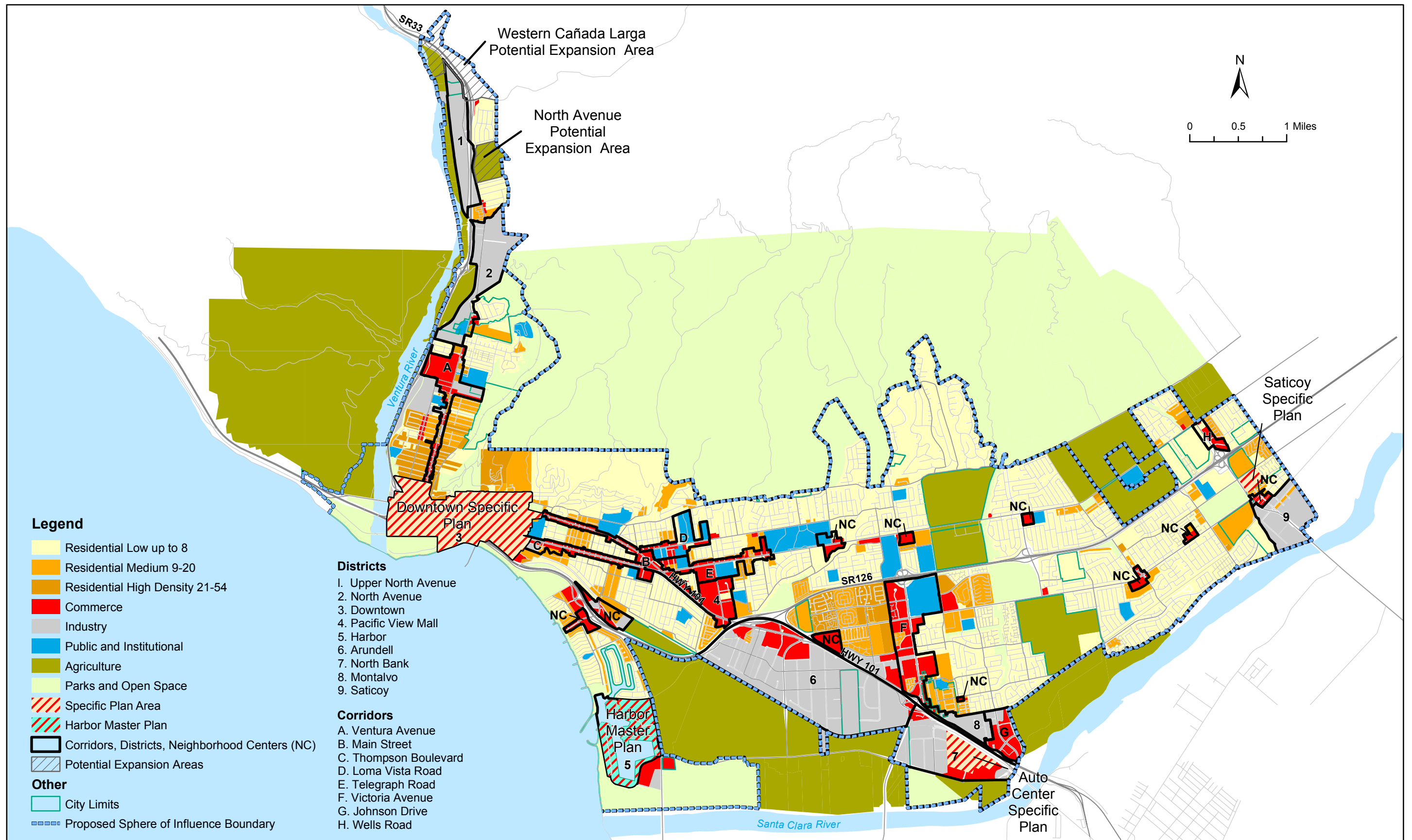
Source: City of Ventura Planning Department, August 2004.

Scenario 3 - Intensification/Reuse +
North Avenue + Olivas Figure 2-5
City of Ventura



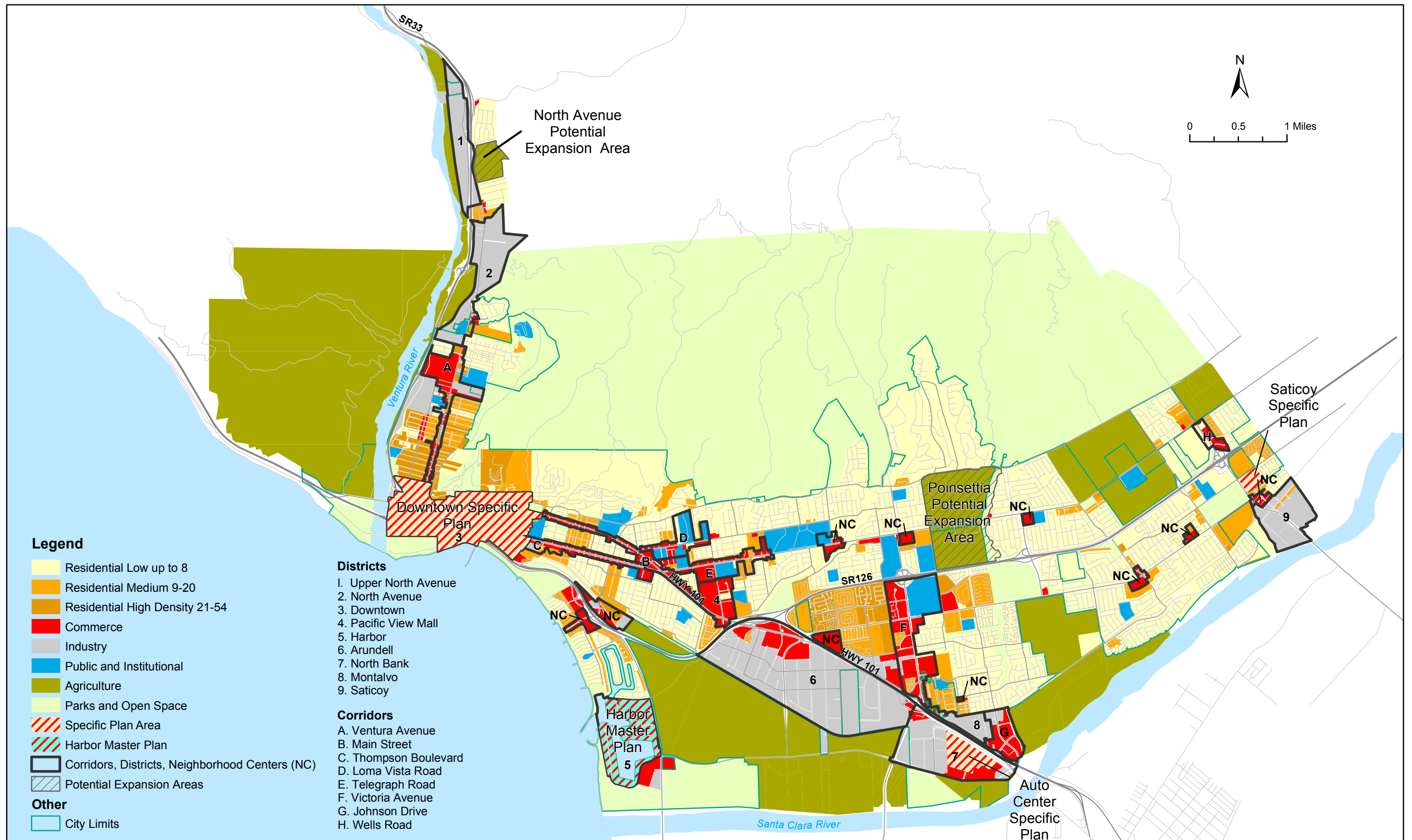
Source: City of Ventura Planning Department, August 2004.

**Scenario 4 - Intensification/Reuse +
 North Avenue + Serra** Figure 2-6
 City of Ventura



Source: City of Ventura Planning Department, August 2004.

**Scenario 5 - Intensification/Reuse + North Avenue
 + Western Cañada Larga** Figure 2-7
 City of Ventura



Source: City of Ventura Planning Department, August 2004.

**Scenario 6 - Intensification/Reuse +
North Avenue + Poinsettia** Figure 2-8
City of Ventura

Western Cañada Larga, and Poinsettia areas. It is assumed that the SOI would be adjusted as necessary for each of the scenarios to include the expansion areas being considered for the scenario at such time as future development is considered. Figures 2-3 through 2-8 show the possible future SOIs under each land use scenario.

Based on the policies and actions outlined in Chapter 3 of the 2005 General Plan, each expansion area is assumed to include a mix of residential uses at varying densities and non-residential uses, including retail and office uses, schools, and other institutional facilities. It is assumed that any of the areas would also include large areas of public open space (parks, passive open space, recreational facilities) that serve the community as a whole. The actual amount of development and open space that may be provided in future specific plans for the expansion areas will likely vary from what is assumed in the EIR. However, any future development within any of the expansion areas would be subject to a vote of the electorate and/or further independent environmental review under CEQA.

2.5.5 Growth Projections

a. Growth Assumptions for Environmental Analysis. Residential and non-residential growth estimates were developed for purposes of environmental analysis in order to provide decision-makers and the community a realistic assessment of the potential environmental effects of growth through 2025. The residential and non-residential growth assumptions used for the analysis of the various land use scenarios are discussed below.

Population and Residential Growth. For the purpose of environmental analysis and forecasting future residential growth through 2025, two growth scenarios were used. A 1.14% annual growth rate was used for the five scenarios that include expansion areas (Scenarios 2-6), while a lower growth rate of 0.88% annually was used for Scenario 1 (the Intensification/ Reuse Only scenario). The lower growth rate was used for Scenario 1 because it was assumed that limiting growth to the current SOI would result in a lower overall growth rate. The 1.14% growth rate represents the annual growth rate for the City from 1984-2004 (20-year rate), while the 0.88% growth rate represents the annual growth rate from 1994-2004 (10-year rate).

Table 2-3 shows the level of housing and population growth that would occur in the City through 2025 under both the 1.14% and 0.88% annual growth rates. As shown, the 1.14% growth rate would add about 11,000 residences and, based on the current average of 2.57 persons per dwelling unit (California Department of Finance, 2004), about 28,000 people. The 0.88% annual growth rate would add roughly 8,300 residential units and 21,000 people.

Non-Residential Growth. Non-residential growth through 2025 was estimated based upon job growth estimates developed by Stanley R. Hoffman Associates, Inc. as part of a land supply and demand analysis performed in conjunction with the 2005 General Plan. The “medium growth” estimate from the Stanley R. Hoffman report was assumed to apply to the five land use scenarios that include expansion areas (Scenarios 2-6) and the “lower growth” estimate was applied to the Intensification/Reuse Only Scenario (Scenario 1).

Table 2-4 shows the medium and lower job growth estimates for the City. As indicated, the medium growth scenario would add about 12,300 new retail, office, and industrial jobs, and about 19,700 total jobs. Under the lower growth estimate, the City would add about 8,600



**Table 2-3
 Population and Housing Projections**

	2004 Levels ^a	2025 Estimates		Change from 2004-2025	
		0.88% Annual Growth	1.14% Annual Growth	0.88% Annual Growth	1.14% Annual Growth
Population	104,952	126,153	133,160	21,201	28,208
Housing Units ^b	40,880	49,138	51,867	8,258	10,987

^a Source: California Department of Finance, City/County Population and Housing Estimates, 1/1/2004. Note that 2004 data are used as the baseline because 2005 data were not available when the EIR was initiated in Fall 2004; 2005 population and housing estimates are provided in Table 3-1 in Section 3.0, Environmental Setting.

^b Housing unit estimates assume that the current ratio of 2.57 persons per household remains constant through 2025. In reality, the number of persons per unit could go up or down, depending upon housing costs, the types of housing built in the City, population growth, and other factors.

**Table 2-4
 Projected Job Growth by Sector, 2004-2025**

Sector	2004 Jobs	2025 Jobs		Job Growth 2004-2025	
		Lower Growth (Scenario 1)	Medium Growth Scenario (Scenarios 2-6)	Lower Growth (Scenario 1)	Medium Growth (Scenarios 2-6)
Retail	12,095	13,432	13,857	1,337	1,762
Office	14,014	17,943	20,189	3,929	6,175
Industrial	9,322	12,662	13,684	3,340	4,362
Total (Retail, Office, Industrial)	35,432	44,037	47,730	8,605	12,298
Total Jobs (all sectors)	54,732	69,211	75,060	14,479	20,328

Job estimates from Stanley R. Hoffman Associates, Inc., August 2003, and UCSB Economic Forecast Project. Job estimates for 2004 are based on interpolation between 2000 and 2005 "low growth" estimates.

retail, office, and industrial jobs, and about 14,500 total jobs. Under the medium growth scenario, the projected job growth would increase citywide employment by about 37% through 2025. Under the lower growth scenario, citywide employment would grow by about 26% through 2025.

Table 2-5 on page 2-32 shows the projected increase in retail, office, and industrial building area needed to accommodate the job growth projections shown in Table 2-4. As indicated, the projected increase in jobs is expected to create demand for about 5.3 million square feet of new building area under the medium growth scenario and about 3.8 million square feet of new building area under the lower growth scenario. Discounting the amount of non-residential



**Table 2-5
 Projected Housing Growth Distribution**

Growth Area	Intensification/ Reuse Only (Scenario 1)	Scenarios 2-6
Currently Planned/ Pending ^a	1,700	1,700
Growth Districts/ Corridors	3,950	3,950
SOI/Other Infill ^b	2,650	2,650
Expansion Areas	--	2,700
Total	8,300	11,000

See Appendix C for a detailed breakdown of assumed residential growth by district/corridor and expansion area.

^a *From City of Ventura Community Development Department, Pending Projects, July 2004.*

^b *Includes development of non-agriculturally designated agricultural lands in East Ventura (1,250 units), growth expected within the Pierpont and other neighborhood centers (200 units), development of up to 300 second units on single family lots, and development of vacant and underutilized parcels outside the districts and corridors (700 units).*

development already planned or pending (estimated at 639,724 square feet per the City’s pending projects list, July 2004), the net increase in retail, office, and industrial development needed to meet demand would range from about 3.2 million square feet under the lower growth scenario to about 4.7 million square feet under the medium growth scenario.

b. Projected Distribution of Growth. In order to assess the possible impacts of projected growth through 2020, it was necessary to develop working assumptions regarding how overall residential and non-residential growth might be distributed throughout the Planning Area. Working assumptions were developed by City and consultant staff based on the general guidance and priorities provided by the CPAC, the Planning Commission, and the City Council.

Potential residential and non-residential growth can be broken down into four geographic categories:

- *Currently planned and pending projects that are being or are planned to be developed under the existing Comprehensive Plan;*
- *Intensification or reuse development in Growth Districts and Corridors;*
- *Infill development in other already urban areas of the City;*
- *Development of expansion areas.*

Currently planned and pending projects were taken from the City’s Pending Projects list. These were assumed to occur. The remainder of the growth was distributed throughout the planning area for each of the scenarios based on the following general assumptions:

- *Intensification/reuse within already urbanized areas has highest priority and development within expansion areas will occur only when it can help implement City*



planning objectives. To this end, it was assumed that about 8,300 residential units would be built within areas of the proposed SOI that are designated for urban uses under any scenario. For the scenarios that include expansion areas, the remaining 2,700 units would be built within expansion areas.

- *Within the intensification/reuse areas, the older core areas of the City – in particular, Downtown and the Ventura Avenue corridor – will continue to be a focal point of development and are likely to accommodate a large proportion of the residential and non-residential growth.*
- *The Downtown and Harbor Districts will generally develop in accordance with the Specific Plans being developed for those two areas.*
- *Expansion areas will be developed with a mix of residential and non-residential uses. The overall mix and density of development assumed to be developed is dictated by the amount of available land. For example, expansion areas with more acreage than necessary to accommodate projected growth will be assumed to have a high percentage of civic space (recreational facilities, etc.) or to remain partially in agriculture.*

It is important to note that the assumptions used in the EIR analysis are not meant to serve as development caps, either in an overall sense or within individual districts/corridors or expansion areas. Rather, the growth assumptions are used for analytical purposes in order to provide information about the possible effects of growth through 2025. In reality, any of the EIR scenarios, if developed to full “buildout” could accommodate substantially more development than is assumed in this EIR and the overall amount and distribution of new development that will occur through 2025 could be somewhat different than that assumed herein.

Tables 2-5 and 2-6 show the projected distribution of residential and non-residential growth among the four geographic categories described above for each of the land use scenarios under consideration (more detailed breakdowns of assumed growth levels by district/corridor and expansion area are included in Appendix C). The non-residential growth estimates shown in Table 2-6 are based upon the job growth projections shown in Table 2-4; however, the building area estimates have been increased in some instances to account for specific projects considered likely to occur over the next 20 years.

Scenarios 2-6 would each accommodate an estimated 11,000 total units, while Scenario 1 (Intensification/Reuse Only) is assumed to accommodate less overall housing growth (8,300 units over the 20-year period). Based on City Council direction, it is assumed that intensification/reuse within already urbanized areas and areas already designated for urban development is the first priority. Therefore, the level of growth within these areas has been assumed to be a constant for all six scenarios, with the growth beyond that accommodated through intensification/reuse to be achieved in the expansion areas for Scenarios 2-6.

Based on the development potential of each growth district and corridor and direction from the community, CPAC, Planning Commission, and City Council on where growth in the community should be encouraged, growth was distributed among the various corridors and districts in the City. The bulk of new intensification/reuse residential development was



**Table 2-6
 Non-Residential Growth Distribution (square feet)**

Growth Area	Scenario 1 (Intensification/ Reuse Only)		Scenarios 2-6	
	Commercial (Retail, Office, Hotel)	Industrial	Commercial (Retail, Office, Hotel)	Industrial
Currently Planned/ Pending ^a	355,000	435,000	355,000	435,000
Growth Districts/ Corridors	2,055,000	1,800,000	2,055,000	2,325,000
SOI/Other Infill	245,000	--	245,000	--
Expansion Areas	--	--	915,000	--
Total	2,655,000^b	2,235,000	3,570,000^b	2,760,000

All figures are rounded. See Appendix C for a detailed breakdown of growth projections by corridor, district, and expansion area.

^a From City of Ventura Community Development Department, Pending Projects, July 2004.

^b Includes 450,000 square feet of hotel development.

assumed to occur in the older urban core of the City. For example, Downtown and the Ventura Avenue, Main Street, and Thompson Boulevard corridors were assumed to accommodate a combined 2,800 new residences through 2025. This is about 67% of the total residential growth anticipated to occur within the districts and corridors. These older core areas are presumed to be a focal point of non-residential growth as well, though to a lesser degree. Industrial growth is anticipated to be focused primarily in the Arundell, North Avenue, and Upper North Avenue districts, which are assumed to accommodate a combined total of about 1.4-1.8 million square feet of industrial development (of the 2.2-2.7 million square feet of projected growth).

c. Assumed Expansion Area Development. Table 2-7 on page 2-34 summarizes the total amount of development assumed to be accommodated in the potential expansion areas under each of the five land use scenarios that include expansion areas in terms of residential units and square feet of non-residential development. The assumed overall level of growth within the expansion areas is based upon City Council direction and is the same for each scenario. The overall mix of uses has been adjusted from scenario to scenario based on available acreage. For Scenario 5, in particular, the intensity of development for the North Avenue area was greatly increased as compared to the other scenarios because substantially less overall acreage would be available under that scenario.

Table 2-8 on page 2-35 compares the overall acreage of various uses assumed for each scenario. The amount of acreage dedicated to most uses does not vary widely among the scenarios since the overall level of development is assumed to be the same for all scenarios. However, the amount of civic space varies widely, depending upon the overall acreage available. For Scenario 2, for example, it is assumed that up to about 937 acres (66% of the total acreage) would be open (civic) space because this scenario includes far more land than would be



**Table 2-7
 Estimates of Expansion Area Residential and
 Non-Residential Development by Land Use Scenario**

Expansion Area	Land Use Scenario									
	2		3		4		5		6	
	Residential (units)	Commercial (square feet)	Residential (units)	Commercial (square feet)	Residential (units)	Commercial (square feet)	Residential (units)	Commercial (square feet)	Residential (units)	Commercial (square feet)
North Avenue	180	20,000	320	90,000	320	90,000	1,000	330,000	320	90,000
Olivas	1,480	550,000	2,380	810,000	--	--	--	--	--	--
Serra	1,040	350,000	--	--	2,380	810,000	--	--	--	--
Western Cañada Larga	--	--	--	--	--	--	1,700	570,000	--	--
Poinsettia	--	--	--	--	--	--	--	--	2,380	810,000
Total	2,700	920,000	2,700	900,000	2,700	900,000	2,700	900,000	2,700	900,000

All estimates of units and square feet are rounded. The totals presented herein are estimates only to be used for analytical purposes.



**Table 2-8
 Assumed Expansion Area Acres by Use**

Use	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Residential Low ^a	200	175	155	--	155
Residential Medium ^b	77	88	68	--	68
Residential High ^c	20	20	35	94	35
Office	38	38	38	36	38
Retail	12	12	12	11	12
Schools	110	70	50	--	40
Open Space ^d	937	565	121	32	113
Other ^e	29	17	14	3	12
Total	1,423	985	493	176	473

The totals presented herein are estimates only to be used for analytical purposes. Detailed breakdowns by expansion area are included in Appendix C.

^a Up to 8 units per acre.

^b 8-20 units per acre.

^c 20-36 units per acre

^d Open space is expected to consist of civic space such as parks and other recreational facilities. For certain expansion areas, it is possible that some land could remain in agricultural production under the scenarios studied herein. However, for analytical purposes, it is assumed that land would be converted from agricultural use.

^e Could include various non-recreational public facilities, such as fire stations.

necessary to accommodate projected growth. For Scenario 5, on the other hand, only about 32 acres of open space are assumed to be available because of the limited amount of available usable land under that scenario. It should also be noted that, under Scenario 5, all residential lands in both the North Avenue and Western Cañada areas would need to be developed with high density development in order to provide 2,700 residential units. Because such a scenario may not be realistic for these areas, an alternative with a more modest amount of growth within these areas is considered in Section 6.0, *Alternatives*.

A complete breakdown of the projected growth by district, corridor, and expansion area for each of the land use scenarios is provided in Appendix C. The projections included in this EIR are assumptions for analytical purposes only and provide a reasonable estimate of where and how much growth will occur in the City through 2025. The growth projections for each of the districts and corridors are well within the maximum theoretical buildout under the proposed land use designations. However, the actual locations and distribution of growth in the City over the next 20 years cannot be predicted with certainty.

2.5.6 Circulation Map

The proposed circulation system map is shown on Figure 2-9. For the most part, the map reflects the current roadway network. Possible new roadway links shown on the map include:



- *Extension of Thille Street to connect Telephone Road to the current Thille Street terminus;*
- *Extension of Hill Road between Ralston Street and Moon Drive;*
- *Completion of A Street between Saticoy Avenue and Wells Road;*

Additional new roads may be included if the North Avenue, Olivas, Serra, or Poinsettia expansion areas are developed at some point in the future. The new road links anticipated to accompany any possible future development in these areas are listed below.

Olivas Expansion Area

1. *Mills Road extension to Harbor Boulevard (connection at Schooner Drive)*
2. *New collector between Mills Road and Telephone Road in the Olivas expansion area*

Serra Expansion Area

1. *North Bank Drive extension from Johnson Drive to Bristol Road*
2. *Kimball Road extension from Telephone Road to North Bank Drive*
3. *Ralston Street extension from Ramelli Avenue to Montgomery Avenue*

Poinsettia Expansion Area

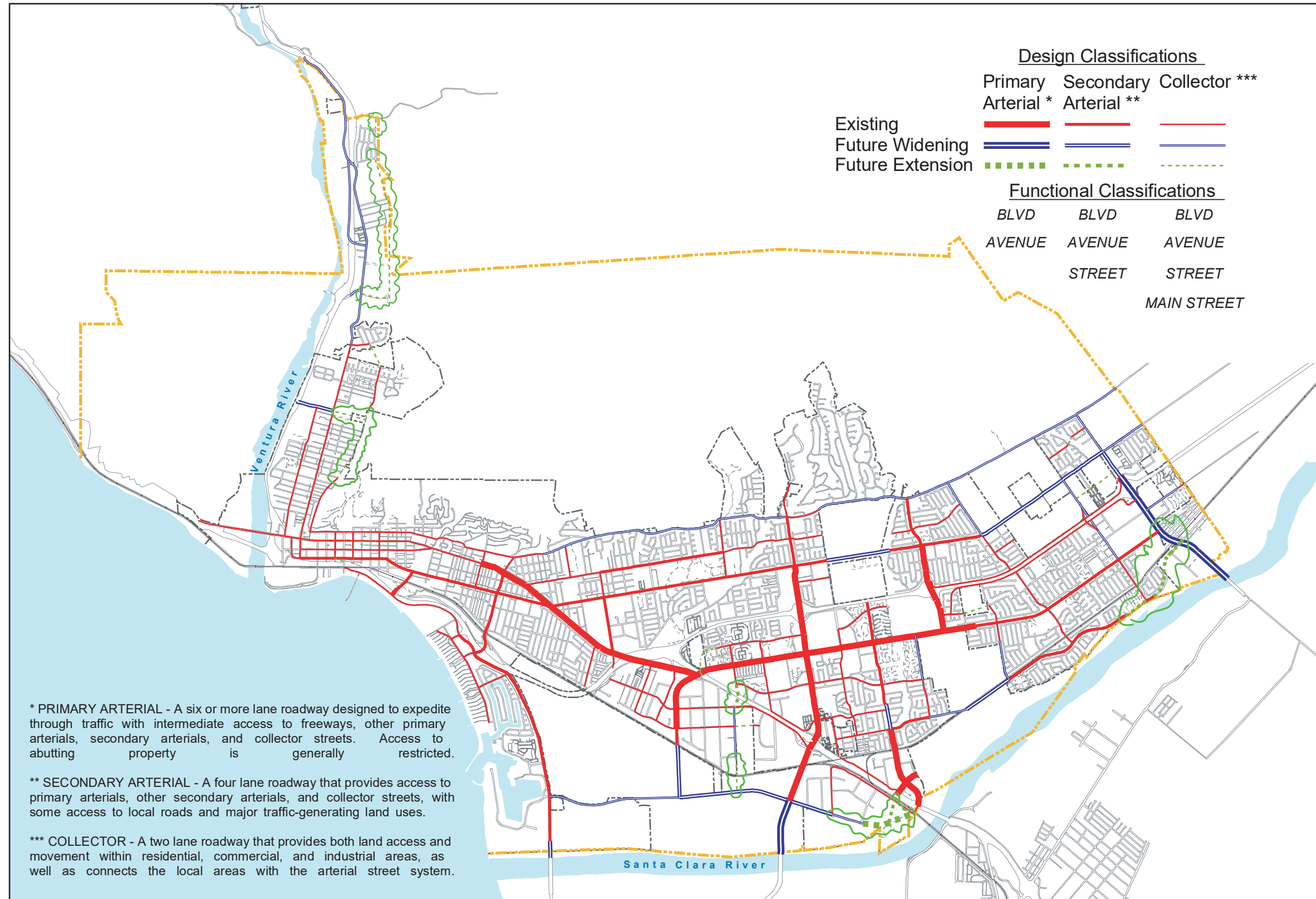
1. *Johnson Drive extension from SR 126 to Foothill Road*
2. *Loma Vista Road extension from Victoria Avenue to Kimball Road*
3. *Woodland Street extension from Hill Road to Johnson Drive*

Several additional conceptual links are included on the draft circulation map to facilitate City Council discussion. These road links are listed below and circled on Figure 2-9 as needing "additional policy direction."

- *Floral Drive connection linking N. Ventura Avenue to existing residential neighborhoods on the east side of N. Ventura Avenue and possibly the North Avenue expansion area*
- *Two extensions of Cedar Street that would provide a continuous link between residential neighborhoods on the east side of Ventura Avenue and Poli Street*
- *Portola Road "flyover" connecting the Arundell district to neighborhoods north of U.S. 101*
- *Portola Road southerly extension to connect to Olivas Park Drive*
- *Olivas Park Drive extension to connect to Johnson Drive at U.S. 101*
- *Two extensions of North Bank Drive in the East Ventura/Saticoy area to Wells Road*

Other than the two extensions of North Bank Drive, the above road links are not included in the traffic analysis in Section 4.12, *Transportation and Circulation*, and are not needed to address any identified circulation system deficiencies. However, they may serve other objectives relating to overall system connectivity. These road links are discussed in Chapter 5.0 of the traffic study in Appendix E.





Roadway Classification Plan

Source: City of Ventura, May 2005

2.6 DISCRETIONARY ACTIONS

With recommendations from the Planning Commission, the City of Ventura City Council will need to take the following discretionary actions in conjunction with the proposed 2005 General Plan:

- *Certification of the Final EIR on the 2005 General Plan*
- *Approval of the proposed 2005 General Plan*
- *Approval of the 2005 Local Coastal Program Amendment (LCPA), including the revised Land Use Plan (LUP) component of the Local Coastal Program (LCP)*

The City is not seeking annexation of lands or adjustments to the SOI at this time. However, implementation of the 2005 General Plan may require future approval of adjustments to the City's SOI, as described above. Annexations and SOI adjustments would be sought as appropriate at such time as developments are proposed for the areas in question. Any adjustments to the SOI will require approval from the Ventura LAFCO.

Because a portion of the City of Ventura is within the Coastal Zone, the 2005 General Plan also involves an amendment to the City's Local Coastal Program (LCP). The LCP update will require approval by the California Coastal Commission.

The California Department of Conservation, Division of Mines and Geology, will review the plans and policies relating to seismic safety for compliance with state regulations.

3.0 ENVIRONMENTAL SETTING

This section provides a general overview of the environmental setting for the City of Ventura. More detailed descriptions of the setting with respect to specific environmental issues can be found in the setting discussions for individual issue areas in Section 4.0, *Environmental Impact Analysis*.

3.1 REGIONAL OVERVIEW

Ventura is located in western Ventura County, about 60 miles northwest of Los Angeles and 30 miles southeast of Santa Barbara. The County is topographically diverse, with mountains, rich agricultural valleys, and distinct urban areas, all within close proximity of the Pacific Ocean. The Mediterranean climate of the region and coastal influence produce moderate temperatures year round, with rainfall concentrated in the winter months. The region is subject to various natural hazards, including earthquakes, landslides, flooding, and wildfires.

3.2 PHYSICAL SETTING

3.2.1 Geography and Topography

Ventura is situated between the Pacific Ocean, the Ventura foothills, and the Ventura and Santa Clara rivers. The City is located at the western edge of the Oxnard Plain, an alluvial plain that covers over 200 square miles in the southern portion of Ventura County. Much of the City is on the relatively flat coastal plain, but steeply sloped hills about the northern portion of the community. The western portion of the City stretches north along the Ventura River and is characterized by a narrow valley with steeply sloped areas on both sides.

Drainage throughout the Planning Area is generally to the southwest toward the Pacific Ocean. The older parts of the City near the coast are drained by a series of barrancas that drain directly to the Pacific Ocean. The eastern portion of the community generally drains toward the Santa Clara River, while West Ventura generally drains toward the Ventura Rivers. Both the Santa Clara and Ventura rivers are fed by a series of smaller creeks and barrancas, some of which have been channelized and others of which remain in a relatively natural condition.

Similar to much of southern California, Ventura is located within a seismically active region and is crossed by several potentially active fault systems. Major fault zones in the Planning Area include the Ventura-Foothill, Country Club, Oak Ridge, McGrath, and Red Mountain faults.

3.2.2 Climate

Ventura is located in the South Central Coast Air Basin, which includes all of San Luis Obispo, Santa Barbara, and Ventura counties. The climate of Ventura County and all of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high pressure cell in the northeastern Pacific. The area is characterized by warm, dry summers and cool winters with occasional rainy periods.



Daytime summer temperatures in the area average in the high 70s to the low 90s. Nighttime low temperatures during the summer are typically in the high 50s to low 60s, while the winter high temperatures tend to be in the 60s. Winter low temperatures are in the 40s. Annual average rainfall in Ventura ranges from about 14 to 16 inches, the majority of which falls in winter months.

3.2.3 Natural Resources

The Ventura Planning Area has a wide variety of landscapes and seascapes, including natural, agricultural, and urban components. The hills of the Transverse Range rise above Ventura about 1,200 feet, providing a dramatic visual backdrop and scenic vistas of the City, ocean, Ventura River Valley, and Oxnard coastal plain. The hillside area covers about 4,000 acres of steep slopes, incised drainages, ridge tops, and narrow flat valleys. Much of the foothills have been used for grazing in the past; and grazing operations remain in some locations. Vegetation and habitat includes annual grasses with scattered pockets of coastal sage scrub and remnant riparian corridors.

The well-developed riparian communities found along the Ventura and Santa Clara Rivers are dominated primarily by Arroyo willow, with occasional trees, including Western sycamore, cottonwoods, and white elder. The area now covered by riparian vegetation represents a small remnant of the historic riparian zone, and recent flooding has temporarily denuded some areas. A more diverse, extensive and native plant dominated habitat has been lost due to permanent development and disturbance.

Coastal Freshwater Marshes are found along the upper reaches of the Santa Clara and Ventura Rivers where saltwater does not intrude at high tide. Freshwater marshes are also found at the Alessandro Lagoon, the mouth of the San Jon Barranca, and at the end of the Kalorama Canyon Drain. The marshes are very high in biological productivity and scarce in the region. The habitat areas at the mouth of the Ventura and Santa Clara Rivers and the Alessandro Lagoon are used as resting and feeding areas for migratory and residential shorebirds and waterfowl, and to a lesser degree, by resident terrestrial species.

The Planning Area includes about seven miles of beach. Although not owned entirely by the City, the waterfront open space provides valuable recreational opportunities for Ventura residents and visitors. Scarce dune habitat and beach vegetation provide some nesting, foraging, and mating grounds for wildlife. Exposure to the elements and human intrusion has diminished the habitat value of the beach area, but ongoing rehabilitation and conservation programs aim to enhance the beach area.

3.3 TRANSPORTATION

Regional access to Ventura is provided by a series of freeways and the Union Pacific Railroad. U.S. Highway 101 is the main regional transportation artery, providing connections to points both north and south along the Pacific Coast. State Route 126 is an east-west running highway that connects Ventura to the Santa Clara River Valley, the City of Santa Clarita, and Interstate 5. State Route 33 is a north-south running highway that connects U.S. 101 to the Ojai Valley. The railroad connects Ventura to points north and south, providing both freight and passenger service.



3.4 DEMOGRAPHICS

Tables 3-1 and 3-2 show population and housing trends from 2000-2005. As indicated, Ventura’s 2005 population is estimated at 106,096. The population has grown by an estimated 5,180 persons since 2000. This represents an average annual growth rate of 1.00% over the 5-year period. About 97.5% of the City’s residents reside in households, with the remainder in group quarters.

**Table 3-1
 2000 and 2005 Population Estimates**

Year	Population		
	Household	Group Quarter	Total
2000	98,546	2,370	100,916
2005	103,435	2,661	106,096

Source: California Department of Finance, 2005.
<http://www.dof.ca.gov/HTML/DEMOGRAP/E-5a.xls>
 2004 data are used as the baseline for the analysis contained throughout this EIR. The 2005 data have been provided for informational purposes.

**Table 3-2
 2000 and 2005 Housing Estimates**

Year	Housing Units			
	Detached Single Family	Attached Multi-Family	Mobile Homes	Total
2000	22,238	14,942	2,623	39,803
2005	23,110	15,410	2,623	41,143

Source: California Department of Finance, 2005.
<http://www.dof.ca.gov/HTML/DEMOGRAP/E-5a.xls>
 2004 data are used as the baseline for the analysis contained throughout this EIR. The 2005 data have been provided for informational purposes.

Ventura’s 2005 housing stock is estimated at 41,143 units. An estimated 1,340 units have been added since 2000, which represents an average annual growth rate of about 0.66% over the 5-year period. As of 2005, single family residences make up about 56% of the City’s housing stock, while 38% are attached multiple family residences and 6% are mobile homes. The housing vacancy rate has remained steady over the past five years and is estimated at 3.21% (California Department of Finance, 2005).



4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the potentially significant environmental impacts associated with each of the land use scenarios described in Section 2.0, *Project Description*. A “significant effect” is defined by the *CEQA Guidelines* (Section 15382) as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with a description of the setting for the particular issue. The setting describes current conditions within the Planning Area and, as appropriate, the regulatory framework under which that specific issue area is regulated at the federal, state, and/or local level.

Following the setting is the analysis of the potential impacts associated with each of the land use scenarios. Within the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds.” Significance thresholds are those criteria adopted by the City or other agencies, which are universally recognized, or are developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. At the beginning of each impact discussion is a matrix that provides a summary comparison of the impacts of each scenario. Following the summary matrix is a detailed discussion of impacts. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact, as follows:

Class I, Unavoidably Significant: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.

Class II, Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under Section 15091 of the *CEQA Guidelines*.

Class III, Less than Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

Class IV, No Impact or Beneficial: An instance in which the project would result in no physical change or an effect that would reduce existing environmental problems or hazards.



When appropriate, the impact analysis describes the impacts of each land use scenario individually. When the impacts of the scenarios are the same or are more easily understood when the scenarios are discussed together, the discussion of the impacts of the three phases consists of a single narrative.

Following each environmental effect discussion is a list of recommended mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. Because this is a program level document, the mitigation measures consist of new policies and actions that can be added to the General Plan to address potential impacts at a programmatic level. Individual developments that could be accommodated under any of the land use scenarios may require specific mitigation that would be incorporated as part of the subsequent environmental review of the individual project. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

It should be noted that this EIR does not include a separate discussion of cumulative effects because projected growth under the 2005 General Plan constitutes cumulative development; therefore, project and cumulative impacts are one and the same. For issues where cumulative growth in the region would contribute to overall impacts (traffic and noise, for instance), the effects of regional growth have been factored into the analysis of project impacts.



4.1 AESTHETICS and COMMUNITY DESIGN

This section analyzes the 2005 General Plan's potential impacts with respect to aesthetics and community design. Specifically, changes in visual character, impacts to viewsheds, and light and glare are discussed.

4.1.1 Setting

a. Visual Character. The Ventura Planning Area has a wide variety of landscapes and seascapes, including natural, agricultural, and urban components. The major visual components of the community are described below.

Hillsides. The northern portion of the Planning Area consists of the rolling hills and steep mountains of the coastal range. West of the Ventura River, hills form the western and northern boundaries of the Planning Area. Mesas and steep bluffs provide variation and create visual interest. The greatest diversity in the hillside area can be found in and near Harmon and Hall Canyons, where slopes can exceed 60% and the canyons form deep cuts in the landscape. The remaining hillside areas have slopes ranging from 20% to 60%, with scattered mesas and rolling terrain. In addition to providing distinctive views from the urban core looking north, the hillsides provide residents and visitors panoramic views of the City and the ocean. Grant Park affords the best public access to vista points.

The hillsides dominate much of the city landscape and can be seen from throughout the Planning Area. The visual quality of the hillsides is a function of their open space, partially agricultural character, and topographic diversity. The visual condition of the hillsides varies widely depending on whether and how an area has been developed (residential or industrial) and how visible it is. The hills west of the Ventura River have a significant amount of oil production activity that is not screened and is highly visible from portions of West Ventura, including State Route 33. The hillside areas above the Downtown and Midtown communities have substantial residential development, which has significantly altered their visual character. Farther east, the hillsides include a mix of residential communities (Skyline, Ondulando), orchards, and open space.

Shorelines. Ventura's beaches begin at the mouth of the Santa Clara River and continue in a northwesterly direction to Promenade Park at the southern terminus of Figueroa Street. Beyond this point, the beaches become rocky, providing a variation in the visual character of the coastline. The coastline and offshore views exhibit extensive human-made alterations in the form of the Ventura Pier, Ventura Harbor, and several breakwaters along the shore. The coastline offers clear views of the Channel Islands and a distant open horizon that area residents value highly. Most of the area directly inland from the beaches from the Ventura Marina to San Buenaventura State Beach Park is densely developed. This limits travelers' seashore vistas to views along Harbor Boulevard from the state beach to the Holiday Inn, and from U.S. Highway 101, which is elevated in this area. Public views of the shore are also available from state beaches. The Promenade that runs parallel to the shore from the pier to Figueroa Street is a prime public view corridor developed by the City and State to take advantage of the seashore as a scenic resource.

Rivers and Barrancas. The Ventura River and its associated floodplain form a distinctive landmark along the western boundary of the City as it parallels the State Route 33 for several miles. Views of the river from the highway are limited by the levee between the river and the freeway.



The area where the Ventura River flows into the Pacific Ocean offers unique scenic opportunities with changes in vegetation as the floodplain freshwater meets seawater. This estuary provides a distinctive view for pedestrians and bicyclists using the path that parallels the river and for Amtrak travelers crossing the river. Motorists also have an opportunity to see this vista from U.S. 101. Looking north, travelers see the densely vegetated Ventura River and the grass-covered hills when entering or leaving the City.

The Santa Clara River forms the southeastern boundary of the City. The river and adjacent floodplain serve as important visual elements in creating a scenic approach to the City from the south. The river is nearly dry most of the year, exposing an expansive rock and sand streambed interspersed with riparian vegetation. Aside from the visual opportunities provided from the City circulation system, the Santa Clara River is visible only to residents in the southeastern portion of the City along the northern riverbank and to some hillside residents. Human-made features such as sand and gravel operations, maintenance roads, levees, and utility lines are all present, but do not dominate views of the Santa Clara River.

The Planning Area contains several barrancas of varying depth and width that add another visual dimension to the landscape. In their natural state, barrancas are often densely vegetated and provide a pleasant contrast to surrounding urban or undeveloped areas because of their lush green appearance. Several wooded barrancas in the Planning Area enhance the surrounding neighborhoods.

Agricultural Lands and Windrows. Agricultural activity is prevalent in portions of East and West Ventura. Orchards and irrigated row crops create distinctive colored patterns that contrast sharply with the urban landscape and with the wheat-colored grasslands of the hillsides from April through November. Large parcels of farmland in East Ventura are interspersed with suburban residential developments, providing a visual break from the suburban land use pattern.

Windrows are rows of trees planted adjacent to agricultural lands to serve as windbreaks. They function as visual accompaniments to the various agricultural parcels throughout the Planning Area. Tree windrows also serve as reference points or demarcation lines within the community. Finally, they preserve a sense of the local heritage and contribute to the aesthetics of the City.

b. View Corridors. Principal travel corridors are important to an analysis of aesthetic features because they define the vantage points for the largest number of views. The following routes in the Planning Area have particular scenic value:

- *State Route 33*
- *State Route 126*
- *U.S. Highway 101*
- *Anchors Way*
- *Brakey Road*
- *Fairgrounds Loop*
- *Ferro Drive*
- *Figueroa Street*
- *Harbor Boulevard*
- *Main Street*
- *Navigator Drive*
- *North Bank Drive*
- *Poli Street/Foothill Road*
- *Olivas Park Drive*
- *Schooner Drive*
- *Spinnaker Drive*
- *Summit Drive*
- *Telegraph Road east of Victoria Avenue*
- *Victoria Avenue South of Highway 101*
- *Wells Road*



Railroads and Roadways that serve as important view corridors are shown on Figure 4.1-1 and described below.

State Route 33. State Route 33 is the primary route linking Ventura to the Ojai Valley to the north. This highway runs along the Ventura River at the western boundary of the City. Travelers entering or leaving the City along this route have views of the hillsides. Where State Route 33 meets U.S. 101, views of the Pacific Ocean and beaches are available.

U.S. Highway 101. U.S. 101 is the major public viewing corridor traversing the City in a northwest/southeast direction. Within the City, U.S. 101 generally runs parallel to the shoreline with foreground views to the east of the City and background views of the hillsides behind the City. To the west, views of the ocean, beaches, and harbor are intermittent along the highway.

State Route 126. State Route 126, also known as the Santa Paula Freeway, is the primary route linking Ventura to Santa Paula and points farther east. The highway runs through the eastern portion of the City and, traveling east, it offers background views of the hillsides behind the City.

Brakey, Summit, and Ferro Drives. These roads are within Grant Park and offer views of the hillsides, Pacific Ocean, and the City.

Fairgrounds Loop. The road encircles the Ventura County Fairgrounds. Portions of the road offer views of Surfers Point Park and the Pacific Ocean.

Figueroa Street. This road connects the shoreline to the downtown in the northern portion of the City. Traveling south on this road offers views of the Pacific Ocean and shoreline. Northbound travelers can view the hillsides as a background to the City.

Harbor Boulevard. Harbor Boulevard runs parallel to U.S. 101 in the western portion of the City and along the harbor area in the southwestern portion of the City. In the west, there are views of the San Buenaventura State Beach, the Ventura Pier, and the Pacific Ocean. In the southwest, Harbor Boulevard offers views of the Ventura Harbor and the ocean.

Main Street. Main Street links neighborhoods and districts within the City together, running through the Downtown and Midtown areas. Views of historic buildings, parks, and the surrounding hillsides are intermittent along this corridor.

Navigator Drive, Spinnaker Drive, Schooner Drive, and Anchors Way. These roads, adjacent to the Ventura Harbor, offer views of the Pacific Ocean, the Harbor itself, and marine related activities.

North Bank Drive. North Bank Drive crosses through suburban residential neighborhoods in East Ventura along the north bank of the Santa Clara River. Portions of North Bank Drive offer views of agricultural activity and the Santa Clara River.

Poli Street/Foothill Road. Poli Street runs through the downtown past the historic City Hall and the San Buenaventura Mission. Foothill Road, in many places, is the boundary of urban development, separating it from the hillsides to the north. This corridor has aesthetic value because of the views of historic structures and unobstructed views of the hillsides.



Olivas Park Drive. Olivas Park Drive connects the Harbor area to the southern portion of the City to the east. The road travels through the agricultural area between the southern edge of the City and the Santa Clara River and provides views of this area as well as the hillsides as a backdrop to the City.

Telegraph Road east of Victoria Avenue. East of Victoria Avenue, Telegraph Road crosses through a mix of agricultural and residential suburban areas. Portions of this road offer views of the foothills to the north.

Victoria Avenue south of U.S. 101. This section of Victoria Avenue crosses the Santa Clara River, and continues south to Oxnard. This road offers views of agricultural areas in the south and the foothills north of the City.

Wells Road. Wells Road is in the eastern part of the City and runs between the hills to the north and SR 126. This road provides views of the hills and agriculture areas on the east side of the road at the base of the hills.

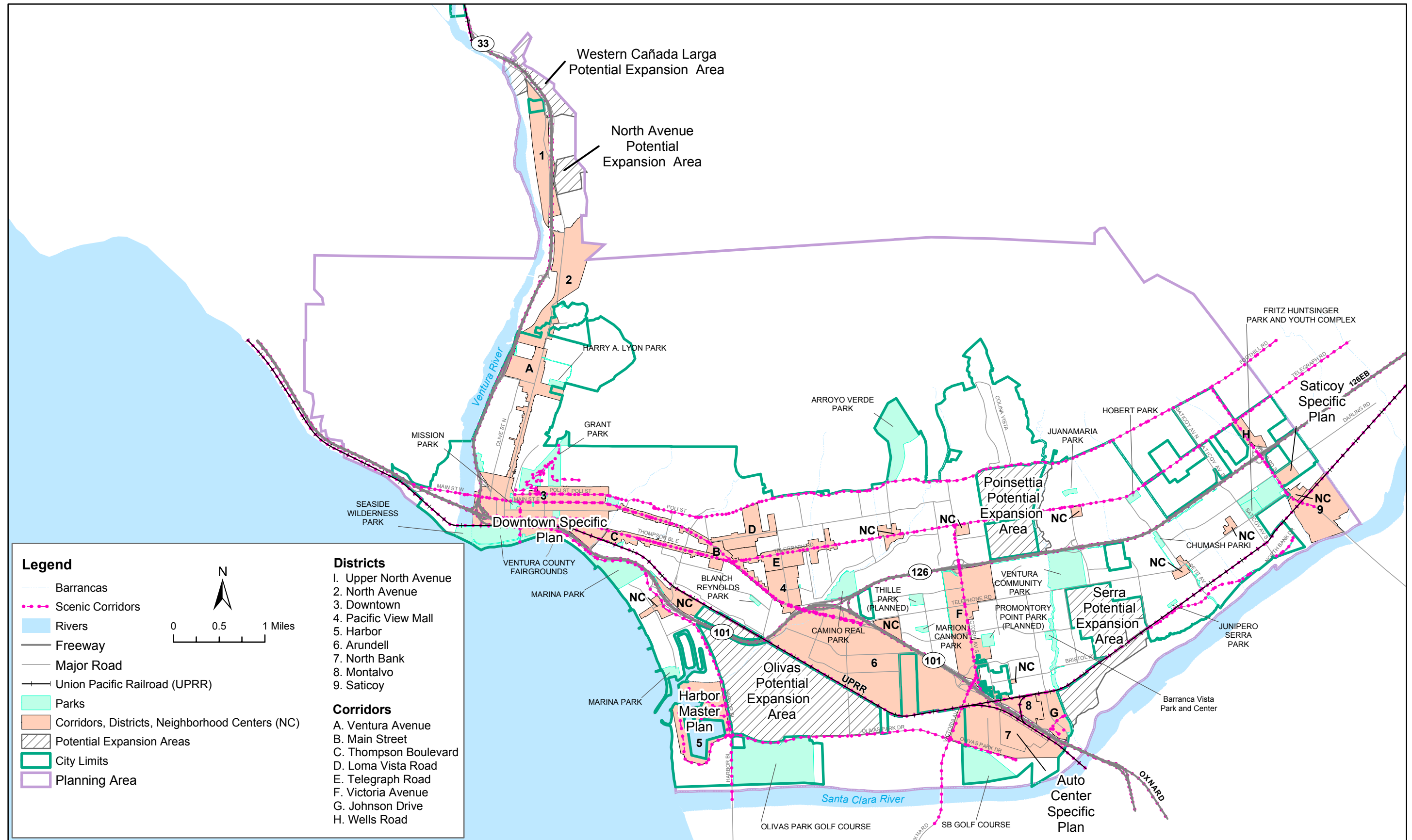
Union Pacific Rail Corridor. The Union Pacific Railroad (UPRR) runs parallel to U.S 101, crossing over the highway in the northern portion of the City. Currently, the rail line is used for both freight and interstate passenger service. Views of the City, surrounding hillsides, and the Pacific Ocean are intermittent along the corridor.

c. Districts and Corridors. The proposed land use map identifies a number of districts and corridors that are anticipated to be the focus of land intensification and reuse through 2025. These districts and corridors are shown on Figures 2-3 through 2-8 in Section 2.0, *Project Description*. The general visual characteristics of these districts and corridors are described below.

Districts. A neighborhood or parts of neighborhoods can form a district. Districts consist of streets or areas emphasizing specific types of activities. A corridor may also be a district, such as when a major shopping avenue runs between adjoining neighborhoods. The following districts are depicted on the General Plan Diagram:

1. **Upper North Avenue.** This area, located primarily along the west side of SR 33 and outside the current City limits, includes an educational institute and a mix of industrial uses, including an abandoned oil refinery. It is a transitional area between the more urban areas to the south and more rural areas to the north. The area includes a number of vacant properties. The Ventura River and hills to the west are key visual features.
2. **North Avenue.** A mix of oilfield, industrial, and residential development characterizes this district, which is located north of the current City limits and east of SR 33. The area includes a number of vacant properties and abandoned businesses, with relatively low visual quality.





Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Scenic Corridors

Figure 4.1-1
 City of Ventura

3. **Downtown.** This is the most intensely developed area of the City and its central core. Downtown is characterized by a mix of retail, office, and residential uses, with some industrial uses present in the west end of the district. The area has seen intensification of both commercial and residential use, and this pattern is anticipated to continue.
4. **Pacific View Mall.** This district encompasses an enclosed shopping mall and adjacent commercial uses along Telegraph and Mills Roads. The area is a focal point of commercial activity in the City as well as a transit hub.
5. **Harbor.** This district includes the Ventura Harbor Village, other visitor-serving uses, and various harbor-related facilities, as specified in the Harbor Master Plan. The area is planned for intensification of use, with new residential, hotel, and recreational developments intended to complement the current uses in the area and facilitate greater use of the Harbor as a community amenity.
6. **Arundell.** This is an industrial district characterized by a mix of primarily small-scale industrial uses, business park development, and limited retail services. Buildings generally emphasize function over form. Areas of agricultural activity remain and are highly visible from U.S. 101. Suburban-scaled retail development is located in the northern portion of this district along the south side of Telephone Road.
7. **North Bank.** This district includes a mix of automobile retail and industrial/business park uses. The auto center and other uses within this area are highly visible from U.S. 101.
8. **Montalvo.** This district includes a mix of older industrial and generally heavier commercial uses. The area, highly visible to U.S. 101 northbound travelers, exhibits relatively low visual quality.
9. **Saticoy.** This district contains a mix of older industrial and agricultural operations, as well as a small residential area. Much of the area east of Route 118 is in agriculture, and there is a neighborhood center that anchors the north end of this district.

Corridors. Corridors often form boundaries, as well as connections, between neighborhoods and/or districts. Corridors frequently encompass major access routes, especially ones with commercial destinations. Corridors also can incorporate parks or natural features such as streams or canyons. The following corridors are depicted on the General Plan Diagram:

- A. **Ventura Avenue.** A mix of older, small-scale commercial, industrial, and residential uses characterizes this corridor. The corridor retains a pedestrian scale. The corridor has been undergoing visual improvements over the past several years (newer developments, removal of overhead power lines), though a large number of buildings that are either vacant or lacking maintenance remain.
- B. **Main Street.** This is primarily a commerce-oriented corridor with a limited amount of mixed residential/commercial development. Development consists



- of one- to two-story buildings at a relatively urban intensity. Buildings are generally well-maintained throughout the corridor, though landscaping is sparse in some areas.
- C. **Thompson Boulevard.** This is primarily a commerce-oriented corridor with a limited amount of mixed residential/commercial development. The intensity of development is lower than along Main Street, with a high number of auto dealerships and large parking areas.
 - D. **Loma Vista Road.** This corridor is characterized by a mix of commercial and residential development at varying scales, with a high concentration of medical facilities, including two hospitals. Other than the hospitals, development consists primarily of one- and two-story buildings.
 - E. **Telegraph Road.** This corridor is characterized primarily by suburban-scale commercial development, with some single-family and multifamily residences. Some portions of this corridor are characterized by “zero lot line” development with on-street parking. Other developments are more suburban scaled.
 - F. **Victoria Avenue.** This corridor consists of a wide arterial roadway that accommodates high traffic volumes at relatively high speeds. It is primarily characterized by newer large-scale, suburban shopping centers and other retail development, though single-family residential development is also present on the east side in some areas.
 - G. **Johnson Drive.** This is a relatively high-speed travel corridor that connects East Ventura to U.S. 101. The corridor is characterized by suburban-scale retail development. A number of vacant parcels are present near the U.S. 101 interchange.
 - H. **Wells Road.** A mix of older industrial uses and newer suburban commercial and residential development characterizes this corridor. Over the past several years, this area has been undergoing a transition toward a mix of suburban-scale residential and retail uses.
- d. Light and Glare.** The majority of the Planning Area is urban and includes outdoor lighting associated with development. Light pollution is present in and around the City, particularly in the vicinity of development, but it is still fairly localized. Nighttime illumination is currently generated by streetlights and vehicular lights associated with roadways, as well as housing developments. Other prominent sources of light within the City include the fairgrounds, parks with sports fields, and the auto center along U.S. 101, where there is a concentration of auto sales businesses. Glare is created by exterior building materials, surface paving materials, and vehicles traveling or parked on roads and driveways. Any highly reflective facade materials are of particular concern, as buildings reflect sunlight.
- e. Regulatory Setting.** Development in the City is subject to the following regulatory programs aimed in part at the preservation of the community’s visual character.



Zoning Ordinance. The Zoning Ordinance implements the 1989 Comprehensive Plan by establishing setback, parking and sign standards, building height limits, hillside development restrictions, and building densities.

Hillside Management Program. The Hillside Management Program sets forth a slope/density formula to be used in determining the appropriate density of development in the Hillside Area. In addition, this land use designation requires that any proposed project meet the objectives, policies, and submittal requirements contained in the Hillside Management Program.

SOAR Ordinance. The City's Save Our Agricultural Resources (SOAR) Ordinance, adopted by the voters in 1995, prevents changes in specified land use designation unless the land use change is approved by a majority of voters. A number of agricultural and open space areas in East Ventura and West Ventura, including all of the North Avenue, Olivas, and Serra, Poinsettia expansion areas and a portion of the Western Cañada Larga expansion area are subject to the SOAR Ordinance.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the existing visual environment against the proposed action, analyzing the nature of the anticipated change.

An impact is considered significant if year 2025 buildout development under a proposed General Plan land use scenario would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the *CEQA Guidelines*:

- *A substantial adverse effect on a scenic vista*
- *Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings*
- *Substantial degradation of the existing visual character of quality of the community*
- *New sources of light or glare that would adversely affect day or nighttime views*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the six 2005 General Plan land use scenarios. A discussion of the impacts for each scenario follows.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Visual Character Changes (Impact AES-1)	Intensification and reuse would generally enhance visual character by adding appropriately scaled infill development and would reduce pressure for development at the City’s periphery. However, the conversion of agricultural lands in the Saticoy and Arundell areas would transform the character of these areas. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts would be similar to Scenario 1. Possible future conversion of the North Avenue, Olivas, and Serra expansion areas would further the transformation toward a more urban community. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts would be similar to Scenario 1. Possible future conversion of the North Avenue and Olivas expansion areas would further the transformation toward a more urban community. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts would be similar to Scenario 1. Possible future conversion of the North Avenue and Serra expansion areas would further the transformation toward a more urban community. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts would be similar to Scenario 1. Possible future conversion of the North Avenue and Western Cañada Larga expansion areas would further the transformation toward a more urban community. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts would be similar to Scenario 1. Possible future conversion of the North Avenue and Poinsettia expansion areas would further the transformation toward a more urban community. Impacts are Class I, unavoidably significant.
Alteration of Views (Impact AES-2)	Intensification/reuse development generally would not substantially alter public views and may enhance views from some locations. However, the conversion of highly visible agricultural lands along U.S. 101 and SR 126 would alter views from these major view corridors. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts similar to Scenario 1. Possible future development of the North Avenue, Olivas, and Serra areas would alter views from U.S. 101, SR 33, Harbor Boulevard, Union Pacific Railroad, Telephone Road, and Bristol Road. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts similar to Scenario 1. Possible future development of the North Avenue and Olivas areas would alter views from U.S. 101, SR 33, Harbor Boulevard, and Union Pacific Railroad. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts similar to Scenario 1. Possible future development of the North Avenue and Serra areas would alter views from SR 33, Telephone Road, and Bristol Road. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts similar to Scenario 1. Possible future development of the North Avenue and Western Cañada Larga areas would alter views from SR 33. Impacts are Class I, unavoidably significant.	Intensification/reuse impacts similar to Scenario 1. Possible future development of the North Avenue and Poinsettia areas would alter views from SR 33, SR 126, Telegraph Road, and Foothill Road. Impacts are Class I, unavoidably significant.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Light and Glare (Impact AES-3)	Intensification/reuse would incrementally increase lighting levels in districts and corridors and introduce residential development in heavily lighted areas. Implementation of General Plan actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible future expansion area development would increase overall light levels, but would not significantly affect sensitive uses. Implementation of General Plan actions reduces impacts to Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.



Impact AES-1 All six General Plan land use scenarios emphasize intensification and reuse of already urbanized lands and would therefore create a more densely settled, urban environment in some areas of the City. The reuse of urbanized areas in lieu of further growth at the City's periphery would be expected to generally enhance the visual character of the community and minimize impacts to existing natural and agricultural areas and is generally considered a beneficial effect. Nevertheless, all of the scenarios would change the visual character of the community and would accommodate the conversion of some agricultural lands in the Planning Area to urban uses. This change in visual character is considered Class I, *unavoidably significant*, under any of the six scenarios.

All of the six land use scenarios under consideration emphasize intensification and reuse of already developed areas of the Planning Area prior to developing agricultural lands or other areas at the urban fringe. The intensification of land use anticipated to occur as the City grows over time may be considered an adverse effect to some viewers due to the presence of larger and taller buildings and the corresponding reduction in open land within the City's urban framework. However, the reuse and intensification of already developed areas would be expected to reduce the pressure for development at the City's periphery, thus minimizing the potential for the loss of open lands surrounding the City. Notably, by seeking to remove the hillside areas above the City from the SOI, the City indicates no intention to seek or accommodate development of those areas, thus largely preserving these important visual features of the City in their current undeveloped condition. Areas where hillside development could occur would be limited to a small area above Poli Street/Foothill Road that is within the City limits. This area, known as Mariano Ranch, is not highly visible from any public view area. The focus on intensification and reuse would also be expected to minimize pressure to develop agricultural properties within the Planning Area.

Much of the intensification and reuse that would be anticipated under any of the land use scenarios would also generally be expected to enhance the visual character of the community. In particular, it is anticipated that future developments in the West Ventura area, Downtown, and the Midtown travel corridors (Main Street and Telegraph Road) would enhance the visual quality of these areas by adding attractive infill developments with new landscaping and other amenities. Figure 4.1-2 shows examples of the types of infill development projects anticipated to occur under any scenario.

The 2005 General Plan includes the following policies and actions intended to enhance the appearance of the community.

Policy 3A *Sustain and complement cherished community characteristics.*





Photo 1 - Casa de Anza Apartment building on Ventura Avenue, with a ground floor library and apartments above. This is the type of intensification/reuse project anticipated for the Ventura Avenue corridor.



Photo 2 - New mixed-use development on Poli Street in Downtown Ventura, with ground floor commercial uses and residences above. This project typifies the intensity and style of development anticipated for the Downtown district.

Intensification/Reuse Examples

Figure 4.1-2
City of Ventura



- Action 3.2** *Enhance the appearance of districts, corridors, and gateways (including views from highways) through controls on building placement, design elements, and signage.*
- Action 3.5** *Establish land development incentives to upgrade the appearance of poorly maintained or otherwise unattractive sites, and enforce existing land maintenance regulations.*
- Policy 3C** *Maximize use of land in the city before considering expansion.*
- Action 3.14** *Utilize infill, to the extent possible, development to accommodate the targeted number and type of housing units described in the Housing Element.*
- Action 3.16** *Renew and modify greenbelt agreements as necessary to direct development to already urbanized areas.*
- Action 3.17** *Continue to support the Guidelines for Orderly Development as a means of implementing the General Plan, and encourage adherence to these Guidelines by all the cities, the County of Ventura, and the Local Agency Formation Commission (LAFCO); and work with other nearby cities and agencies to avoid urban sprawl and preserve the rural character in areas outside the urban edge.*
- Policy 3E** *Ensure the appropriateness of urban form through modified development review.*
- Action 3.23** *Develop and adopt a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation.*

Although the effect of much of intensification and reuse would generally be beneficial, any of the six scenarios would allow for conversion of agricultural lands in the Planning Area to urban uses. Many viewers would see this change in visual character as a negative aesthetic effect; therefore, impacts are considered significant for any of the scenarios. A discussion of the specific impacts of each scenario follows.

Scenario 1 – Intensification/Reuse Only

This scenario would emphasize land intensification and reuse within the nine districts and eight corridors described in the *Setting*. Though any of the districts and corridors could theoretically undergo major intensification under the land use plan for this scenario, it is anticipated that the major growth areas would include the Ventura Avenue corridor, Downtown, and the Midtown area (Main Street and Thompson Boulevard corridors and the Pacific View Mall district). Intensification within these areas would create a more urban appearance, but would be expected to generally enhance the character of the areas by adding appropriately scaled infill development that emphasizes mixed use, neighborhood character, and walkability. Actions 3.2 and 3.5 would facilitate the general improvement in the visual character of community districts and corridors. Nevertheless, the visual character of portions of the Planning Area would change to that of a more intensely developed, urban community.



The North Avenue, Upper North Avenue, Arundell, and North Bank districts would accommodate the majority of future industrial/business park development. New development would generally enhance the visual character of the North Avenue and Upper North Avenue districts by replacing abandoned and deteriorating oil-related businesses (including the Petrochem refinery) with new industrial development. Such new development would have a less dramatic effect on the visual character of the Arundell and North Bank districts, but would be expected to generally enhance visual conditions in these areas.

Though the visual effects of implementing this scenario are generally expected to be positive, Scenario 1 would accommodate the conversion of a number of agricultural properties within Planning Area to urban uses. These areas, discussed in detail in Section 4.2, *Agricultural Resources*, include more than 300 acres of farmland in the Saticoy area, the 75-acre McGrath property in the Arundell district, and a 25-acre agricultural parcel near the U.S. 101/SR 126 interchange. Several agricultural parcels are highly visible from U.S. 101 and/or SR 126 and provide visual relief to both freeway travelers and area residents. The visual change associated with conversion is not necessarily adverse and many of the agricultural lands are largely or completely surrounded by urban land uses. Nevertheless, the complete change in character of these areas is considered a significant visual impact.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

This scenario would accommodate all of the visual changes that could occur under Scenario 1. This scenario also includes three potential expansion areas – North Avenue, Olivas, and Serra – that potentially could be developed in the future. All three of the expansion areas are currently used for agricultural production. Thus, development of these areas with a mix of residential, retail, and office uses would involve a complete transformation of the areas' visual character. Photographs of the three areas are shown on Figures 4.1-3 through 4.1-5. The North Avenue area is highly visible from SR 126, while portions of the Olivas area are highly visible to both northbound and southbound travelers on U.S. 101 as well as travelers on Harbor Boulevard.

The Olivas area also includes large eucalyptus windrows along Harbor Boulevard that could potentially be removed if the area is developed. The Serra area is not highly visible from any freeway, but can be readily viewed from Telephone Road, Bristol Road, and a number of private residences surrounding the area.

The impact upon the visual character of the expansion areas is considered significant due to the complete change in visual character that could occur in any of the areas. Implementation of General Plan Action 1.21 would reduce the impact of this visual change, particularly for the Olivas area, by requiring the preservation of healthy tree windrows and incorporation of trees into the design of new developments. It should also be noted that this scenario includes substantially more land (1,423 acres) than would be needed to accommodate the level of growth anticipated through 2025 under this scenario. Therefore, it is likely that either: (1) not all of the expansion areas would actually be converted within the timeframe of the 2005 General Plan; or (2) any development could include wide areas of open space that could either allow portions of the areas to remain in agriculture or allow for large areas of civic spaces (parks) that would soften the visual effects of any future development. It should again be noted that the SOAR Ordinance would require a public vote approving a change in land use designation for any of the expansion areas.

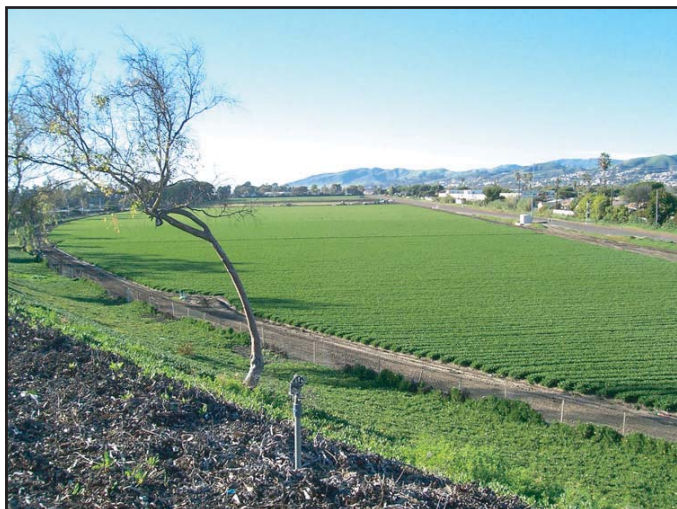


Photo 3 - Olivas expansion area looking northwest from northbound U.S. 101. This portion of the Olivas area is highly visible to northbound travelers.



Photo 4 - Olivas expansion area looking southeast from southbound U.S. 101. Views of most of the Olivas area are available sporadically to southbound travelers.

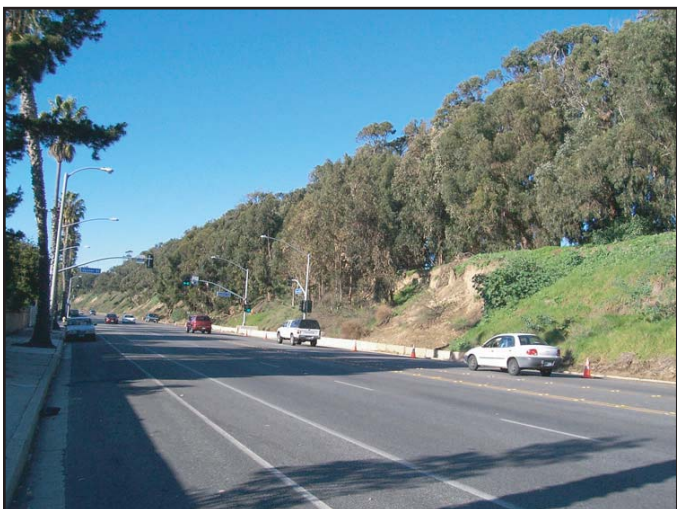


Photo 5 - Olivas expansion area looking northeast from Harbor Boulevard. Much of the Harbor Boulevard corridor is lined with eucalyptus trees that provide a distinctive visual character.

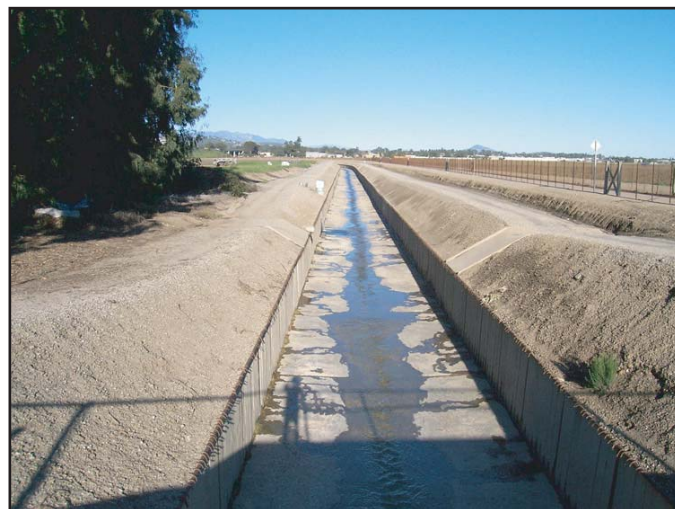


Photo 6 - Channelized Arundell Barranca, which traverses the Olivas area. This channel could potentially be returned to a quasi-natural condition if the Olivas area is developed.

Olivas Expansion Area



Photo 7 - Serra expansion area looking east from Ramelli Avenue. This expansion area consists almost entirely of agricultural land, but is surrounded by residential development.



Photo 8 - Serra expansion area looking east from eastbound Bristol Road. The area south of Bristol Road fronts the Santa Clara River.



Photo 9 - Poinsettia expansion area looking northwest from SR 126. This area is planted in orchards and also includes several visually distinctive poplar windrows.



Photo 10 - Poinsettia expansion area looking south from Foothill Road. The Foothill Road corridor provides expansive views of the Poinsettia area and points beyond, including the Pacific Ocean.

Serra and Poinsettia Expansion Areas

Figure 4.1-4
City of Ventura





Photo 11 - North Avenue expansion area looking southeasterly from Ventura Avenue. The entire expansion area is visible to travelers on Ventura Avenue.



Photo 12 - North Avenue expansion area looking northeasterly from SR 33. Much of the expansion area is visible to both northbound and southbound travelers on SR 33.



Photo 13 - Western Cañada Larga expansion area looking northeasterly from northbound SR 33. Portions of the hillside area fronting the freeway were graded for the construction of SR33 and could potentially be re-graded and developed if this expansion area is selected.



Photo 14 - Agricultural land adjacent to the Western Cañada Larga expansion area looking south from SR 33. This area is within the Upper North Avenue District and is currently designated Industrial.

North Avenue and Western Cañada Larga Expansion Areas

Figure 4.1-5
City of Ventura

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Scenario 3 would accommodate all of the visual changes that could occur under Scenario 1. This scenario also includes two potential expansion areas – North Avenue and Olivas – that potentially could be developed in the future. Visual impacts associated with the potential conversion of these areas would be similar to those described under Scenario 2 and are considered significant. Similar to Scenario 2, this scenario would include more land than would be necessary to accommodate anticipated growth through 2025. As noted under Scenario 2, the SOAR Ordinance would require a public vote approving a change in land use designation for either expansion area.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Scenario 4 would accommodate all of the visual changes that could occur under Scenario 1. This scenario also includes two potential expansion areas – North Avenue and Serra – that potentially could be developed in the future. Visual impacts associated with the potential conversion of these two areas would be similar to those described under Scenario 2 and are considered significant. As noted under Scenario 2, the SOAR Ordinance would require a public vote approving a change in land use designation for either expansion area.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Scenario 5 would accommodate all of the visual changes that could occur under Scenario 1. This scenario also includes two potential expansion areas – North Avenue and Western Cañada Larga – that potentially could be developed in the future. Visual impacts associated with the potential conversion of the North Avenue area would be similar to those described under Scenario 2 and are considered significant. The Western Cañada Larga area consists primarily of grazing land that has been disturbed by past activity. This expansion area also includes a small area of irrigated agriculture west of SR 33. Cañada Larga is semi-rural in character and is within a transitional area between the suburban/urban areas to the south and undeveloped hills to the north. The conversion of the area would represent a complete change in visual character, which is considered a significant impact.

It should be noted that this scenario includes relatively little expansion area land (about 165 acres, about 30 acres of which are within the Ventura River floodplain). The only way that these areas could accommodate the 2,700 residential units assumed to occur within the expansion areas would be to develop the areas with all high density development (30 units per acre or more). This probably is not a realistic land use pattern for this area and would be out of character with the semi-rural nature of the area. Therefore, Section 6.0, *Alternatives*, considers an alternative land use pattern for this area that would allow for less intense development of the North Avenue and Western Cañada Larga areas.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Scenario 6 would accommodate all of the visual changes that could occur under Scenario 1. This scenario also includes two potential expansion areas – North Avenue and Poinsettia – that potentially could be developed in the future. Visual impacts associated with the potential conversion of the North Avenue area would be similar to those described under Scenario 2 and

are considered significant. The Poinsettia area is also in agricultural production (orchards) and is highly visible from portions of SR 126, Telegraph Road, and Foothill Road, as well as from residential areas to the west, north, and east. This area includes several poplar windrows that provide an important visual feature that could potentially be lost if the area is developed in the future. General Plan Action 1.23 would require preservation of these windrows, thus partially mitigating the impact of the visual change. The visual change associated with the possible conversion of this area is considered a significant impact.

MITIGATION MEASURES

Changing the fundamental character of the areas to be converted from agricultural and open space uses to urban use cannot be avoided if these areas are to be developed. Each of the proposed growth scenarios focuses development on intensification of the existing urban areas and encourages infill over city expansion. In addition, Actions 1.22 and 1.23 require the preservation of mature trees and agricultural windrows.

SIGNIFICANCE AFTER MITIGATION

Any of the six scenarios would be expected to generally improve visual conditions in the Planning Area, but would accommodate the conversion of agricultural land within the Planning Area to urban uses. This change in the visual character of agricultural lands is a significant impact that cannot be avoided outside of leaving the properties in agriculture. Among the six scenarios, Scenario 1 would accommodate the least amount of agricultural land conversion and would only accommodate conversion of lands that are already designated for urban uses. Scenario 2 would accommodate the greatest amount of agricultural land conversion among the six scenarios.

<p>Impact AES-2 Development that would be accommodated under any of the 2005 General Plan land use scenarios would potentially alter and/or block views from various public view corridors. The magnitude of impact would vary among the scenarios and the 2005 General Plan includes several policies and actions to preserve public views. Nevertheless, the impact of all six scenarios is considered Class I, <i>unavoidably significant</i>.</p>
--

By emphasizing intensification and reuse of already developed lands, all six land use scenarios would minimize the potential to alter identified scenic resources. In particular, by seeking to remove the hillsides above the City from the SOI, the 2005 General Plan would avoid altering views of this important visual feature. Nevertheless, development that could be accommodated under any of the six scenarios would potentially alter views of such visual resources as the Pacific Ocean and agricultural land from scenic corridors in the Planning Area. A discussion of the potential impacts associated with each land use scenario follows. In addition to the policy and actions listed under Impact AES-1, the 2005 General Plan includes the following actions intended to minimize impacts to view sheds.

Policy 1B *Increase the area of open space protected from development impacts.*



- Action 1.8** *Buffer barrancas and creeks that retain natural soil slopes from development according to State and Federal guidelines.*
- Action 1.11** *Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or “natural” coastal areas.*
- Action 1.12** *Update the provisions of the Hillside Management Program as necessary to ensure protection of open space lands.*
- Action 1.13** *Recommend that the City’s Sphere of Influence boundary be coterminous with the existing City limits in the hillsides in order to preserve the hillsides as open space.*
- Action 3.3** *Require preservation of public viewsheds and solar access.*
- Policy 4D** *Protect views along scenic routes.*
- Action 4.36** *Require development along the following roadways – including noise mitigation, landscaping, and advertising – to respect and preserve views of the community and its natural context.*
- *State Route 33*
 - *U.S. Highway 101*
 - *Anchors Way*
 - *Brakey Road*
 - *Fairgrounds Loop*
 - *Ferro Drive*
 - *Figueroa Street*
 - *Harbor Boulevard*
 - *Main Street*
 - *Navigator Drive*
 - *North Bank Drive*
 - *Poli Street/Foothill Road*
 - *Olivas Park Drive*
 - *Schooner Drive*
 - *Spinnaker Drive*
 - *Summit Drive*
 - *Telegraph Road – east of Victoria Avenue*
 - *Victoria Avenue – south of U.S. 101*
 - *Wells Road*
- Action 4.37** *Request that State Route 126 and 33, and U.S. HWY 101 be designated as State Scenic Highways.*
- Action 4.38** *Continue to work with Caltrans to soften the barrier impact of U.S. Highway 101 by improving signage, aesthetics and undercrossings and overcrossings.*



Scenario 1 – Intensification/Reuse Only

In general, the intensification and reuse of lands that would be accommodated under Scenario 1 would avoid substantial alteration of scenic resources. However, new development could potentially block views of the Pacific Ocean or the hillsides above the City from certain identified scenic corridors. For example, three- to four-story development that could be accommodated in the Downtown district could potentially block ocean views from portions of Poli Street. In addition, similarly scaled development along the north sides of the Main Street and Thompson Boulevard corridors could potentially block existing views of the hillsides to the north from some vantage points. View changes in these areas are not considered significant since the view blockage would only be sporadic and because the change in views along the corridors is generally expected to be enhanced by the presence of attractive infill development.

As discussed under Impact AES-1 and in Section 4.2, *Agricultural Resources*, this scenario would accommodate development of a number of agricultural lands that are visible from U.S. 101 and SR 126. Notable conversions include the McGrath property in the Arundell district, a 25-acre agricultural parcel near the U.S. 101/SR 126 interchange, and agricultural lands east of Wells Road in the Saticoy community. Conversion of these highly visible agricultural lands would alter views from these scenic corridors. The overall image of the community from U.S. 101 and SR 126 would not change dramatically under this scenario and implementation of Actions 4.36 through 4.38 would minimize the impact of agricultural land conversion from scenic corridors. Nevertheless, the incremental change associated with the conversion of remaining agricultural lands visible from important view corridors is considered a significant impact.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

All of the view corridor changes that would occur under Scenario 1 would also occur under Scenario 2. In addition, this scenario includes the North Avenue, Olivas, and Serra expansion areas, each of which is currently in agricultural production. The North Avenue expansion area is occupied by an orchard and is in a semi-rural portion of the SR 33 corridor. The Olivas area can be readily viewed from U.S. 101, Harbor Boulevard, and the Union Pacific Railroad. The Serra area is not highly visible from any freeway corridor, but is highly visible from portions of Telephone Road and Bristol Road/North Bank Drive. Among the three expansion areas, conversion of the Olivas area would affect the largest number of viewers because of its proximity to U.S. 101. Conversion of the portion of the Olivas area north of U.S. 101, in particular, may alter the image of the City for northbound freeway viewers. The North Avenue and Serra areas are less prominent visually than the Olivas area. Nevertheless, conversion of any of the three areas would be considered a significant impact to views from identified scenic corridors.

As discussed under Impact AES-1, this scenario includes far more land than would be necessary to accommodate projected growth through 2025. In addition, a land use designation change for any of the three expansion areas included in this scenario would require voter approval under the SOAR Ordinance. As such, it is unlikely that all three areas would develop by 2025.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

All of the view corridor changes that would occur under Scenario 1 would also occur under Scenario 3. In addition, this scenario includes the North Avenue and Olivas areas. As discussed under Scenario 2, view corridor impacts associated with the conversion of either area would be significant.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

All of the view corridor changes that would occur under Scenario 1 would also occur under Scenario 4. In addition, this scenario includes the North Avenue and Serra areas. As discussed under Scenario 2, view corridor impacts associated with the conversion of either area would be significant.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

All of the view corridor changes that would occur under Scenario 1 would also occur under Scenario 5. In addition, this scenario includes the North Avenue and Western Cañada Larga expansion areas. As discussed under Scenario 2, view corridor impacts associated with conversion of the North Avenue area would be significant. As with the North Avenue area, the Western Cañada area is located in a semi-rural portion of the SR 33 corridor. The area that could be developed includes hillside grazing land and a small amount of irrigated agriculture. Conversion of this area to urban uses would fundamentally alter the nature of views along this semi-rural stretch of SR 33. This is considered a significant impact.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

All of the view corridor changes that would occur under Scenario 1 would also occur under Scenario 6. In addition, this scenario includes the North Avenue and Poinsettia areas. As discussed under Scenario 2, view corridor impacts associated with conversion of the North Avenue area would be significant. The Poinsettia area is currently used as an orchard and is visible from SR 126, Foothill Road, and Telegraph Road. Telegraph Road runs through the center of this area. Development of this area would result in the loss of a break from the suburban development that is present east and west of the area and fundamentally alter views for travelers on all three affected roadways. Although the Poinsettia area is completely surrounded by urban uses, the loss of this break in the suburban development pattern is considered a significant view impact to the SR 126, Telegraph Road, and Foothill Road corridors.

MITIGATION MEASURES

Policies included in the proposed 2005 General Plan, as described above, would reduce impacts on view corridors associated with intensification and reuse to a less than significant level. Other than the actions listed above and General Plan Action 1.23, which would preserve windrows on agricultural lands, additional mitigation is not available for the change in views from scenic corridors related to the conversion of agricultural lands.

SIGNIFICANCE AFTER MITIGATION

Implementation of 2005 General Plan policies and actions would reduce impacts to view corridors associated with agricultural land conversion to the degree feasible. Nevertheless, outside of avoiding development of agricultural lands that are visible from scenic corridors, the impact cannot be reduced to a less than significant level. View corridor impacts are considered unavoidably significant for all six scenarios. Scenario 1 would have the least impact among the scenarios, while Scenario 2 would have the greatest potential for impacts. It should again be noted that the conversion of agriculturally-designated lands in the expansion areas could occur only with a public vote under the SOAR Ordinance.

Impact AES-3 Development accommodated under any of the 2005 General Plan land use scenarios would introduce new sources of light and glare. Light and glare conditions are not expected to change dramatically throughout most of the Planning Area because of the focus on intensification and reuse of already developed lands. Therefore, impacts would be Class III, *less than significant*, for any of the six scenarios.

Development in accordance with the any of the land use scenarios for the 2005 General Plan would incrementally increase ambient nighttime lighting throughout the City and potentially introduce new sources of glare. Increased lighting could come from streetlights, parking lot lights, and signage on business establishments. Increased glare could potentially occur as a result of building materials, roofing materials and windows reflecting sunlight. A discussion of impacts for each scenario follows.

Scenario 1 - Intensification/Reuse Only

Scenario 1 would emphasize intensification and reuse of already developed areas. As such, it may incrementally increase overall lighting in portions of the community, but would not be expected to dramatically change communitywide light and glare conditions or greatly extend lighting into large areas where lighting is not currently present. As discussed under Impacts AES-1 and AES-2, this scenario would accommodate the conversion of a number of agricultural properties that are already designated for urban development. However, these areas are already surrounded primarily by urban uses and are therefore in areas where urban lighting is present; therefore, the extension of lighting into these areas would not significantly alter overall lighting. Similarly, the undeveloped areas in the North Avenue and Upper North Avenue areas are already lighted by the sporadic existing development.

This scenario would potentially accommodate residential development in the commercially oriented districts and corridors as well as at the neighborhood centers. Many of these areas - notably, Downtown, the Pacific View Mall, and all of the corridors - include retail development with relatively high levels of lighting and associated glare; therefore, the introduction of large numbers of light sensitive residences to these areas could pose conflicts with respect to light and glare. However, it is anticipated that implementation of Action 3.23 would result in the development of appropriate design standards as part of a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as



community living space, and environmentally sensitive building design and operation. Thus, significant impacts are not anticipated.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Light and glare impacts associated with intensification and reuse would be similar to those of Scenario 1 and would be reduced a less than significant level through implementation of Action 3.23. This scenario would also accommodate future development in the North Avenue, Olivas, and Serra expansion areas. All three areas are currently in agricultural production. The North Avenue expansion area is in a semi-rural area along SR 33. The Olivas area encompasses a large area (930 acres) that currently lacks lighting, but is located between U.S. 101 and the Ventura Harbor. The Serra area is surrounded on three sides by urban uses, with the Santa Clara River to the southeast. The North Avenue and Olivas areas are relatively isolated; therefore, the extension of lighting into these areas would not affect a high number of sensitive uses. Extension of lighting into the Serra area would affect a higher number of uses due to the area's proximity to existing residential neighborhoods. However, development in any of the expansion areas would be subject to current City lighting standards as well as new standards to be developed as part of the new development code (Action 3.23) and any additional standards developed as part of a specific plan for the expansion area. Thus, significant impacts are not anticipated.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Light and glare impacts associated with intensification and reuse would be similar to those of Scenario 1 and would be reduced to a less than significant level through implementation of Action 3.23. This scenario would also accommodate future development in the North Avenue and Olivas expansion areas, both of which are currently in agricultural production. As discussed under Scenario 2, both areas are relatively isolated; therefore, extension of lighting into these areas would affect relatively few sensitive receivers. As with Scenario 2, significant impacts are not anticipated.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Light and glare impacts associated with intensification and reuse would be similar to those of Scenario 1 and would be reduced a less than significant level through implementation of Action 3.23. This scenario would also accommodate future development in the North Avenue and Serra expansion areas, both of which are currently in agricultural production. The North Avenue area is relatively isolated; therefore, the extension of lighting into this area would not affect a high number of sensitive uses. Extension of lighting into the Serra area would affect a higher number of uses due to the area's proximity to existing residential neighborhoods. However, development in any of the expansion areas would be subject to current City lighting standards as well as new standards to be developed as part of the new development code (Action 3.23) and any additional standards developed as part of a specific plan for the expansion area. Significant impacts are not anticipated.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Light and glare impacts associated with intensification and reuse would be similar to those of Scenario 1 and would be reduced a less than significant level through implementation of Action 3.23. In addition, this scenario would accommodate future development in the North Avenue and Western Cañada Larga expansion areas. Both areas are in a semi-rural portion of the community that is relatively isolated; therefore, the extension of lighting into these areas would not affect a high number of sensitive uses. Assuming implementation of existing requirements and new development code standards, significant impacts are not anticipated.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Light and glare impacts associated with intensification and reuse would be similar to those of Scenario 1 and would be reduced a less than significant level through implementation of Action 3.23. In addition, this scenario would accommodate future development in the North Avenue and Poinsettia expansion areas. As discussed under Scenario 2, extension of lighting into the North Avenue area would not affect a high number of sensitive uses. Like the Serra area, the Poinsettia area is almost entirely surrounded by existing residential neighborhoods; therefore, extension of lighting into this area would affect a relatively high number of adjacent uses. Assuming implementation of existing requirements and new development code standards, significant impacts are not anticipated.

MITIGATION MEASURES

Mitigation is not required for any of the six scenarios.

SIGNIFICANCE AFTER MITIGATION

With implementation of proposed General Plan policies, impacts from light and glare associated with new development would not be significant for any of the six land use scenarios.

4.2 AGRICULTURE

This section analyzes the impacts of development accommodated under the 2005 General Plan upon agricultural resources. Both direct impacts relating to the potential conversion of agricultural lands and indirect effects associated with placing urban development adjacent to agriculture are addressed.

4.2.1 Setting

a. General Setting. Agriculture plays an important role in the economy of Ventura County and the City of Ventura. Ventura County is one of the principal agricultural counties in the state; in 2003, the total value of agriculture production for Ventura County was \$1.118 billion. This level of production is made possible by the presence of high quality soils, adequate water supply, favorable climate, long growing season, and level topography. In 2003, the top five cash crops in the County were strawberries, nursery stock, lemons, celery, and avocados.

b. Planning Area Agriculture. Figure 4.2-1 shows lands within the Ventura Planning Area that are currently in agricultural production. The City has soil and climate conditions suitable for specialty crops, including citrus, strawberries, and selected vegetables, sometimes yielding three crops per year. The top crops in Ventura County by value are lemons, strawberries, celery, nursery stock, and avocados. Nursery stock and cut flowers are of increasing importance to local agricultural production.

Approximately 17,000 acres of land within the Planning Area are currently used for active agricultural activity or grazing. Figure 4.2-1 shows lands currently used for agriculture. Irrigated farmland is located primarily within the eastern and southern portions of the Planning Area. Dry land farming and grazing occur on the Taylor Ranch west of the Ventura River. Grazing occurs on the hillside areas north of the City. These four general types of agricultural lands can be further separated into the following categories of products:

- *Row crops.* These include vegetables (such as broccoli and lettuce) and strawberries.
- *Orchards.* Most of the City orchards are in lemons, although oranges are found in the flatlands. The orchards located on the hillsides in the northeast portion of the Planning Area are in avocados.
- *Dry Farming.* The only dry farming in the Planning Area is lima beans on the Taylor Ranch.
- *Grazing.* Grazing includes lands used for cattle and sheep.

The U.S. Soil Conservation Service Important Farmlands Inventory (IFI) system is used to inventory lands with agricultural value. Figure 4.2-2 shows important farmlands in the Planning Area. This system divides farmland into classes based on productive capability of the land (rather than the mere presence of ideal soil conditions). The system effectively recognizes that a large amount of agricultural land in California and Ventura County that would not ordinarily be classified as “prime” under the previous evaluation system and is among the most productive land in the country. The major classifications for farmlands are described below.



- *“Prime” farmlands in California are irrigated soils (Class I and II) over 40 inches deep with an available water-holding capacity of four inches or more. They are generally well drained and free from frequent flooding. Soil reaction is neither extremely acid nor strongly alkaline. The erosion hazard is slight and farming is not limited by cobbly surface layers, slow subsoil permeability, or freezing soil temperatures.*
- *Farmlands of “statewide” importance are lands other than “prime” that have a good combination of physical and chemical characteristics to produce food, feed, forage, fiber, and oil seed crops. The criteria are like that for “prime” except that no minimum soil depth limitation or permeability restriction exists. “Statewide” farmlands have broader waterholding capacity, soil reaction, may be slightly saline or alkali affected, and may have a slight erosion hazard.*
- *“Unique” farmlands are additional lands that produce high value food and fiber crops, as listed in the annual report of the Department of Food and Agriculture.*

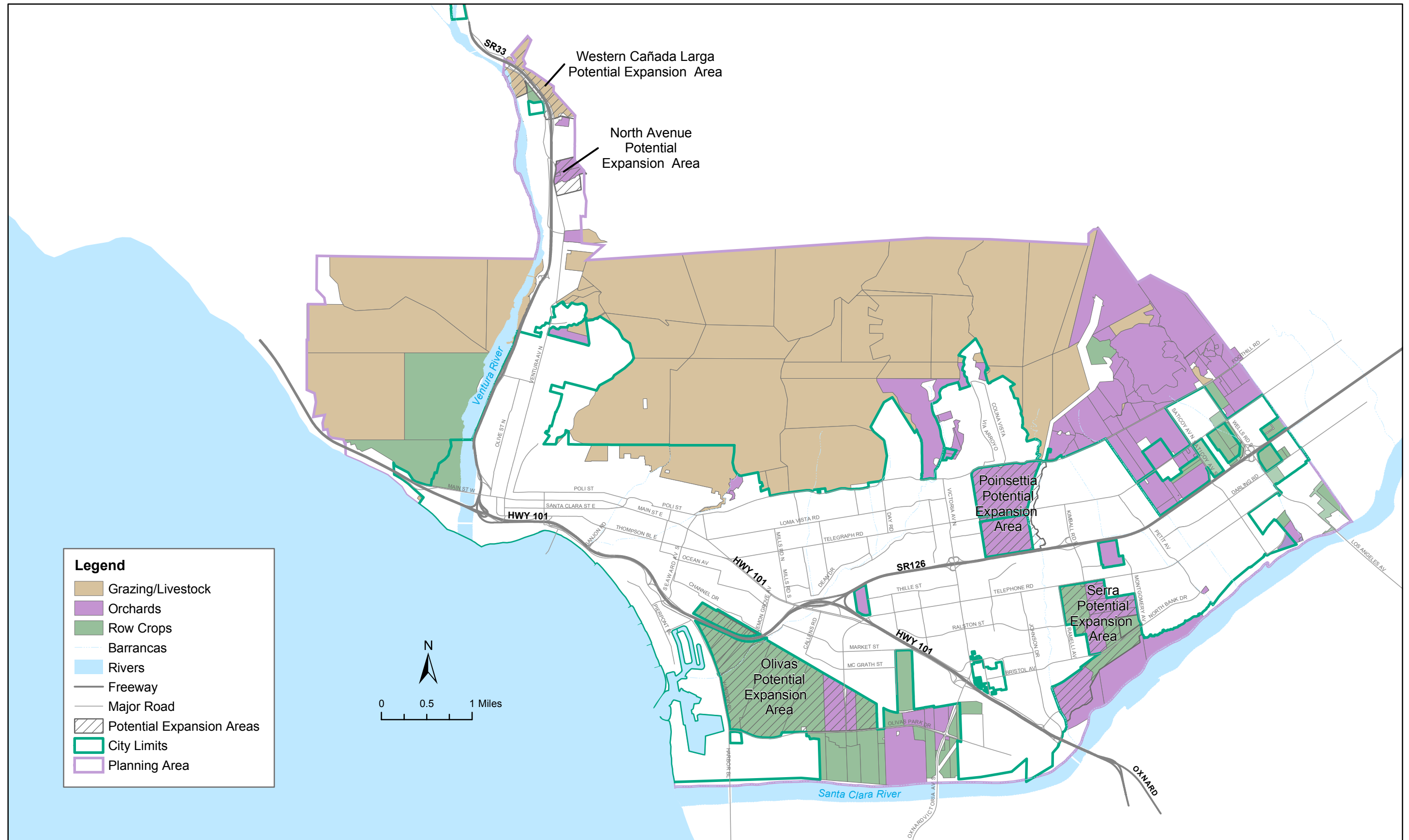
Table 4.2-1 summarizes the acreage of important farmlands within the potential expansion areas. A number of properties within the current Sphere of Influence (SOI) that are designated for urban uses in the current Comprehensive Plan are currently in agricultural production. Major agricultural lands currently slated for eventual urbanization include nearly 300 acres in the Saticoy area, the 75-acre McGrath property in the Arundell district, and a 25-acre area near the U.S. 101/SR 126 interchange. An estimated 520 acres currently designated for urban uses are classified as “Prime” farmland. About 138 acres currently designated for urban uses are classified as “Statewide Importance” farmland, and another 16 acres are designated “Unique.”

**Table 4.2-1
 Important Farmlands Designated for Non-Agricultural Use and Within
 Potential Expansion Areas**

Area	Acres of Prime, Statewide Importance, and Unique Farmlands			
	Prime	Statewide Importance	Unique	Totals
Areas Already Planned for Non-Agricultural Use	520	138	16	674
Potential Expansion Areas				
North Avenue	0	32	1	33
Olivas	876	33	21	930
Serra	228	207	3	438
Western Cañada Larga	0	0	0	0
Poinsettia	<u>194</u>	<u>176</u>	<u>48</u>	<u>418</u>
Expansion Area Subtotal	1,298	448	73	1,819
Totals	1,818	586	89	2,493

Note: All acreage numbers are approximate.

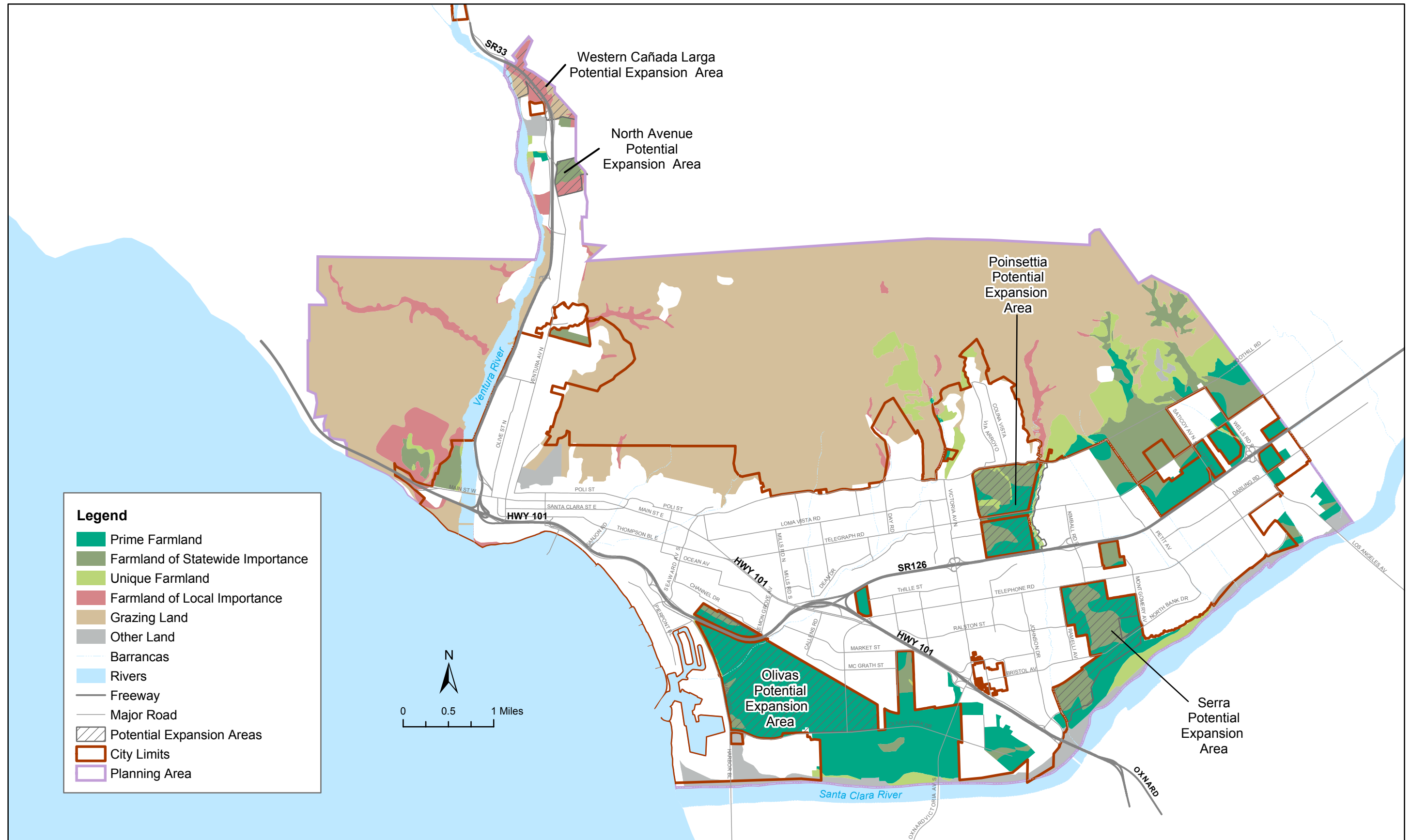




Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Lands in Agricultural Use

**Figure 4.2-1
 City of Ventura**



Source: City of San Buenaventura, 2005, State of California, Department of Conservation, Farmland Mapping and Monitoring Program, 2002, and Rincon Consultants, Inc., 2005.

Important Farmlands

Figure 4.2-2
City of Ventura

All of the potential expansion areas studied in this EIR are wholly or partially in agriculture use. Four of the five expansion areas are wholly or partially within the current SOI; however, these areas are all currently designated Agriculture under the current Comprehensive Plan.

North Avenue. This 55-acre area is currently a lemon orchard. It is surrounded by low to medium density residential developments to the north and south, Ventura Avenue to the west with industrial uses across the Avenue, and open hillsides to the east. About 32 acres of this area are designated as "Statewide Importance" farmland and about one acre is designated as "Unique" farmland. The remainder of the area is classified as being of local importance.

Olivas. This 930-acre area includes a mix of row crops and orchards. The Union Pacific Railroad (UPRR) runs the length of the northeast side of the site and U.S. 101 bisects the area in the northwest corner. Across the UPRR are residential development and industrial uses. Across Harbor Boulevard to the south and west are harbor-related uses and multiple and single family residential development. Across Olivas Park Drive to the south and east is the Olivas Park golf course and more row crop agriculture. The Department of Conservation has classified about 876 acres of the Olivas expansion area as "Prime" farmland. The remainder of the area consists of "Statewide Importance" and "Unique" farmlands.

Serra. This 438-acre area is currently used for lemon and avocado orchards and for row crops. Adjacent to the farmland on the north are residential development and Telephone Road. Across Telephone Road to the north are more single family homes and the new 100-acre community park that is currently under construction. To the east is low density residential development, and to the west are both low and medium density residential development. At the corner of Montgomery Avenue and Bristol Road is a 26-acre parcel that is no longer subject to the SOAR Ordinance and that is planned for development. Commercial uses are to the southwest along Johnson Drive. The Santa Clara River is located along the southern boundary of this area. The Department of Conservation has classified this area as a mix of "Prime," "Statewide Importance," and "Unique" farmland.

Western Cañada Larga. This 110-acre area is primarily used as grazing land, though a small area west of SR 33 is currently used for row crop production. No portion of this area is classified as "Prime," "Statewide Importance," or "Unique" farmland. The area is classified as a mix of "Grazing Land" and "Farmland of Local Importance."

Poinsettia. This 418-acre area is currently a lemon orchard. The site is surrounded on all sides by residential development except for Balboa Middle School and Mound Elementary School, both of which are adjacent to the southwest corner of the area. The Department of Conservation has classified this area as a mix of "Prime," "Statewide Importance," and "Unique" farmland.

b. Conflicts Between Agricultural and Urban Uses. Large agricultural parcels abut urban land uses, including residences and schools, in portions of the Planning Area. Various conflicts have arisen between farmers and users of adjoining parcels. Areas of potential conflict are primarily in East Ventura, where newer housing tracts, schools, and other uses are located immediately adjacent to agricultural parcels. This land use pattern also occurs to a lesser degree in portions of the North Ventura Avenue community.

The direct interface between agricultural and urban uses has created a variety of potential conflicts for both growers and urban interests. Issues concerning the agricultural/urban interface include:

Issues for Urban Interests

- *Use of pesticides/dust problems in vicinity of residential neighborhoods, particularly near schools*
- *Odors associated with pesticides and livestock*
- *Noise related to farming equipment*
- *Growing presence and operation of large greenhouses*
- *General effects of agriculture on air quality*

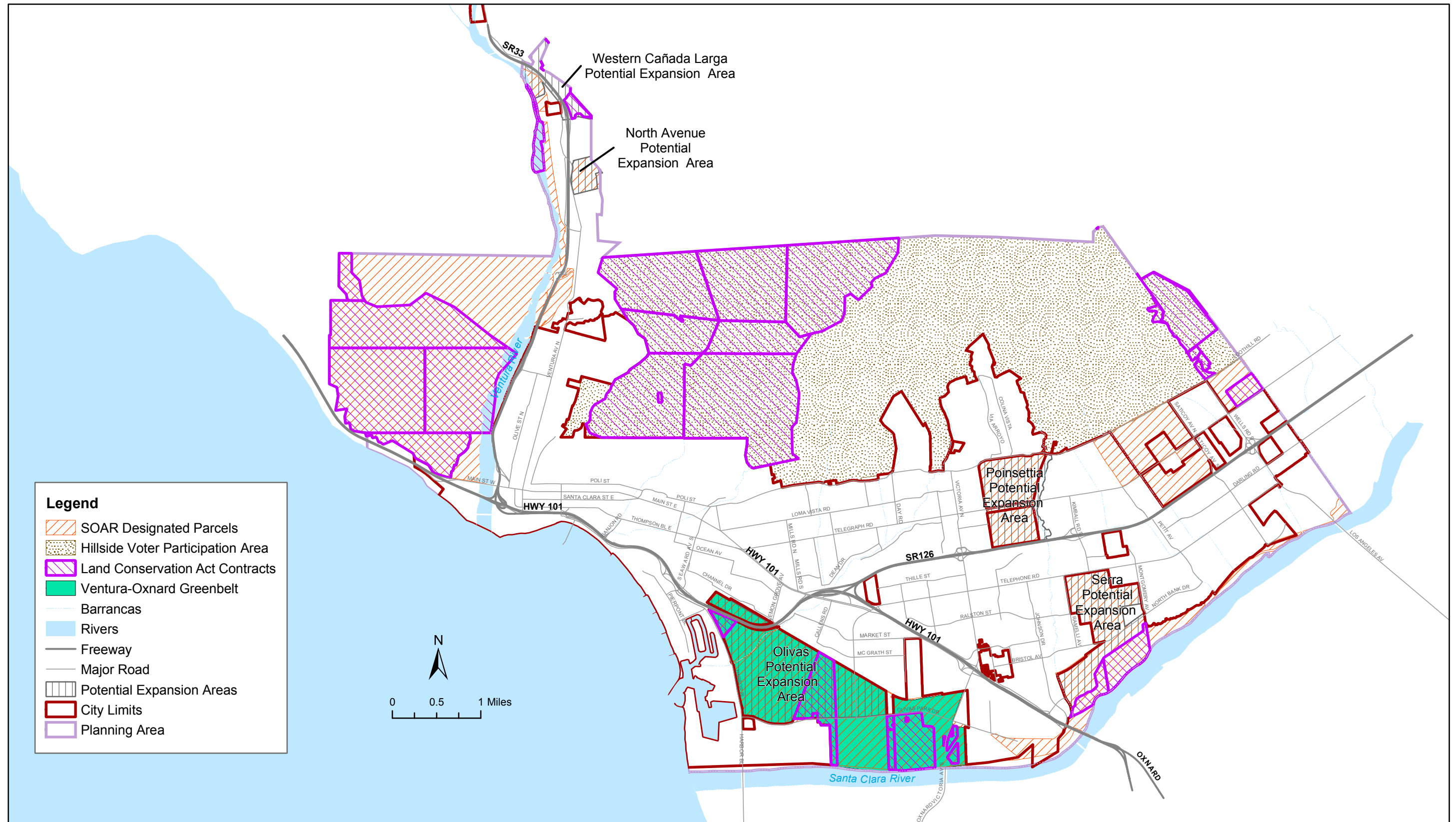
Issues for Agricultural Interests

- *Restrictions on activity*
- *Restrictions on conversion*
- *Loss of revenue and competitiveness*
- *Competition for water and land*
- *Pilferage, trespassing, and littering*
- *Dust from adjacent construction activity*

c. Regulatory Setting. A number of state and local regulatory mechanisms are in place to preserve farmland and agricultural activity. These are described below. Figure 4.2-3 shows lands that are affected by one or more of these policies.

Land Conservation Act. A primary tool to preserve farmlands is the California Land Conservation Act (LCA) or Williamson Act contract program, established in 1965. Under provisions of the Act, private landowners may voluntarily enter into a long-term contract (minimum of 10 years) with cities and counties to form agricultural preserves and maintain their property in agricultural or open space uses in return for a reduced property tax assessment based on the agricultural value of the property. The term of an LCA contract is generally ten years and the contract automatically renews itself each year for another ten-year period, unless a Notice of Non-Renewal is filed or the contract is cancelled. State Government Code Section 51282 provides specific findings that must be made for the approval of LCA contract cancellations. Ventura County entered the program in 1969, and as of April 2002, between 130,000 and 132,000 acres of crops were in under LCA contracts. Properties within the Planning Area that are subject to LCA contracts are shown on Figure 4.2-3. These properties include portions of the Olivas, Serra, and Western Cañada Larga expansion areas.

Save Our Agricultural Resources (SOAR) Initiative. In November 1995, a majority of voters (52%) in Ventura passed the Save Our Agricultural Resources (SOAR) Ordinance, also called the Agricultural Lands Preservation Initiative. The Ventura County Save Open Space and Agricultural Resources Initiative, Measure B, passed in November 1998 by a 63% majority. Both measures generally prevent changes in specified land use categories (of the City's Comprehensive Plan and the County General Plan) unless the land use change is approved by a majority of voters. The City SOAR Ordinance reaffirms and readopts the Agriculture designations defined in the current Comprehensive Plan until the year 2030. Areas subject to



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

**Greenbelts, Land Conservation Act Contracts,
 SOAR Designated Lands,
 and Hillside Voter Participation Areas** Figure 4.2-3
 City of Ventura

the SOAR Ordinance are shown on Figure 4.2-3. The North Avenue, Olivas, Serra, and Poinsettia expansion areas all contain land subject to the City SOAR Ordinance.

Greenbelt Agreements. Several cities, Ventura County, and the Local Agency Formation Commission (LAFCO) have adopted greenbelt agreements between jurisdictions to further the objectives of the Guidelines for Orderly Development and to assist in preserving agriculture and other open space lands located between cities. Greenbelt agreements are joint or co-adopted resolutions by cities, the County (when applicable) and LAFCO, whereby it is agreed to cooperatively administer a policy of non-annexation and non-development in a specific area. The basic purpose of the greenbelt is to establish a mutual agreement between cities regarding the limits of urban growth for each city. A greenbelt agreement must be amended by all parties involved before the LAFCO will consider any proposal that may be in conflict with the agreement.

The City of Ventura is a participant in two greenbelt agreements. Ventura and Santa Paula adopted an agreement in 1967 to maintain the area between the Franklin Barranca east of the Ventura city limits and the Adams Barranca west of the Santa Paula city limits in agriculture production. The majority of agricultural lands in this greenbelt are under LCA contract. Ventura first entered into a greenbelt agreement with the City of Oxnard in 1994 and updated the agreement in 2002. That agreement applies to farmlands between the two cities, including the Olivas expansion area.

Boundaries for the greenbelts involving the City of Ventura are depicted on Figure 4.2-3.

Right-To-Farm Ordinances. In 1997, the City approved a Right-To-Farm Ordinance to provide protection to farmers against nuisance claims and frivolous lawsuits involving legal and accepted farming practices. The measure requires realtors to disclose potential conflicts with agriculture (e.g., pesticide smells, noise from machinery, pesticides use) when properties adjacent to agricultural parcels are for sale. The ordinance also provides a statement that agriculture is not subject to nuisance claims if it is being properly conducted. Ventura County also has a Right-To-Farm Ordinance that mediates similar disputes between neighboring cities.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. Agricultural impacts were based upon review of Department of Conservation farmland classifications, regulatory requirements that apply to the various agricultural lands within the Planning Area, and the potential of future development to create agricultural/urban interface.

Impacts to agriculture would be significant if development accommodated by the 2005 General Plan 2025 would:

- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to nonagricultural use*
- *Conflict with existing zoning for agricultural use, or a Williamson Act contract*
- *Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in the loss of Farmland*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the six 2005 General Plan land use scenarios. A discussion of impacts for each scenario follows.

Impact AG-1 Any of the six scenarios for the 2005 General Plan would accommodate the development that would involve the conversion of State-designated Prime, Statewide Importance, and Unique farmland. The overall acreage of agricultural land that could be converted would range from about 674 acres under Scenario 1 to about 2,075 acres under Scenario 2. Conversion of farmland would represent a Class I, *unavoidably significant*, impact for any of the six scenarios.

Development in accordance with any of the six land use scenarios under consideration for the proposed 2005 General Plan could result in the conversion of agriculture land that is classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. Table 4.2-2 compares the acreage of important farmlands that could potentially be converted under each scenario. The potential impact relating to agricultural land conversion is considered significant for all six scenarios.

**Table 4.2-2
 Potential Conversion of Important Farmlands**

Farmland Classification	Important Farmlands Potentially Converted (in acres)					
	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Prime Farmland	520	1,624	1,370	748	494	688
Farmland of Statewide Importance	138	410	203	377	170	314
Unique Farmland	16	41	38	20	17	65
Total	674	2,075	1,611	1,145	681	1,067

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes the intensification and reuse of already urbanized areas in order to accommodate projected growth. This scenario includes none of the expansion areas, all of which are wholly or partially in agricultural production and include important farmlands under IFI criteria. Consequently, this scenario would have the least potential for direct impacts relating to agricultural land conversion among the six scenarios. Nevertheless, Scenario 1 would accommodate the development of a number of properties that are already designated for non-agricultural uses under the current Comprehensive Plan, but that contain important farmlands. These include the 75-acre McGrath property in the Arundell area, the 25-acre



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Important Farmland Conversion (Impact AG-1)	Potential conversion of up to about 674 acres of important farmlands, including 520 acres of "Prime" farmland, 138 acres of "Statewide Importance" farmland, and 16 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.	Potential conversion of up to 2,075 acres of important farmlands, including 1,624 acres of "Prime" farmland, 410 acres of "Statewide Importance" farmland, and 41 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.	Potential conversion of up to 1,611 acres of important farmlands, including 1,370 acres of "Prime" farmland, 203 acres of "Statewide Importance" farmland, and 38 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.	Potential conversion of up to 1,145 acres of important farmlands, including 748 acres of "Prime" farmland, 377 acres of "Statewide Importance" farmland, and 20 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.	Potential conversion of up to 681 acres of important farmlands, including 494 acres of "Prime" farmland, 170 acres of "Statewide Importance" farmland, and 17 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.	Potential conversion of up to 1,066 acres of important farmlands, including 688 acres of "Prime" farmland, 314 acres of "Statewide Importance" farmland, and 65 acres of "Unique" farmland. Impacts are Class I, unavoidably significant.
Conflicts with Agricultural Zoning, SOAR Ordinance, Greenbelt Agreements, and LCA contracts (Impact AG-2)	No conflicts with agricultural zoning, SOAR Ordinance, greenbelt agreements, or LCA contracts. Impacts are Class III, less than significant.	Potential conversion of 1,423 acres subject to SOAR Ordinance, 930 acres within Ventura-Oxnard greenbelt, and 170 acres under LCA contract. Impacts are Class I, unavoidably significant.	Potential conversion of 959 acres subject to SOAR Ordinance, 930 acres within Ventura-Oxnard greenbelt, and 170 acres under LCA contract. Impacts are Class I, unavoidably significant.	Potential conversion of 493 acres subject to SOAR Ordinance. Impacts are Class I, unavoidably significant.	Potential conversion of 84 acres subject to SOAR Ordinance and 26 acres under LCA contract. Impacts are Class I, unavoidably significant.	Potential conversion of 473 acres subject to SOAR Ordinance. Impacts are Class I, unavoidably significant.
Agricultural/Urban Conflicts (Impact AG-3)	Certain areas of conflict would continue in East Ventura, though conversion of agricultural lands adjacent to urban areas would generally reduce conflicts. Impacts are Class IV, beneficial.	Impacts generally similar to Scenario 1; potential conflicts with Olivas area, though conversion of expansion areas generally reduces conflicts. Impacts are Class IV, beneficial.	Impacts generally similar to Scenario 1; potential conflicts with Olivas area, though conversion of expansion areas generally reduces conflicts. Impacts are Class IV, beneficial.	Impacts generally similar to Scenario 1; conversion of N. Avenue and Serra areas generally reduces conflicts. Impacts are Class IV, beneficial.	Impacts generally similar to Scenario 1; conversion of N. Avenue and Western Cañada Larga area would not create significant conflicts. Impacts are Class IV, beneficial.	Impacts generally similar to Scenario 1; conversion of N. Avenue and Poinsettia areas generally reduces conflicts. Impacts are Class IV, beneficial.



agricultural property in the Thille community near the U.S. 101/SR 126 interchange, several properties in the Saticoy area, and approximately 11 acres of agricultural land north of the City's water filtration plant. As indicated in Table 4.2-2, up to about 674 acres of important farmlands could be converted under this scenario, including 520 acres of "Prime" farmland, 138 acres of "Statewide Importance" farmland, and 16 acres of "Unique" farmland. Such conversion is considered a significant impact.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Farmland conversion relating to intensification and reuse would be the same as Scenario 1. In addition, this scenario includes three expansion areas - North Avenue, Olivas, and Serra - that are designated Agriculture under the current Comprehensive Plan. Although the land use designations for these areas would remain Agriculture, all three would be considered for future development under this scenario. As shown in Table 4.2-2, this scenario would accommodate eventual conversion of up to 2,075 acres of important farmlands, including 1,624 acres of "Prime" farmland, 410 acres of "Statewide Importance" farmland, and 41 acres of "Unique" farmland. This is considered a significant impact.

This scenario would potentially accommodate the greatest amount of agricultural land conversion among the six scenarios, though it should be noted that the above estimates represent the maximum potential conversion. Re-designation of any of the three expansion areas included in this alternative would require voter approval under the SOAR Ordinance. In addition, this alternative includes substantially more acreage than would be needed to accommodate projected growth through 2025. Therefore, the actual acreage converted through 2025 may be less than presented herein.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Farmland conversion relating to intensification and reuse would be the same as Scenario 1. This scenario also includes two expansion areas - North Avenue and Olivas - that are designated Agriculture under the current Comprehensive Plan. The land use designations for these areas would not change, but both areas would be considered for future development under this scenario. As shown in Table 4.2-2, this scenario would accommodate eventual conversion of up to 1,611 acres of important farmlands, including 1,370 acres of "Prime" farmland, 203 acres of "Statewide Importance" farmland, and 38 acres of "Unique" farmland. This is considered a significant impact.

As noted under Scenario 2, the acreage estimates represent the maximum potential conversion. Re-designation of either the North Avenue or Olivas expansion areas would require voter approval under the SOAR Ordinance. In addition, this alternative includes substantially more acreage than would be needed to accommodate projected growth through 2025. Therefore, the actual acreage converted through 2025 may be less than presented herein.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Farmland conversion relating to intensification and reuse would be the same as Scenario 1. This scenario also includes two expansion areas - North Avenue and Serra - that are designated Agriculture under the current Comprehensive Plan. The land use designations for these areas

would not change, but both areas would be considered for future development under this scenario. As shown in Table 4.2-2, this scenario would accommodate eventual conversion of up to 1,145 acres of important farmlands, including 748 acres of “Prime” farmland, 377 acres of “Statewide Importance” farmland, and 20 acres of “Unique” farmland. This is considered a significant impact.

As noted under Scenario 2, the acreage estimates represent the maximum potential conversion. Re-designation of either the North Avenue or Serra expansion areas would require voter approval under the SOAR Ordinance. Therefore, the actual acreage converted through 2025 may be less than presented herein.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Farmland conversion relating to intensification and reuse would be the same as Scenario 1. This scenario also includes two expansion areas - North Avenue and Western Cañada Larga. The North Avenue area is designated Agriculture under the current Comprehensive Plan, while the Western Cañada Larga area is primarily designated Open Space under the County of Ventura General Plan and includes no “Prime,” “Statewide Importance,” or “Unique” farmland. The land use designations for these areas would not change, but both areas would be considered for future development. As shown in Table 4.2-2, this scenario would accommodate eventual conversion of up to 681 acres of important farmlands, including 494 acres of “Prime” farmland, 170 acres of “Statewide Importance” farmland, and 17 acres of “Unique” farmland. This is considered a significant impact.

As noted under Scenario 2, the acreage estimates represent the maximum potential conversion. Re-designation of the North Avenue expansion area or 29 acres of the Western Cañada Larga expansion area west of SR 33 would require voter approval under the SOAR Ordinance. Therefore, the actual acreage converted through 2025 may be less than presented herein.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Farmland conversion relating to intensification and reuse would be the same as Scenario 1. This scenario also includes two expansion areas - North Avenue and Poinsettia - that are designated Agriculture under the current Comprehensive Plan. The land use designations for these areas would not change, but both areas would be considered for future development. As shown in Table 4.2-2, this scenario would accommodate eventual conversion of up to 1,067 acres of important farmlands, including 688 acres of “Prime” farmland, 314 acres of “Statewide Importance” farmland, and 65 acres of “Unique” farmland. This is considered a significant impact.

As noted under Scenario 2, the acreage estimates represent the maximum potential conversion. Re-designation of either the North Avenue or Poinsettia expansion areas would require voter approval under the SOAR Ordinance. Therefore, the actual acreage converted through 2025 may be less than presented herein.

MITIGATION MEASURES

Policy 3C of the 2005 General Plan states that the City will “[m]aximize the use of land in the city before considering expansion.” To that end, General Plan Actions 3.16 and 3.17 direct the City to renew and modify greenbelt agreements as necessary to direct development to already urbanized areas and continue to support the Guidelines for Orderly Development, which generally direct future urban development to the urban areas. Action 3.20 directs the City to adopt development code provisions to “preserve agricultural and open space lands as a desirable means of shaping the City’s internal and external form and size.”

General Plan Policy 3D directs the City to “Continue to preserve agricultural and other open space lands within the City’s Planning Area.” To that end, Action 3.21 directs the City to adopt performance standards for non-farm activities in agricultural areas to protect and support farm operations, including requiring non-farm uses to provide all necessary buffers.

Implementation of the above policies/actions would minimize the premature conversion of agricultural land under any of the land use scenarios. Outside of re-designating important farmlands for continued agricultural use, additional mitigation is not available.

SIGNIFICANCE AFTER MITIGATION

Implementation of 2005 General Plan policies and actions would minimize the premature conversion of productive agricultural lands within the Planning Area to non-agricultural uses. In addition, the Ventura County LAFCO will review all proposed conversions of agricultural land that require annexation into the City. Nevertheless, potential impacts relating to the conversion of agricultural land to urban uses is considered unavoidably significant for all six land use scenarios.

<p>Impact AG-2 Five of the six land use scenarios under consideration for the 2005 General Plan would accommodate the future conversion of agricultural land that is designated for agricultural use, subject to the City SOAR Ordinance, within the Ventura-Oxnard Greenbelt, and/or under LCA contract. This is considered a Class I, unavoidably significant, impact of Scenarios 2 through 6. The impact for Scenario 1 (Intensification/Reuse Only) is considered Class III, <i>less than significant</i>.</p>
--

Table 4.2-3 compares acreage subject to the SOAR Ordinance, adopted greenbelt agreements, and existing LCA contracts under the six land use scenarios. A discussion of each scenario follows.

Scenario 1 - Intensification/Reuse Only

Scenario 1 limits future growth and development to intensification and reuse of properties that are already designated for non-agricultural uses under the current Comprehensive Plan. As



**Table 4.2-3
 Acres Subject to SOAR, Greenbelt Agreements, and LCA Contracts**

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Acres Subject to SOAR	0	1,423	959	493	84	473
Acres Within a Greenbelt	0	930	930	0	0	0
Acres Currently Under LCA Contract	0	170	170	0	26	0

discussed under Impact AG-1, this scenario would allow for the conversion of certain agricultural lands to non-agricultural uses; however, all such lands are already designated for urban use. None of the areas that could be developed under this scenario are subject to the City SOAR Ordinance and none are within established greenbelts or subject to LCA contracts. As such, this scenario would not accommodate any development that would conflict with agricultural zoning or other policies regarding the preservation of agriculture. Impacts relating to conflicts with agricultural policy would not occur under this scenario.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Like Scenario 1, the Intensification/Reuse + North Avenue + Olivas + Serra Scenario also emphasizes intensification and reuse development. However, this scenario also includes three expansion areas – North Avenue, Olivas, and Serra – that are currently designated Agriculture and subject to the City’s SOAR Ordinance. These areas combined total about 1,423 acres. In addition, the 930-acre Olivas area is within the Ventura-Oxnard Greenbelt. Finally, about 170 acres within the Olivas area are under LCA contract. The California Government Code (Section 56856.5) generally precludes the LAFCO from approving annexation of lands under LCA contract unless a notice of non-renewal has been filed and the annexing agency (the City) agrees that no services will actually be provided during the remaining life of the contract for land uses or activities not allowed under the contract.

The 2005 General Plan would not change the land use designation for either the North Avenue, Olivas, or Serra areas, but all three areas would be considered for future conversion. None of the expansion areas could be converted without voter approval in accordance with the SOAR Ordinance and lands under LCA contract could only be converted upon cancellation of the contracts. Nevertheless, this alternative potentially conflicts with current policies relating to the preservation of agricultural land. This is considered a significant impact.

Conversion of any of the three expansion areas may require a future adjustment to the SOI because the Ventura LAFCO will likely remove all areas subject to the SOAR Ordinance, including the North Avenue, Olivas, and Serra areas, from the SOI following a Municipal Service review for Ventura.



Scenario 3 - Intensification/Reuse + North Avenue + Olivas

This scenario also emphasizes intensification and reuse, but includes two expansion areas – North Avenue and Olivas – that are currently designated Agriculture and subject to the City’s SOAR Ordinance. These two areas total about 959 acres. In addition, the Olivas area is within the Ventura-Oxnard Greenbelt Agreement and about 170 acres within the Olivas area are under LCA contract. The California Government Code (Section 56856.5) generally precludes the LAFCO from approving annexation of lands under LCA contract unless a notice of non-renewal has been filed and the annexing agency (the City) agrees that no services will actually be provided during the remaining life of the contract for land uses or activities not allowed under the contract.

The 2005 General Plan would not change the land use designation for either the North Avenue area or the Olivas area, but both areas would be considered for future conversion. Neither of the expansion areas could be converted without voter approval in accordance with the SOAR Ordinance and lands under LCA contract could only be converted upon cancellation of the contracts. Nevertheless, this alternative potentially conflicts with current policies relating to the preservation of agricultural land. This is considered a significant impact.

Conversion of either expansion area may require a future adjustment to the SOI because the Ventura LAFCO will likely remove all areas subject to the SOAR Ordinance, including the North Avenue and Olivas areas, from the SOI following a Municipal Service review for Ventura.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

This scenario also emphasizes intensification and reuse, but includes two expansion areas – North Avenue and Serra – that are currently designated Agriculture and subject to the City’s SOAR Ordinance. These two areas total about 493 acres.

The 2005 General Plan would not change the land use designation for either the North Avenue area or the Serra area under this scenario; nevertheless, both areas would be considered for future conversion. Therefore, although neither of the expansion areas could be converted without voter approval in accordance with the SOAR Ordinance, this alternative potentially conflicts with current policies relating to the preservation of agricultural land. This is considered a significant impact.

Conversion of either expansion area may require a future adjustment to the SOI because the Ventura LAFCO will likely remove all areas subject to the SOAR Ordinance, including the North Avenue and Serra areas, from the SOI following a Municipal Service review for Ventura.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

This scenario also emphasizes intensification and reuse, but includes two expansion areas – North Avenue and Western Cañada Larga. The entire North Avenue expansion area is currently designated Agriculture and subject to the City’s SOAR Ordinance. This area encompasses about 55 acres. About 29 acres of the 110-acre Western Cañada Larga expansion area (the area west of SR 33) are also designated Agriculture and subject to SOAR. The



remainder of the Western Cañada Larga area (the portion east of SR 33) is not subject to the City SOAR Ordinance and, if annexed by the City, would not be subject to the County SOAR Ordinance. An estimated 26 acres within the Western Cañada Larga area are subject to an LCA contract. The California Government Code (Section 56856.5) generally precludes the LAFCO from approving annexation of lands under LCA contract unless a notice of non-renewal has been filed and the annexing agency (the City) agrees that no services will actually be provided during the remaining life of the contract for land uses or activities not allowed under the contract.

The 2005 General Plan would not change the land use designation for either the North Avenue area or the Western Cañada Larga area, but both areas would be considered for future conversion. In accordance with the SOAR Ordinance, neither of the expansion areas could be converted without voter approval. Lands under LCA contract could only be converted upon cancellation of the contracts. Nevertheless, this alternative potentially conflicts with current policies relating to the preservation of agricultural land. This is considered a significant impact.

Conversion of either expansion area may require a future adjustment to the SOI. The Western Cañada Larga area is already outside the SOI and the Ventura LAFCO will likely remove all areas subject to the SOAR Ordinance, including the North Avenue area, from the SOI following a Municipal Service review for Ventura.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

This scenario also emphasizes intensification and reuse, but includes two expansion areas – North Avenue and Poinsettia – that are currently designated Agriculture and subject to the City’s SOAR Ordinance. These two areas total about 473 acres. No portion of either expansion area is within an existing Greenbelt Agreement or under LCA contract.

The 2005 General Plan would not change the land use designation for either the North Avenue area or the Poinsettia area; nevertheless, both areas would be considered for future conversion. Therefore, although neither of the expansion areas could be converted without voter approval in accordance with the SOAR Ordinance, this alternative potentially conflicts with current policies relating to the preservation of agricultural land. This is considered a significant impact.

Conversion of either expansion area may require a future adjustment to the SOI because the Ventura LAFCO will likely remove all areas subject to the SOAR Ordinance, including the North Avenue and Poinsettia areas, from the SOI following a Municipal Service review for Ventura.

MITIGATION MEASURES

The policies and actions included in the 2005 General Plan and discussed under Impact AG-1 would reduce potential conflicts with policies relating to the preservation of agricultural land to the degree feasible. Additional mitigation outside of avoiding conversion of lands designated for agricultural use is not available.



SIGNIFICANCE AFTER MITIGATION

No impact with respect to agricultural land preservation policy would occur under Scenario 1. The amount of agriculturally-designated land would vary among Scenarios 2 through 6. However, Scenarios 2 through 6 would all potentially accommodate the eventual conversion of lands designated for agricultural use, within existing Greenbelt Agreements, and/or under LCA contracts to non-agricultural use. Thus, impacts associated with each of these scenarios are considered unavoidably significant.

<p>Impact AG-3 Development that could be accommodated under any of the 2005 General Plan land use scenarios could generally reduce agricultural compatibility conflicts in some locations. Though certain areas of agricultural/urban conflict would remain within the Planning Area, any of the six scenarios would generally reduce the potential for such conflicts. With the policies and actions recommended in the 2005 General Plan, effects under any of the six scenarios would be Class IV, beneficial.</p>
--

Residents living adjacent to agricultural lands often cite odor nuisance impacts, noise from farm equipment, vehicle conflicts, dust and pesticide spraying as land use conflicts. Conflicts between farm vehicles and high-speed automobiles used by residents on adjacent roadways can lead to accidents. Pesticide spraying can result in health hazards, while odor and noise are nuisances that can affect the enjoyment of private dwellings. Increased dust from soils and farm equipment can be both a nuisance and a health hazard. These conflicts can also result in reduced property values along the interface with agricultural uses.

The placement of residential development adjacent to farmland can also have negative impacts on farming operations. Direct physical impacts include vandalism to farm equipment or fencing, and theft of fruits and vegetables. Soil compaction from trespassers or equestrians can also damage crop potential. These can result in indirect economic impacts. One study (Ventura County Agricultural Land Trust, 1996) showed that crop production in the first two rows adjacent to urban uses is about 20% lower than the rows beyond. Reduced air quality from adjacent urban development can also result in impacts to adjacent farmland.

Placement of residences adjacent to cultivated agriculture can also have economic impacts to growers. Increased regulations and liability insurance to protect the farmer from adjacent urban uses cost time and money. Some farmers' sensitive to nearby residences voluntarily limit their hours of operation and do not intensively use the portions of their property closest to urban uses, in effect establishing informal buffer zones on their own property. This has the effect of lowering crop yields, which can potentially affect the long-term economic viability of the agricultural operation. Though these types of economic impacts are not environmental effects under CEQA, they could ultimately cause the loss of agricultural production due to cessation of operations if the economic impacts become severe enough. The City and County's right to farm ordinances help protect on-going agricultural operation from nuisance lawsuits.

Scenario 1 - Intensification/Reuse Only

This land use scenario focuses on intensification and reuse of properties within the existing developed City and does not include expansion areas. As noted under Impact AG-1, several agricultural properties that are currently designated for non-agricultural uses could be developed under this scenario. Development of these areas would take agriculture land currently adjacent to urban uses out of operation, thereby reducing the potential for agricultural/urban compatibility conflicts in these areas. The only areas where new development could potentially create new conflicts with existing agriculture area are in the Saticoy area. Development of residentially-designated lands along the west side of Saticoy Avenue could potentially create new conflicts with agricultural activity along the west side of that roadway. In addition, new residential development east of Wells Road may abut agricultural lands to the east. Conflicts similar to those currently present in portions of the Saticoy area may occur in these areas, though proposed policies requiring buffers between agricultural and urban uses (described below under Mitigation Measures) would minimize impacts.

The impact of this scenario with respect to urban/agricultural conflicts would primarily be beneficial. Nevertheless, it should be noted certain areas of potential conflict would remain, including the agricultural/urban interface that exists at the North Avenue, Olivas, Serra, and Poinsettia expansion areas. Although areas where intensification is expected to occur generally are not adjacent to agricultural areas, remaining growers may be further isolated in a general sense by the further urbanization of the Planning Area.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

This scenario would potentially result in the same primarily beneficial effects noted for Scenario 1, but would also potentially accommodate the future development of all or portions of the North Avenue, Olivas, and Serra areas. Each of these areas is wholly or partially surrounded by urban uses, including residential development. Therefore, taking these areas out of agricultural production would potentially eliminate conflicts that currently exist in these areas. This is considered a potentially beneficial effect of this scenario.

The North Avenue and Serra areas are essentially completely surrounded by urban uses; therefore, conversion of these areas would not create any new interface between agricultural and urban uses. On the other hand, full or partial conversion of the Olivas area could potentially create new areas of conflict as that area is bounded by agricultural operations to the east and south. Thus, conversion of the Olivas area would eliminate some existing conflicts, while potentially creating others.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

This scenario would potentially result in the same primarily beneficial effects noted for Scenario 1, but would also potentially accommodate the future development of all or portions of the North Avenue and Olivas areas. Both of these areas are wholly or partially surrounded by urban uses, including residential development. Therefore, taking these areas out of agricultural production would potentially eliminate conflicts that currently exist in these areas. On the other hand, as noted for Scenario 2, the Olivas area is bounded by agricultural operations to the



east and south; therefore, partial or complete conversion of this area could potentially create new areas of conflict. Thus, as with Scenario 2, conversion of the Olivas area would eliminate some existing conflicts, while potentially creating others.

Scenario 3's effects would be primarily beneficial, though this scenario would not accommodate conversion of the Serra area to non-agricultural use. Therefore, there would be somewhat greater residual potential for conflict than under Scenario 2.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

This scenario would potentially result in the same primarily beneficial effects noted for Scenario 1, but would also potentially accommodate the future development of all or portions of the North Avenue and Serra areas. Both of these areas are surrounded by urban uses, including residential development. Therefore, taking these areas out of agricultural production would potentially eliminate conflicts that currently exist in these areas. This is considered a potentially beneficial effect of this scenario. Though certain areas of agricultural/urban conflict would remain in portions of the Planning Area, including the Olivas and Poinsettia areas, this scenario's effect would be primarily beneficial and no new areas of conflict would be created.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

This scenario would potentially result in the same primarily beneficial effects noted for Scenario 1, but would also potentially accommodate the future development of all or portions of the North Avenue and Western Cañada Larga areas. The North Avenue area is primarily surrounded by urban uses, including residential development. Therefore, taking these areas out of agricultural production would potentially eliminate conflicts that currently exist in this area. This is considered a potentially beneficial effect of this scenario. The Western Cañada Larga area does not have any current agricultural activity that poses conflicts with urban uses, though conversion of this area would not create any compatibility conflicts with existing agricultural activity.

As with the other scenarios, certain areas of agricultural/urban conflict would remain in portions of the Planning Area under this scenario, including the Olivas and Poinsettia areas. Nevertheless, this scenario's effect would be primarily beneficial and no new areas of conflict would be created.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

This scenario would potentially result in the same primarily beneficial effects noted for Scenario 1, but would also potentially accommodate the future development of all or portions of the North Avenue and Poinsettia areas. Both of these areas are surrounded by urban uses, including residential development and, in the case of the Poinsettia area, Ventura Unified School District schools that have been a source of compatibility concerns. Therefore, taking these areas out of agricultural production would eliminate conflicts that currently exist in these areas. This is considered a potentially beneficial effect of this scenario. Though certain areas of agricultural/urban conflict would remain in portions of the Planning Area, including the Olivas and Serra areas, this scenario's effect would be primarily beneficial and no new areas of conflict would be created.

MITIGATION MEASURES

Implementation of the policies and actions listed under Impact AG-1 would be expected to generally reduce the potential for agricultural/urban compatibility conflicts. In particular, Action 3.21 would minimize effects to farming operations and adjacent urban uses by requiring that non-farm operations provide buffers between urban and agricultural uses. Mitigation beyond the General Plan policies and actions is not required.

SIGNIFICANCE AFTER MITIGATION

Any of the six land use scenarios would generally reduce the potential for agricultural/urban compatibility conflicts. Certain areas of conflict would remain within the Planning Area, primarily in East Ventura where agricultural lands would continue to directly abut residential and other urban uses. However, the overall effect of any of the scenarios would be beneficial.

4.3 AIR QUALITY

This section analyzes the impacts of the 2005 General Plan upon local and regional air quality. Both temporary impacts relating to construction activity and long-term impacts associated with population growth and associated growth in vehicle traffic and energy consumption are discussed.

4.3.1 Setting

a. Local Climate and Meteorology. The semi-permanent high pressure system west of the Pacific coast strongly influences California's weather. It creates sunny skies throughout the summer and influences the pathway and occurrence of low pressure weather systems that bring rainfall to the area during October through April. As a result, wintertime temperatures in Ventura are generally mild, while summers are warm and dry. During the day, the predominant wind direction is from the west and southwest, and at night, wind direction is from the north and generally follows the Santa Clara River Valley.

Predominant wind patterns are occasionally broken during the winter by storms coming from the north and northwest and by episodic Santa Ana winds. Santa Ana winds are strong northerly to northeasterly winds that originate from high pressure areas centered over the desert of the Great Basin. These winds are usually warm, very dry, and often full of dust. They are particularly strong in the mountain passes and at the mouths of canyons.

Daytime summer temperatures in the area average in the high 70s to the low 90s. Nighttime low temperatures during the summer are typically in the high 50s to low 60s, while the winter high temperatures tend to be in the 60s. Winter low temperatures are in the 40s. Annual average rainfall in Ventura ranges from about 14 to 16 inches, the majority of which falls in winter months.

Two types of temperature inversions (warmer air on top of colder air) are created in the Ventura County area: subsidence and radiational (surface). The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high pressure area to the low pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground at night, especially during winter. This type of inversion is typically lower and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed. The primary air pollutant of concern during the subsidence inversions is ozone, while carbon monoxide and nitrogen oxides are of greatest concern during winter inversions.

b. Local Regulatory Framework. Both the federal and state governments have established ambient air quality standards for the protection of public health. The U.S. Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency. Local control in air quality management is provided by the CARB through county-level Air Pollution Control Districts (APCDs). The CARB has established air quality standards and is responsible for the control of mobile emission



sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The CARB has established 14 air basins statewide. In addition, the City further regulates air quality through the City’s Air Quality Ordinance (Ordinance 93-37). This ordinance requires developers of projects that generate emissions exceeding Ventura County APCD (VCAPCD) significance thresholds to pay air quality impact fees that are placed in a transportation demand management (TDM) fund that is used by the City to offset project emissions through implementation of regional air quality programs.

The USEPA has set primary national ambient air quality standards (NAAQS) for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), suspended particulates, known as PM₁₀ (particulate matter with a diameter of 10 microns or less) and PM_{2.5} (particulates of less than 2.5 microns in diameter), and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards. Table 4.3-1 lists the current Federal and State standards for regulated pollutants.

**Table 4.3-1
 Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.08 ppm	0.07 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.05 ppm	---
	1-Hour	---	0.25 ppm
Sulfur Dioxide	Annual	0.03 ppm	---
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	---	0.25 ppm
PM ₁₀	Annual	50 µg/m ³	20 µg/m ³
	24-Hour	150 µg/m ³	50 µg/m ³
PM _{2.5}	Annual	15 µg/m ³	12 µg/m ³
	24-Hour	65 µg/m ³	--
Lead	30-Day Average	---	1.5 µg/m ³
	3-Month Average	1.5 µg/m ³	---

*ppm = parts per million
 µg/m³ = micrograms per cubic meter*

Source: California Air Resources Board

The federal one-hour ozone standard was revoked in June 2005. Under this new rule, Ventura County has been listed as “moderate nonattainment” for the eight-hour ozone standard with a required attainment date of June 2010.



The USEPA is currently in the process of reviewing the particulate matter standards and issued a Draft Staff Paper in January 2005 for public review and comment regarding the policy implications of the latest scientific and technical information regarding particulate matter. In this report, USEPA staff recommends continuing the PM_{2.5} annual standard while reducing the 24-hour standard to between 25-35 µg/m³ or reducing both standards, the annual to 12 µg/m³ (same as California standard) and the 24-hour standard to 35-40 µg/m³. The PM₁₀ standard is recommended to be revised to not include the 2.5 micron increment.

Ventura is located in the Ventura County portion of the South Central Coast Air Basin. The Ventura County Air Pollution Control District (APCD) is the designated air quality control agency in the Ventura County portion of the Basin. The Ventura County portion of the South Central Coast Air Basin is a state and federal non-attainment area for ozone and a state non-attainment area for suspended particulates. In addition, though the Ventura County portion of the South Central Coast Air Basin is in attainment for the state and federal carbon monoxide standards, carbon monoxide can potentially be a problem at heavily congested intersections. Each of these pollutants is described below. The City is within the "Ventura growth area" designated by the VCAPCD; however, portions of West Ventura are immediately adjacent to the "Ojai Planning Area" and emissions generated in West Ventura can affect air quality within the Ojai Valley airshed.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROG). Nitrogen oxides are formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in serious concentrations between the months of May and October. Ozone is a pungent, colorless toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Suspended Particulates. PM₁₀ is small particulate matter measuring no more than 10 microns in diameter. It is mostly composed of dust particles, nitrates, and sulfates. PM₁₀ is a by-product of fuel combustion and wind erosion of soil and unpaved roads, and is directly emitted into the atmosphere through these processes. PM₁₀ is also created in the atmosphere through chemical reactions. Particles less than 10 micrometers in diameter (PM₁₀) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers (=microns) in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the greatest health risks. Because of their small size (approximately 1/30th the average width of a human hair), fine particles can lodge deeply into the lungs. Fine particulate matter is composed primarily as a by-product of combustion, while matter between 2.5 and 10 microns is mostly dust from roads and grinding or crushing operations. Fine particulate matter poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

An important fraction of the particulate matter emission inventory is that formed by diesel engine fuel combustion. Particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known



or suspected mutagens and carcinogens. The California Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health, and the associated scientific uncertainties (California EPA, ARB, April 1998). Based on the available scientific evidence, it was determined that a level of diesel PM exposure below which no carcinogenic effects are anticipated has not been identified. The Scientific Review Panel that approved the OEHHA report determined that based on studies to date that 3×10^{-4} ($\mu\text{g}/\text{m}^3$)⁻¹ is a reasonable estimate of the unit risk for diesel PM. This means that a person exposed to a diesel PM concentration of $1 \mu\text{g}/\text{m}^3$ continuously over the course of a lifetime has a 3 per 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. Based on an estimated year 2000 statewide average concentration of $1.26 \mu\text{g}/\text{m}^3$ for indoor and outdoor ambient air, about 380 excess cancer cases per one million population could be expected if diesel PM concentrations remained the same (ARB, October 2000).

Compared to other air toxics the ARB has identified and controlled, diesel PM emissions are estimated to be responsible for about 70% of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures ("hot spots"). Depending on the activity and nearness to receptors, these potential risks can range from small to 1,500 per million or more (ARB, October 2000). Risk characterization scenarios have been conducted by the ARB staff to determine the potential excess cancer risks involved due to the location of individuals near to various sources of diesel engine emissions, ranging from school buses to high volume freeways.

Diesel PM emissions are expected to decrease 30% from 2000 to 2020 due to currently adopted on-road standards and fleet turn-over as new vehicles with controls replace older vehicles with little or far less effective controls, but such reductions will not be sufficient to fully reduce the existing risk. ARB staff have prepared a Diesel Risk Reduction Plan (ARB, October 2000) that includes a comprehensive plan to significantly reduce diesel PM emissions. The ARB is in the process of developing specific regulations to implement the plan. The basic concept is to require all new diesel-fueled vehicles and engines to use state-of-the-art catalyzed diesel particulate filters (DPFs) and very low-sulfur diesel fuel. Also, where technically and economically feasible, the ARB staff recommends that existing vehicles and engines should be retro-fitted to further reduce particulate emissions. For example, the ARB in 2001 adopted new PM and NO_x emission standards to clean up large diesel engines that power big-rig trucks, trash trucks, delivery vans and other large vehicles. The new standard for PM takes effect in 2007 and reduces emissions to 0.01 gram of PM per brake horsepower-hour (g/bhp-hr.), a 90% reduction from the existing standard.

The USEPA is also working to reduce the emissions from diesel engines. The USEPA finalized a new rule in December 2000 for on-road vehicles requiring petroleum refiners to remove all but 15 ppm of sulfur from diesel fuel by mid-2006, and requiring engine makers to reduce particulate matter emissions by almost 90% and NO_x levels by up to 95% for new engines by the model year 2007.

Carbon Monoxide. Carbon monoxide, a colorless, odorless, poisonous gas, is a local pollutant that is found in high concentrations only very near the source. The major source of carbon monoxide is automobile engines. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the



amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

c. Current Ambient Air Quality. The Air Quality Monitoring Stations in El Rio and at Emma Wood State Beach are the nearest to the City of the seven VCAPCD monitoring stations. Air quality at the Ojai monitoring station can also be affected by air pollutants generated in the West Ventura area. The El Rio monitoring station measures ozone, CO, NO₂, and PM₁₀. The Emma Wood station measures ozone. The Ojai station measures ozone, PM₁₀, and NO₂. Table 4.3-2 lists air quality data for the El Rio monitoring station, Table 4.3-3 lists air quality data for the Emma Wood station, and Table 4.3-4 lists air quality data for the Ojai monitoring station.

Ozone concentrations at the El Rio monitoring station did not exceed federal or state standards during 2002-2004. Ozone concentrations at the Emma Wood station exceeded state standards on three days in 2003 and one day in 2004. Concentrations of PM₁₀ at El Rio exceeded the state standard all three years (2002-2004), but the federal PM₁₀ standard was not exceeded in either location. Ventura County is in attainment for the federal PM_{2.5} standard. Neither carbon monoxide nor nitrogen dioxide at the El Rio station exceeded federal or state standards.

Ozone concentrations at the Ojai monitoring station exceeded the federal 1-hour standard once in 2002 and once in 2003, but did not exceed the federal standard in 2004. Ozone concentrations exceeded the state 1-hour standard on 15 days in 2002, 24 days in 2003, and 7 days in 2004. Eight-hour concentrations exceeded the federal standard on 12 days in 2002, 22 days in 2003, and 13 days in 2004. PM₁₀ concentrations did not exceed the federal standard during the 2002-04 period, but the state standard was exceeded twice in 2003.

The major sources of ozone precursors in Ventura County are motor vehicles and other mobile equipment, solvent use, pesticide application, the petroleum industry, and electric utilities. The major sources of PM₁₀ are road dust, construction, mobile sources, and farming operations. Locally, Santa Ana winds are responsible for entraining dust and occasionally causing elevated PM₁₀ levels.

d. Air Quality Management Plan. The 1994 Air Quality Management Plan (AQMP) prepared by the Ventura County APCD includes a number of air pollution control measures to reduce emissions and bring the region into compliance with the federal ozone standard. The AQMP was revised in 1995, 1997, and 2004 and predicted attainment of the federal one hour ozone standard by 2005. Based on the last three years of monitoring, Ventura County has effectively attained the federal one hour ozone standard. Further emission reductions are needed to attain the eight hour standard. To that end, the APCD is currently developing a new AQMP, which will be completed in 2007. The 2007 AQMP will contain strategies for attainment of the new eight-hour federal ozone standard by 2010. It will also incorporate updated projections of population, dwelling units, and motor vehicle emissions.

Ventura County must also comply with the California Clean Air Act (effective January 1, 1989), which requires attainment of the California Ambient Air Quality Standards by the earliest practicable date. The state ozone standard is more stringent than the federal standard and is more difficult to achieve. The latest Triennial Plan Assessment and Update (VCAPCD, February 2004) does not predict an attainment date for the state ozone standard, but provides documentation that the County has met exposure reductions mandated under the state Health



**Table 4.3-2
Ambient Air Quality Data for the El Rio Monitoring Station**

Pollutant	Air Pollution Data		
	2002	2003	2004
Ozone, ppm - maximum hourly concentration (ppm)	0.086	0.081	0.090
Number of days of state exceedances (>0.09 ppm)	0	0	0
Number of days of federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - maximum 8-hour concentration (ppm)	0.067	0.071	0.080
Number of days of federal exceedances (>0.08 ppm)	0	0	0
Carbon Monoxide, ppm - Worst 8 Hours	1.23	3.50	1.52
Number of days of state 1-hour exceedances (>20.0 ppm)	0	0	0
Number of days of state 8-hour exceedances (>9.0 ppm)	0	0	0
Nitrogen Dioxide, ppm - Worst Hour	0.048	0.057	0.063
Number of days of state exceedances (>0.25 ppm)	0	0	0
Particulate Matter <10 microns, maximum concentration in $\mu\text{g}/\text{m}^3$ (State/Fed)	100.4/ 97.4	127.2/ 123.8	59.3/ 59.6
Number of samples of state exceedances (>50 $\mu\text{g}/\text{m}^3$)	2	5	1
Number of samples of federal exceedances (>150 $\mu\text{g}/\text{m}^3$)	0	0	0
Annual Geometric Mean (state standard = 30 $\mu\text{g}/\text{m}^3$)	28.6	NR	NR
Annual Arithmetic Mean (federal standard = 50 $\mu\text{g}/\text{m}^3$)	27.8	30.7	NR
Particulate Matter <2.5 microns, maximum 24-hour average concentration in $\mu\text{g}/\text{m}^3$	29.4	81.7	28.2
Number of samples of federal 24-hour average exceedances (>65 $\mu\text{g}/\text{m}^3$)	0	1	0
98% concentration, $\mu\text{g}/\text{m}^3$	27.9	28.7	NR
Annual Average (federal standard = 15 $\mu\text{g}/\text{m}^3$)	13.0	11.8	NR
3-year average of annual average	NR	NR	NR

NR = Not Reported

Source: ARB, Air Quality Data Statistics; available at <http://www.arb.ca.gov/aqd/aqdp.htm>.



**Table 4.3-3
Ambient Air Quality Data for the Emma Wood Monitoring Station**

Pollutant	Air Pollution Data		
	2002	2003	2004
Ozone, ppm - maximum hourly concentration (ppm)	0.078	0.094	0.093
Number of days of state exceedances (>0.09 ppm)	0	3	1
Number of days of federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - maximum 8-hour concentration (ppm)	0.069	0.078	0.082
Number of days of federal exceedances (>0.08 ppm)	0	0	1

Source: ARB, Air Quality Data Statistics; available at <http://www.arb.ca.gov/aqd/aqdpag.htm>.

**Table 4.3-4
Ambient Air Quality Data for the Ojai Monitoring Station**

Pollutant	Air Pollution Data		
	2002	2003	2004
Ozone, ppm - maximum hourly concentration (ppm)	0.132	0.130	0.113
Number of days of state exceedances (>0.09 ppm)	15	24	7
Number of days of federal exceedances (>0.12 ppm)	1	1	0
Ozone, ppm - maximum 8-hour concentration (ppm)	0.109	0.114	0.097
Number of days of federal exceedances (>0.08 ppm)	12	22	13
Nitrogen Dioxide, ppm - Worst Hour	0.033	0.038	0.041
Number of days of state exceedances (>0.25 ppm)	0	0	0
Particulate Matter <10 microns, maximum concentration in $\mu\text{g}/\text{m}^3$ (State/Fed)	41.9/ 41.7	56.5/ 57.5	43.8/ 43.2
Number of samples of state exceedances ($>50 \mu\text{g}/\text{m}^3$)	0	2	0
Number of samples of federal exceedances ($>150 \mu\text{g}/\text{m}^3$)	0	0	0

Source: ARB, Air Quality Data Statistics; available at <http://www.arb.ca.gov/aqd/aqdpag.htm>.

and Safety Code Section 40920. Health and Safety Code Section 40914(b)(2) requires a demonstration that the plan to attain the ozone standard is to provide for expeditious



implementation of “every feasible measure” to reduce ozone precursor emissions. Per the Triennial Plan Assessment and Update, VCAPCD staff examined 26 emission source categories with the “Most Stringent All Feasible Measures List” prepared by the California Air Pollution Control Officers Association Rules Subcommittee and determined that “all feasible measures” have been implemented for 13 of the source categories. The District has scheduled rule making from 2004-2006 for the other 13 emission source categories.

e. Sensitive Receptors. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore schools and hospitals. School locations are identified in Section 4.11, *Public Services*.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of the proposed 2005 General Plan’s air quality impacts follows the guidance and methodologies recommended in the Ventura County air Quality Assessment Guidelines (October 2003).

The VCAPCD recommends 25 pounds per day thresholds for ROC and NO_x emissions that apply to individual development projects within the Ventura growth area. For the Ojai Planning Area (which is adjacent to portions of the West Ventura area), the VCAPCD recommends thresholds of 5 pounds per day ROC and NO_x emissions. However, these thresholds do not apply to general plans, which could accommodate numerous individual projects. Significance thresholds for citywide planning programs, such as the 2005 General Plan, are based on whether the planning program exceeds regional growth forecasts thus delaying the attainment of regional air quality objectives. For the purposes of this analysis, long-term impacts to regional air quality are determined to be significant if growth accommodated under the 2005 General Plan would be inconsistent with adopted Air Quality Management Plan (AQMP) growth forecasts through 2025. The population projections in the AQMP are adopted from the Southern California Association of Governments (SCAG).

Projects and programs requiring an analysis of consistency with the AQMP include general plan updates and amendments, specific plans, area plans, large residential developments and large commercial/industrial developments. The consistency analysis evaluates the following questions:

- *Are the population projections used in the plan or project equal to or less than those used in the most recent AQMP for the same area?*
- *Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?*
- *Have all applicable land use and transportation control measures from the AQMP been included in the plan or project to the maximum extent feasible?*



If the answer to all of the above questions is yes, then the proposed project or plan is considered consistent with the AQMP. If the answer to any one of the questions is no, then General Plan buildout could potentially delay or preclude attainment of the state ozone standard. This would be considered inconsistent with the AQMP.

Long-term impacts are also considered potentially significant if the growth in traffic accommodated under the 2005 General Plan would have the potential to create CO “hot spots” where CO concentrations exceed state or federal standards. Such hot spots typically occur at severely congested intersections where a level of service (LOS) E or F is projected.

The VCAPCD has not adopted significance thresholds for construction-related emissions because of their temporary nature. In any event, construction-related emissions are not relevant at the General Plan level because such emissions are dependent on the characteristics of individual development projects. Nevertheless, because the region does not meet the federal or State standards for ozone or the State standard for PM₁₀, the City requires implementation of standard emission and dust control techniques for all construction.

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the six 2005 General Plan land use scenarios. A discussion of the impacts for each scenario follows.

Impact AQ-1	Anticipated growth under any of the six land use scenarios exceeds Ventura County Air Quality Management Plan population forecasts. This is largely because AQMP forecasts are outdated and the 2005 General Plan is not expected to hinder attainment of state or federal air quality standards. Nevertheless, the exceedance of population projections used for regional air quality planning represents a potential inconsistency with the AQMP. This is considered a Class I, <i>unavoidably significant, impact of any of the six scenarios.</i>
--------------------	--

Impacts relating to consistency with the Ventura County AQMP are generally the same for the six land use scenarios. Therefore, the scenarios are not discussed individually.

Vehicle use, energy consumption, and associated air pollutant emissions are directly related to population growth. The population forecasts upon which the Ventura County AQMP is based are used to estimate future emissions and devise appropriate strategies to attain state and federal air quality standards. When population growth exceeds the forecasts upon which the AQMP is based, emission inventories could be surpassed, which could affect attainment of standards.

The Ventura County AQMP relies on the most recent population estimates developed by the Metropolitan Planning Organization (MPO). The Southern California Association of Governments (SCAG) acts as the MPO for Ventura County. According to SCAG’s 2004 Regional Transportation Plan (RTP) population forecasts, the projected 2025 population for the City of Ventura is 123,645. This represents an average annual growth rate of 0.78%.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
AQMP Consistency (Impact AQ-1)	Projected 2025 population of 126,153 exceeds AQMP projection by 2,508 persons. Though population growth is not expected to hinder progress toward state and federal standards, exceedance of the population projection is an unavoidably significant impact.	Projected 2025 population of 133,160 exceeds AQMP projection by 9,515 persons. Though population growth is not expected to hinder progress toward state and federal standards, exceedance of the population projection is an unavoidably significant impact.	Impacts similar to Scenario 2 and unavoidably significant.	Impacts similar to Scenario 2 and unavoidably significant.	Impacts similar to Scenario 2 and unavoidably significant.	Impacts similar to Scenario 2 and unavoidably significant.
Individual Future Developments (Impact AQ-2)	Most intensification/ reuse development would not exceed VCAPCD thresholds; developments on large agricultural parcels in Saticoy, Arundell, North Bank, and North Avenue areas may exceed thresholds, but implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.	Intensification/ reuse impacts similar to Scenario 1. Development of Olivas and Serra expansion areas would exceed VCAPCD thresholds and North Avenue expansion area development could. Implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.	Intensification/ reuse impacts similar to Scenario 1. Development of Olivas expansion area would exceed VCAPCD thresholds and North Avenue expansion area development could. Implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.	Intensification/ reuse impacts similar to Scenario 1. Development of Serra expansion area would exceed VCAPCD thresholds and North Avenue expansion area development could. Implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.	Intensification/ reuse impacts similar to Scenario 1. Development of Western Cañada Larga and North Avenue expansion area development would exceed VCAPCD thresholds. Implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.	Intensification/ reuse impacts similar to Scenario 1. Development of Poinsettia expansion area would exceed VCAPCD thresholds and North Avenue expansion area development could. Implementation of current requirements and proposed policies reduces impacts to Class III, less than significant.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Construction (Impact AQ-3)	An estimated 8,300 residences and 4.9 million square feet of non-residential development could be developed under this scenario through 2025. Impacts reduced to Class III, less than significant, through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.	An estimated 11,000 residences and 6.3 million square feet of non-residential development could be developed under this scenario through 2025. Impacts reduced to Class III, less than significant, through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.	Overall impacts similar to Scenario 2, but more construction would occur in the North Avenue and Olivas areas and no construction would occur in the Serra area. Impacts reduced to Class III, less than significant, through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.	Overall impacts similar to Scenario 2, but more construction would occur in the North Avenue and Serra areas and no construction would occur in the Olivas area. Impacts reduced to Class III, less than significant, through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.	Overall impacts similar to Scenario 2, but more construction activity would be focused in the North Ventura Avenue area. Impacts reduced to Class III, less than significant, through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.	Overall impacts similar to Scenario 2, but construction would occur in the North Avenue and Poinsettia expansion areas. Impacts reduced to Class III, less than significant through implementation of proposed policies, including VCAPCD-recommended emission and dust control techniques.
Carbon Monoxide (Impact AQ-4)	Increased traffic levels would potentially increase CO concentrations; however, reductions in CO emission rates would more than offset effects of increased traffic congestion. Impacts are Class III, less than significant.	Increased growth as compared to Scenario 1 would incrementally increase traffic congestion and CO emissions. Nevertheless, impacts are similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.



Table 4.3-5 compares the 2025 population projections for the 2005 General Plan land use scenarios to the forecasts upon which the AQMP is based. As indicated, the projections for Scenarios 1-6 all exceed the AQMP forecasts. The projected 2025 population of 126,153 for Scenario 1 is 2% over the AQMP forecast, while the projected population of 133,160 for Scenarios 2-6 is about 8% over the AQMP forecast.

**Table 4.3-5
 Comparison of 2025 Population Projections**

	Scenario 1	Scenarios 2-6
2005 General Plan 2025 Population Projection	126,153	133,160
Ventura AQMP 2025 Population Projection	123,645	
Persons Over AQMP Projection	2,508	9,515

Based on the projected average annual growth estimate for growth Scenario 1 (0.88%), the 2025 population projection for the City is 126,153. This is 2,508 persons, or about 2%, greater than the AQMP population projection. The 1.14% average annual growth rate assumed for Scenarios 2-6 would result in a 2025 population estimated at 133,160. This exceeds the AQMP projection by 9,515 persons, or about 8%. Thus, any of the six scenarios could be considered inconsistent with the AQMP.

Although population growth associated with Scenarios 1-6 is projected to exceed forecasts upon which the AQMP is based, the 2005 General Plan includes goals, policies, and actions that would at least partially alleviate increases in traffic and energy consumption, and associated increases in air pollutant emissions. Development under Scenarios 1-6 would be subject to Policy 3C and Actions 3.14 and 3.16 of the 2005 General Plan, which promote intensification and reuse of existing lands within the existing City limits and SOI prior to expansion. In addition, Policy 4B directs the City to “[h]elp reduce dependence on the automobile,” while Policy 4C directs the City to “[i]ncrease transit efficiency and options.” Several 2005 General Plan actions support these policies. Among the actions are the development of trip reduction and transportation demand management incentives and programs (Actions 4.14, 4.19, 4.20, and 4.29), improvements to sidewalks (Actions 4.24 and 4.25), and citywide improvements to transit and alternative transportation mode facilities (Actions 4.16 and 4.28).

Recent research indicates that infill development reduces vehicle miles traveled (VMT) and associated air pollutant emissions as compared to development on sites at the periphery of metropolitan areas, also known as "greenfield" sites. For example, a 1999 simulation study conducted for the U.S. Environmental Protection Agency comparing infill development to greenfield development found that infill development results in substantially fewer VMT per capita and generates fewer emissions of most air pollutants and greenhouse gases (see Table 4.3-6). Similarly, a 1991 study presented to the California Energy Resources Conservation and Development Commission (Holtzclaw, 1991) found that a doubling of residential densities (as could occur with infill development under Scenarios 1-6) is associated with a 20-30% reduction in per capita VMT.



**Table 4.3-6
 Comparison of VMT and Emissions: Infill versus
 Greenfield Development**

Case Study	Per Capita Daily VMT, Infill as a Percentage of Greenfield	Emissions, Infill as a Percentage of Greenfield	
San Diego, CA	52%	CO	88%
		NO _x	58%
		SO _x	51%
		PM	58%
		CO ₂	55%
Montgomery County, MD	42%	CO	52%
		NO _x	69%
		SO _x	110%
		PM	50%
		CO ₂	54%
West Palm Beach, FL	39%	CO	75%
		NO _x	72%
		SO _x	94%
		PM	47%
		CO ₂	50%

Source: Allen, E., Anderson, G., and Schroeer, W., "The Impacts of Infill vs. Greenfield Development: A Comparative Case Study Analysis," U.S. Environmental Protection Agency, Office of Policy, EPA Publication #231-R-99-005, September 2, 1999.

Implementation of any of the land use scenarios under consideration for the 2005 General Plan would be expected to substantially increase overall residential densities in the community by emphasizing intensification and reuse of lands in already urbanized areas of the community. Table 4.3-7 compares the current number of persons per acre in Ventura to the projected number of persons per acre in 2025 under each of the six land use scenarios.

**Table 4.3-7
 Estimated Persons per Acre – 2004 and 2025**

Scenario	Estimated SOI Acres ^a	Estimated Population	Estimated Persons/Acre
Current (2004)	16,069	104,952	6.53
Scenario 1 (2025)	16,080	126,153	7.85
Scenario 2 (2025)	17,104	133,160	7.79
Scenario 3 (2025)	16,944	133,160	7.86
Scenario 4 (2025)	16,229	133,160	8.21
Scenario 5 (2025)	16,190	133,160	8.22
Scenario 6 (2025)	16,080	133,160	8.28

^a Current (2004) SOI acres exclude the hillsides (i.e., same area as under Scenario 1). SOI acres for the 2005 General Plan scenarios add areas outside the current SOI that are proposed for inclusion in the scenario: (1) 11 acres for Scenarios 1 and 6; (2) 1,035 additional acres for Scenario 2; (3) 875 additional acres for Scenario 3; (4) 160 additional acres for Scenario 4; and (5) 110 acres for Scenario 5. Ventura County LAFCO approval of SOI



adjustments would be needed to accommodate development in areas outside the current SOI.

By increasing the overall population density of the community and encouraging mixed land uses, implementation of the 2005 General Plan would be expected to generally reduce per capita automobile trips and travel distances as compared to existing conditions or continued lower density development at the periphery of the Planning Area. This would generally reduce per capita air pollutant emissions associated with vehicle use. Based on the data in Table 4.3-7, the overall increase in persons/acre within the anticipated future SOI could range from about 19% (for Scenario 2) to 27% (for Scenario 6). Assuming that a doubling of residential density would achieve at least a 20% reduction in per capita VMT (as discussed above), a 19-27% increase in residential density could be expected to reduce citywide per capita VMT by about 4-5%. Thus, the rate of increase in vehicle trips and VMT is expected to be less than the population increase. Such a reduction would at least partially offset the exceedance of the 2025 population forecast upon which the AQMP is based. In addition, as discussed in Section 4.15, *Population and Housing*, any of the land use scenarios would be expected to provide for a balance of jobs and housing in the community, which would be expected to generally limit the need for area residents to travel long distances to jobs.

The Ventura County AQMP provides recommendations for reducing emissions from transportation-related sources by reducing vehicle use or improving traffic flow. These techniques are referred to as Transportation Control Measures (TCMs). Table 4.3-8 compares proposed 2005 General Plan policies and strategies to the AQMP TCMs. As indicated, the 2005 General Plan includes numerous policies that fulfill the intent of the VCAPCD transportation control measures. Thus, no inconsistency with these measures is anticipated for any scenario.

**Table 4.3-8
 2005 General Plan Consistency with VCAPCD Transportation Control Measures**

Transportation Control Measure	2005 General Plan Policies
TCM A – Ridesharing Strategies	Action 4.14 - Provide development incentives to encourage projects that reduce vehicle trips. Action 4.19 – Adopt new development code provisions that establish vehicle trip reduction requirements for all development. Action 4.20 - Develop a transportation demand management program to shift travel behavior toward alternative modes and services.
TCM B – Nonmotorized Strategies	Action 4.12 - Refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates. Action 4.13 – Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles. Action 4.16 - Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes. Action 4.17 - Prepare and periodically update a Mobility Plan that integrates a variety of travel alternatives to minimize reliance on any single mode. Action 4.18 - Promote the development and use of recreational trails as transportation routes to connect housing with services, entertainment, and employment. Action 4.21 - Require new development to provide



**Table 4.3-8
2005 General Plan Consistency with VCAPCD Transportation Control Measures**

Transportation Control Measure	2005 General Plan Policies
	<p>pedestrian and bicycle access and facilities as appropriate, including connected paths along the shoreline and watercourses.</p> <p>Action 4.22 - Update the General Bikeway Plan as needed to encourage bicycle use as a viable transportation alternative to the automobile and include the bikeway plan as part of a new Mobility Plan.</p> <p>Action 4.24 - Require sidewalks wide enough to encourage walking that include ramps and other features needed to ensure access for mobility-impaired persons.</p> <p>Action 4.25 – Adopt new development code provisions that require the construction of sidewalks, where appropriate.</p>
TCM C – Traffic Flow Improvement Strategy	<p>Action 4.7 - Update the traffic mitigation fee program to fund necessary citywide circulation system and mobility improvements needed in conjunction with new development.</p> <p>Action 4.10 - Modify traffic signal timing to ensure safety and minimize delay for all users.</p> <p>Action 4.27 - Extend stubbed-end streets through future developments, where appropriate, to provide necessary circulation within a developing area and for adequate internal circulation within and between neighborhoods.</p>
TCM D – Land Use Strategy	<p>Action 3.8 – Adopt new development code provisions that designate neighborhood centers for a mixture of residences and small-scale, local-serving businesses.</p> <p>Action 3.9 - Adopt new development code provisions that designate commerce districts and corridors for mixed-use development that combines businesses with housing.</p> <p>Action 3.10 - Allow intensification of commercial areas through conversion of surface parking to building area under a districtwide parking management strategy in the Downtown Specific Plan.</p> <p>Action 3.11 - Expand the downtown redevelopment area to include parcels around future transit areas and along freeway frontage.</p> <p>Action 4.12 – Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles.</p>
TCM E – Transit Strategies	<p>Action 4.28 - Require all new development to provide for citywide improvements to transit stops that have sufficient quality and amenities, including shelters and benches, to encourage ridership.</p> <p>Action 4.29 - Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.</p> <p>Action 4.30 - Work with public transit agencies to provide information to riders at transit stops, libraries, lodging, and event facilities.</p> <p>Action 4.31 - Work with public and private transit providers to enhance public transit service.</p> <p>Action 4.32 - Coordinate with public transit systems for the provision of additional routes as demand and funding allow.</p>



**Table 4.3-8
 2005 General Plan Consistency with VCAPCD Transportation Control Measures**

Transportation Control Measure	2005 General Plan Policies
	Action 4.33 - Work with Amtrak, Metrolink, and Union Pacific to maximize efficiency of passenger and freight rail service to the City and to integrate and coordinate passenger rail service with other transportation modes. Action 4.34 - Lobby for additional transportation funding and changes to Federal, State, and regional transportation policy that support local decision-making.

In summary, the rate of increase in vehicle trips is expected to be less than the population growth rate for any of the 2005 General Plan land use scenarios. In addition, policies, actions, and land use strategies contained in the 2005 General Plan would incorporate AQMP transportation control measures to the extent feasible. Nevertheless, because the projected population growth under any of the six scenarios exceeds AQMP forecasts for the City, impacts associated with any of the scenarios are considered significant.

MITIGATION MEASURES

As discussed above, the 2005 General Plan includes various policies and actions that encourage mixed use and infill development. Implementation of these policies/actions would reduce air pollutant emissions to the maximum degree feasible given the amount of growth anticipated under the 2005 General Plan. However, outside of restricting population growth to be within SCAG and VCAPCD forecasts, the potential inconsistency with the AQMP cannot be avoided. Section 6.0, *Alternatives*, includes evaluation of an alternative with a 0.78% average annual growth rate. Under that alternative, the 2025 population would be within SCAG and VCAPCD forecasts.

SIGNIFICANCE AFTER MITIGATION

Outside of restricting population growth to be within SCAG and VCAPCD forecasts, the potential inconsistency with the AQMP is considered an unavoidably significant impact. It should again be noted, however, that the exceedance of AQMP population forecasts is largely a result of the current forecasts not reflecting current City planning policy. As discussed above, the emphasis on reuse of already developed lands and mixed use, pedestrian-oriented development is expected to reduce regional air pollutant emissions as compared to continued low density, automobile oriented development at the City’s periphery.

Impact AQ-2 Individual projects accommodated under the proposed 2005 General Plan would generate air pollutant emissions. The significance of air quality impacts associated with individual projects would depend upon the characteristics of the projects and the availability of feasible mitigation measures. However, implementation of existing programs, in combination with proposed 2005 General Plan policies and actions, would reduce impacts associated with individual



development projects to a Class III, less than significant, level for all six scenarios.

Long-term emissions associated with growth accommodated under any of the 2005 General Plan scenarios are those associated with vehicle trips and stationary sources (electricity and natural gas). As noted under Impact AQ-1, growth that would be accommodated under any of the 2005 General Plan scenarios would be greater than anticipated under regional growth forecasts. It is also likely that some individual intensification/reuse projects would exceed project-specific thresholds established by the VCAPCD. Table 4.3-9 shows the size of projects that would be expected to exceed VCAPCD thresholds in 2005, 2010, 2015, 2020, and 2025. As indicated, it is anticipated that the size of projects that will exceed VCACPD thresholds will increase over time. This is because it is anticipated that emissions from individual vehicles and buildings will continue to decline as new technologies are introduced.

**Table 4.3-9
 Project Size That Will Exceed VCAPCD Significance Thresholds for Ozone Precursors
 (ROC and NO_x)**

Year	Residential Projects (units)			Non-Residential Projects (square feet)			
	Single Family Housing	Apartments	Condos/ Townhouses	Strip Mall (retail)	Home Improvement (retail)	Office Park	Industrial Park
2005	117	160	203	60,600	70,900	120,500	199,500
2010	173	236	255	88,000	99,900	191,700	366,500
2015	247	294	310	141,600	156,800	328,500	704,000
2020	284	331	345	202,000	220,500	475,000	1,099,000
2025	322	367	378	288,200	311,400	677,000	1,705,000

Source: Ventura County Air Pollution Control District, Ventura County Air Quality Assessment Guidelines, Appendix F, October 2003.

The overall cumulative impact would be greater under Scenarios 2-6 than under Scenario 1 because those scenarios would accommodate more overall new development (approximately 11,000 new residential units and about 33,000 new residents under Scenarios 2-6 as compared to 8,300 new units and about 26,000 new residents under Scenario 1). The 33% greater population increase anticipated for Scenarios 2-6 as compared to Scenario 1 would increase overall emissions of air pollutants commensurately, with greater overall impacts to regional air quality. However, it is important to note that these estimates of population growth are projections used for analytical purposes. The actual increase in population could be higher or lower for any of the scenarios. Moreover, it is not possible to predict how higher or lower population growth in Ventura may affect overall growth in neighboring communities (e.g., whether absorbing more growth in Ventura may result in lower growth in Oxnard or vice versa).

Individual future development projects under any of the 2005 General Plan land use scenarios would be required to include mitigation measures to address potential impacts. Specifically, the City's Air Quality Ordinance (Ordinance 93-37) requires developers of projects that generate emissions exceeding VCAPCD significance thresholds to pay air quality impact fees that are placed in a transportation demand management (TDM) fund that is used by the City to offset



project emissions through implementation of regional air quality programs. The fee is based on a formula developed by the VCAPCD and included in the District's Air Quality Assessment Guidelines (October 2003). Funds are used to implement such programs as enhanced public transit service, vanpool programs/subsidies, rideshare assistance programs, clean fuel programs, improved pedestrian and bicycle facilities, and park-and-ride facilities. Continued collection of fees on all projects that generate emissions over VCAPCD thresholds would reduce the impacts of individual developments to a less than significant level.

The potential for individual projects to generate emissions exceeding VCAPCD thresholds under each scenario is discussed below.

Scenario 1 - Intensification/Reuse Only

Many of the individual developments that would be anticipated under this scenario would likely be smaller than the project sizes listed in Table 4.3-9 and therefore would not trigger VCAPCD significance thresholds. Exceptions to this may include the development of larger parcels in the Saticoy area (which are designated for residential development), the McGrath property and other large vacant parcels in the Arundell and North Bank districts, and large industrial parcels in the North Avenue and Upper North Avenue districts. Whether or not individual projects would generate emissions exceeding VCAPCD thresholds would depend upon the size of the project and when it is proposed.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated with intensification/reuse would be the same as described under Scenario 1. Among the three expansion areas included in this scenario (North Avenue, Olivas, and Serra), future development of the Olivas and Serra areas would be expected to involve development exceeding the project sizes listed in Table 4.3-9, regardless of when development occurs. As such, it is anticipated that development of these areas would generate emissions exceeding VCAPCD thresholds and trigger the need for contribution to a TDM fund as required by Ordinance 93-37. Future development of the North Avenue area may or may not exceed the project sizes listed in Table 4.3-9. For this scenario, it has been assumed that 176 residences and roughly 18,000 square feet of non-residential development would be accommodated in the North Avenue area. If such development were to occur prior to 2015, projected emissions would likely exceed VCAPCD thresholds; however, after 2015, the level of development assumed for the North Avenue expansion area would not be expected to exceed thresholds due to the projected reductions in emission rates from vehicles and buildings.

The Ojai Planning Area ROC and NO_x thresholds of five pounds per day do not apply to projects in Ventura and the actual impact of development in the West Ventura area upon air quality in the Ojai Valley cannot be predicted. However, it should be noted that development in the West Ventura area, including the North Avenue expansion area, would generate emissions that could potentially be transported to the Ojai air basin.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with intensification/reuse would be the same as described under Scenario 1. Future buildout of the Olivas expansion area would be expected to involve development

exceeding the project sizes listed in Table 4.3-9, regardless of when development occurs. Consequently, it is anticipated that development of this expansion area would generate emissions exceeding VCAPCD thresholds and trigger the need for contribution to a TDM fund as required by Ordinance 93-37. Future development of the North Avenue area may or may not exceed the project sizes listed in Table 4.3-9. For this scenario, it has been assumed that 322 residences and roughly 90,000 square feet of non-residential development would be accommodated in the North Avenue area. Whether or not such development would generate emissions exceeding VCAPCD thresholds would depend upon the mix of housing types and when development occurs.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts associated with intensification/reuse would be the same as described under Scenario 1. Future buildout of the Serra expansion area would be expected to involve development exceeding the project sizes listed in Table 4.3-9, regardless of when development occurs. Consequently, it is anticipated that development of this expansion area would generate emissions exceeding VCAPCD thresholds and trigger the need for contribution to a TDM fund as required by Ordinance 93-37. Future development of the North Avenue area may or may not exceed the project sizes listed in Table 4.3-7. Similar to Scenario 3, it is assumed that 322 residences and roughly 90,000 square feet of non-residential development would be accommodated in the North Avenue area under this scenario. Whether or not such development would generate emissions exceeding VCAPCD thresholds would depend upon the mix of housing types and when development occurs.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts associated with intensification/reuse would be the same as described under Scenario 1. The North Avenue expansion area would be developed more intensely under this scenario than under Scenarios 2-4 and 6. The two expansion areas included in this scenario could both accommodate development exceeding the project sizes listed in Table 4.3-9. As such, it is anticipated that development of these areas could generate emissions exceeding VCAPCD thresholds and trigger the need for contribution to a TDM fund as required by Ordinance 93-37.

As noted under Scenario 2, the Ojai Planning Area ROC and NO_x thresholds of five pounds per day do not apply to projects in Ventura and the actual impact of development in the West Ventura area upon air quality in the Ojai Valley cannot be predicted. However, it should be noted that development in the West Ventura area, including the North Avenue and Western Cañada Larga expansion areas, would generate emissions that could potentially be transported to the Ojai air basin. As compared to the other land use scenarios, Scenario 5 would accommodate substantially more development, including an estimated 2,700 expansion area residences, within the North Ventura Avenue area, with greater potential to adversely affect air quality in the Ojai Valley.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts associated with intensification/reuse would be the same as described under Scenario 1. Future buildout of the Poinsettia expansion area would be expected to involve development exceeding the project sizes listed in Table 4.3-9, regardless of when development occurs.

Consequently, it is anticipated that development of this expansion area would generate emissions exceeding VCAPCD thresholds and trigger the need for contribution to a TDM fund as required by Ordinance 93-37. Future development of the North Avenue area may or may not exceed the project sizes listed in Table 4.3-9. Similar to Scenario 3, it is assumed that 322 residences and roughly 90,000 square feet of non-residential development would be accommodated in the North Avenue area under this scenario. Whether or not such development would generate emissions exceeding VCAPCD thresholds would depend upon the mix of housing types and when development occurs.

MITIGATION MEASURES

Impacts associated with individual future developments could be reduced to a less than significant level through implementation of existing programs and proposed 2005 General Plan policies, actions, and land use strategies. Nevertheless, the following actions are recommended for inclusion in the 2005 General Plan.

AQ-2 Additional Air Quality Actions. The following actions should be added to the 2005 General Plan to address air quality impacts of future development on a case-by-case basis:

- Require air quality analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval.
- In accordance with Ordinance 93-37, continue to require payment of fees to fund regional transportation demand management (TDM) programs for all projects generating emissions in excess of Ventura County APCD thresholds.

The following action should be added if a land use scenario that includes expansion areas is adopted in order to ensure that individual development projects within expansion areas contribute toward the City's TDM fund:

- Require the development of specific plans for expansion areas for which overall air pollutant emissions shall be estimated to establish a TDM fund as required under Ordinance 93-37. Require individual developers within expansion areas to contribute pro rata fees to the TDM fund.

SIGNIFICANCE AFTER MITIGATION

Impacts associated with individual development projects could be reduced to a less than significant level through implementation of mitigation measures on a case-by-case basis under any of the land use scenarios. The above recommended actions would help ensure that

appropriate analysis and mitigation measures are incorporated into future development projects.

Impact AQ-3 Construction of individual projects accommodated under the 2005 General Plan would result in temporary emissions of air pollutant emissions. The Ventura County APCD has not adopted significance thresholds for construction impacts because of their temporary nature; therefore, impacts would be Class III, *less than significant*, for all six scenarios. Nevertheless, implementation of standard emission and dust control techniques will be required on all future development regardless of the land use scenario selected.

Construction activity that would be accommodated over the next 20 years under any of the 2005 General Plan land use scenarios would cause temporary emissions of various air pollutants. Ozone precursors NO_x and CO would be emitted by the operation of construction equipment, while fugitive dust (PM₁₀) would be emitted by activities that disturb the soil, such as grading and excavation, road construction and building construction. Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity.

Impacts associated with individual construction projects are not generally considered significant because of their temporary nature. Nevertheless, given the amount of development that the 2005 General Plan would accommodate over the next 20 years, it is reasonable to conclude that some major construction activity could be occurring at any given time over the life of the 2005 General Plan. Impacts could also be complicated by the fact that multiple construction projects could occur simultaneously in any portion of the City.

Impacts from construction are directly associated with the amount of land disturbance and development that will take place. As shown in Tables 2-5 and 2-6 in Section 2.0, *Project Description*, Scenario 1 would accommodate an estimated 8,300 new residential units and 4.9 million square feet of non-residential development through 2025. Scenarios 2-6 would accommodate an estimated 11,000 new residential units and 6.3 million square feet of non-residential development over the same time period.

Maximum daily emissions associated with individual construction projects would be similar under any of the scenarios. However, because the overall amount of development is expected to be greater under Scenarios 2-6, overall construction-related emissions over the 20-year period through 2025 would be greater than under Scenario 1. Scenarios 2-6 would all accommodate the development of agricultural lands in the expansion areas. Grading of these areas would be expected to generate temporary emissions of fugitive dust. The area of potential disturbance would be greatest under Scenario 2 (Intensification/Reuse + North Avenue + Olivas + Serra) since that scenario would make the largest amount of land available for future development. On the other hand, development accommodated under Scenarios 5 (Intensification/Reuse + North Avenue + Western Cañada Larga) and 6 (Intensification/Reuse + North Avenue + Poinsettia) may involve the greatest potential for large amounts of import or export of material since development of the Western Cañada Larga and Poinsettia areas would involve areas with relatively steep terrain as compared to the other expansion areas.

Any of the scenarios could accommodate the demolition of existing older structures that were constructed with asbestos containing materials (ACMs). Demolition activity that disturbs friable asbestos could potentially create health hazards for receptors in the vicinity of individual demolition sites. However, all demolition activity involving ACMs is required to be conducted in accordance with VCAPCD Rule 62.7, which requires VCAPCD notification and use of licensed asbestos contractors to remove all ACMs prior to demolition. Compliance with Rule 62.7 on all future construction activity would reduce impacts to a less than significant level.

The impact of construction-related emissions upon sensitive receptors such as residences, schools, and hospitals depends upon the location of individual construction projects relative to sensitive receptors. It is not possible to predict where all future development might occur, but virtually any new development within the Planning Area is likely to be adjacent to or near one or more sensitive receptors. All of the expansion areas other than the Western Cañada Larga area are near or adjacent to existing residences. The Serra and Poinsettia areas, in particular, are completely surrounded by residential development. The Poinsettia area is also immediately east of Balboa Middle School and Mound Elementary School.

As mentioned above, the VCAPCD has not adopted significance thresholds for construction-related emissions since such emissions are temporary. Nevertheless, the Ventura County Air Quality Assessment Guidelines (October 2003) recommend various techniques to reduce construction-related emissions associated with individual developments. These include techniques to limit emissions of both ozone precursors (NO_x and ROC) and fugitive dust (PM₁₀) and are identified below:

- *Minimize equipment idling time.*
- *Maintain equipment engines in good condition and in proper tune as per manufacturers' specifications.*
- *Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.*
- *Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.*
- *The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excessive amounts of dust.*
- *Pre-grading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation operations. Application of water (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.*
- *Fugitive dust produced during grading, excavation, and construction activities shall be controlled by the following activities:*
 - a) *All trucks shall be required to cover their loads as required by California Vehicle Code §23114.*
 - b) *All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done as often as necessary and reclaimed water shall be used whenever possible.*

- *Graded and/or excavated inactive areas of the construction site shall be monitored by the City Building Inspector at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.*
- *Signs shall be posted on-site limiting traffic to 15 miles per hour or less.*
- *During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off-site or on-site. The site superintendent/supervisor shall use his/her discretion in conjunction with the APCD in determining when winds are excessive.*
- *Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.*
- *Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.*

MITIGATION MEASURES

Although construction-related impacts are not considered significant, the measure below is recommended to reduce construction-related emissions to the maximum degree feasible.

AQ-3 Construction Mitigation. The following action should be added to the 2005 General Plan to address air quality impacts of future construction projects on a case-by-case basis:

- Require individual construction contractors to implement the construction mitigation measures included in the most recent version of the Ventura County APCD's Ventura County Air Quality Assessment Guidelines.

SIGNIFICANCE AFTER MITIGATION

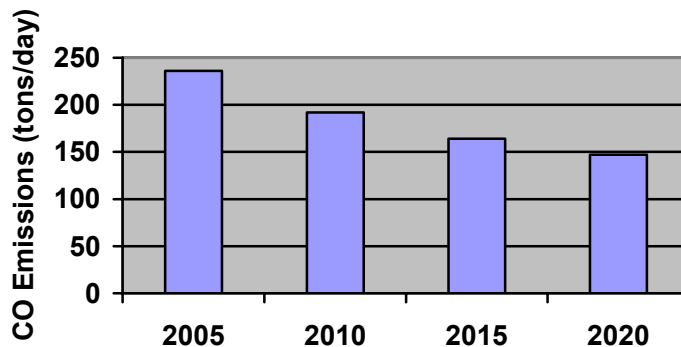
Construction impacts are not considered significant for any of the EIR land use scenarios. The above recommended mitigation measure would reduce construction-related air quality impacts to the maximum degree feasible.



Impact AQ-4 Increased traffic congestion associated with projected growth under any of the General Plan land use scenarios would potentially increase carbon monoxide (CO) concentrations at congested intersections. However, because of the low ambient CO concentrations and anticipated reduction in emissions associated with less polluting vehicles, exceedance of state and federal CO standards is not expected. Impacts relating to CO “hot spots” are therefore considered Class III, less than significant, for all six scenarios.

All of Ventura County is in attainment of state and federal CO standards and has been for several years. At the El Rio monitoring station, the maximum 8-hour CO level recorded from 2002-2004 is 3.5 parts per million (ppm), less than half of the 9 ppm state and federal 8-hour standard. In addition, as shown on Figure 4.3-1, countywide CO emissions are projected to fall by about 38% by 2020, largely due to the use of cleaner operating vehicles.

**Figure 4.3-1
Countywide Average CO Emissions**



Source: California Air Resources Board, 2005 Almanac.

Although CO is not expected to be a major air quality concern in Ventura County over the planning horizon, elevated CO levels can occur at or near intersections that experience severe traffic congestion. A project’s localized air quality impact is considered significant if the additional CO emissions resulting from the project create a “hot spot” where the 1-hour or 8-hour standard is exceeded. This typically occurs at severely congested intersections. The Ventura County APCD’s *Air Quality Assessment Guidelines* indicate that screening for possible elevated CO levels should be conducted for severely congested intersections experiencing level of service (LOS) E or F with project traffic where a significant project traffic impact may occur.

As discussed in Section 4.12, *Transportation and Circulation*, traffic growth accommodated under each of the six land use scenarios and resulting congestion would potentially result in LOS E or F at one or more Planning Area intersections. However, most of the intersections consist of freeway interchanges that are not adjacent to sensitive receptors such as residences or schools.

In addition, feasible improvements could be implemented to achieve acceptable service levels at affected intersections. Finally, as noted above, the Ventura County region does not experience any CO “hot spots” and CO concentrations are expected to drop substantially over the planning period as cleaner technologies become available. As such, it is not anticipated that violations of state or federal standards would occur under any scenario.

MITIGATION MEASURES

None required.

SIGNIFICANCE AFTER MITIGATION

Significant impacts associated with CO “hot spots” are not expected for any of the six land use scenarios. Implementation of recommended transportation improvements would be expected to ensure that CO concentrations remain within state and federal standards throughout the Planning Area.



4.4 BIOLOGICAL RESOURCES

This section evaluates potential impacts to biological resources within the Planning Area. Both direct and indirect impacts to the following special-status biological resources are discussed: regulated waterways, wetlands and open water areas; sensitive habitats and mature native trees; sensitive plants and animals; and wildlife movement corridors.

4.4.1 Setting

a. Planning Area Habitat Types. The rivers, barrancas, ocean, and hillsides in the Planning Area are home to a variety of important habitats and species of concern. Figure 4.4-1 shows the primary vegetation cover types and location of critical habitats. The major sensitive riparian areas within the Planning Area are the estuaries and upstream regions of the Ventura and Santa Clara Rivers; the Arundell, Harmon Canyon, Clark, Prince, Barlow, San Jon, Harrison, Sudden, Franklin, and Brown Barrancas; Weldon Canyon, Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon Creeks; the Alessandro freshwater marsh; and the coastline. The sewage treatment plant settling ponds south of the harbor at the Santa Clara River mouth are another habitat used by migratory birds. The following paragraphs describe important habitats in the Planning Area that contain significant biological resources.

Coastal Strand/Beach. Sandy beaches are usually not vegetated, and the organisms that inhabit these areas are characteristically mobile and respond quickly to changing sediment patterns. The intertidal area of the sandy beach is used by mole crabs, clams, and polychaete worms that bury themselves in the sand and between cobbles to feed on particles brought in on the waves. These latter species provide an important food resource for various shorebirds, especially during migratory periods. Beach hoppers and the common sand crab are locally abundant on the higher portions of the beach.

Cobble beach habitat is also found near the Ventura River mouth and in patches intermixed with sandy beach habitat. Littleneck and bean clams may be found buried next to cobbles used by gastropods such as the black turban snail. The cobble area also contains a few striped and yellow shore crabs. The listed western snowy plover forages in the beach habitat in the City and has been identified on the beach north of the Santa Clara River. The listed least tern also nests in sandy beach/coastal strand habitat north of the Santa Clara River mouth.

Discontinuous remnant coastal strand habitat exists in the loose sand and stabilized dunes landward of the intertidal and beach areas. The primary plant species are introduced ice plant and various non-native annual grasses. Native plants include silver beachbur, beach evening primrose, and sand verbena, which typically exhibit a low, matted appearance adapted to this harsh environment. The strand habitat has few resident vertebrate species. Typical vertebrates seen in this area include western fence lizard, Brewer's blackbird, house finch, and American pipit, as well as pocket gopher and ground squirrel where soils are more stable. The sensitive silvery legless lizard may also be found in coastal strand and dune habitat.

Limited rocky shore habitat is present along the beach due to man-made revetments at the Harbor, Fairgrounds, Beachfront Promenade, and sharp junctions along the beach. Species commonly found in this habitat include rock lice, striped shore crab, limpet, and acorn barnacles. A variety of shorebirds visit these habitats, as do near-shore fish that feed during

high tides. Sea and shore birds such as cormorants, brown pelicans, willets, and various gulls frequently can be seen roosting on breakwaters and revetments.

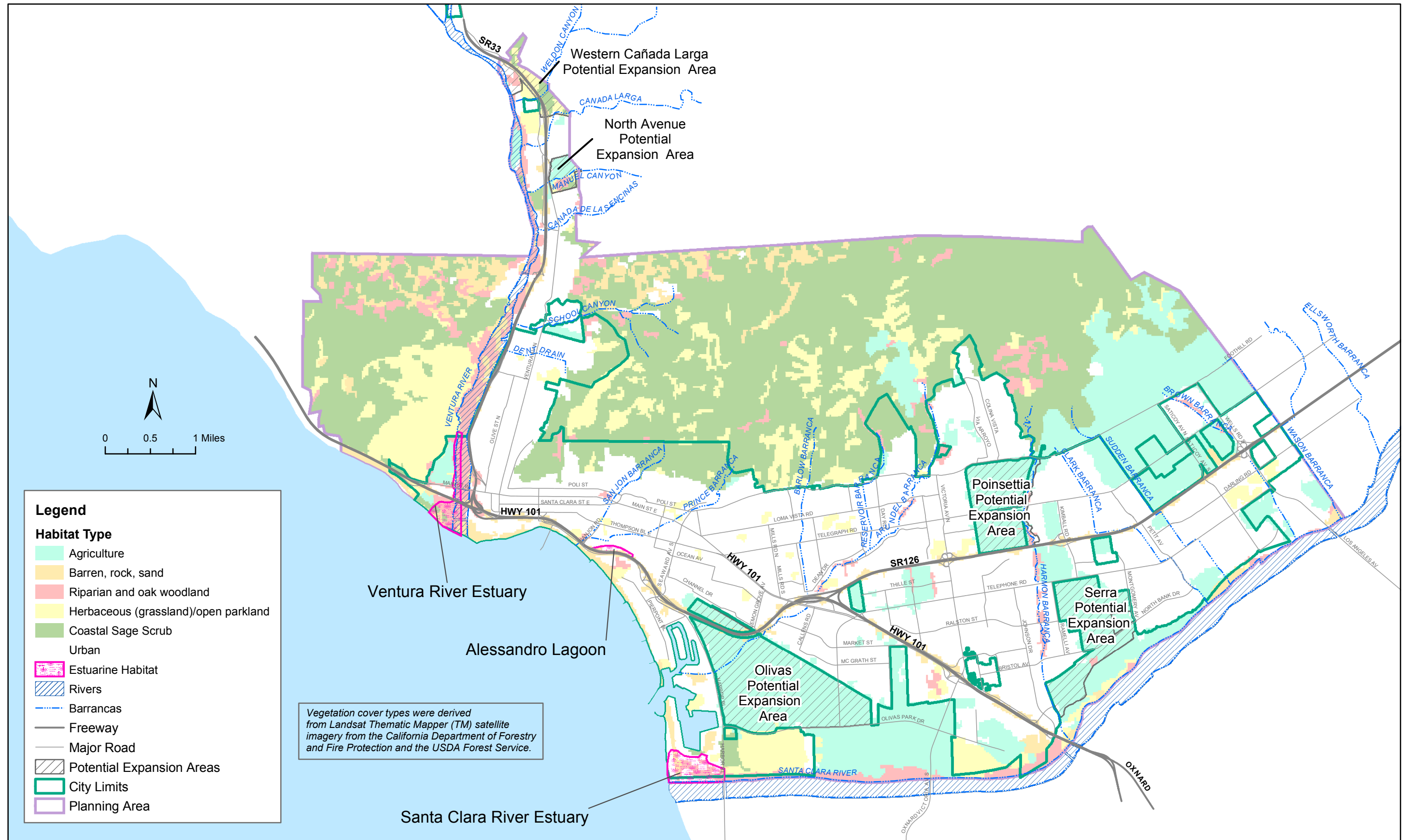
Estuaries/Salt and Fresh Water Marshes. Estuaries are partially enclosed coastal waters with a free connection to the sea. They are highly productive biological habitats, and many fish species and free-swimming invertebrates use estuaries as nursery grounds. Marshes form within and along the edges of estuaries and where standing water is present for sufficient periods.

The estuaries at the mouths of the Ventura and Santa Clara Rivers are used as resting and feeding areas for migratory and residential shorebirds and waterfowl, and to a lesser degree, by resident terrestrial species. Several state and federally listed (or candidate) endangered or threatened birds may use the estuaries. These include the listed brown pelican, California least tern, and the Belding's savannah sparrow (in pickleweed saltmarsh). Brown pelicans are commonly seen foraging offshore and at the river mouths, as is the least tern. Also of special interest are the cypress trees at the mouth of the Ventura River that were formerly used as overwintering sites for large aggregations of monarch butterflies. Two sensitive species of fish, the listed tidewater goby and the federally endangered steelhead, use the estuaries of the Ventura and Santa Clara Rivers. The sensitive southwestern pond turtle may also be found in freshwater portions of the Ventura and Santa Clara River estuaries. The sensitive southern tarplant was reported in the Ventura River estuary in 1992, while the listed Ventura marsh milkvetch was formerly found in local estuaries.

Alessandro Lagoon is a freshwater marsh located north of the U.S. 101, between Seaward Avenue and San Jon Road. It provides important migratory and nesting habitat for waterfowl, including mallard, ruddy duck, gadwall, pintail, and teal. Other birds such as marsh wren and red-winged blackbird nest in the marsh vegetation.

Coastal Sage Scrub. Coastal sage scrub is found intermixed with non-native annual grassland communities in the foothills above Ventura and in relatively undisturbed portions of the upland terraces along the Ventura and Santa Clara Rivers. This native plant community is characterized by the predominance of sub-shrubs, one to five feet in height with semi-woody stems growing from a woody base. Many of the species in the community display special adaptations to prevailing climatic conditions, such as winter rainfall and summer drought, by being drought-deciduous, having grayish-foliage with heavy pubescence on stems and leaves, or similar adaptations to arid conditions. Typical coastal sage scrub vegetation within the Planning Area includes coyote brush, California sagebrush, goldenbush, black sage, wild rye, and elderberry. Scattered mulefat, oak trees, and willows are also frequently observed.

This brushland habitat hosts a variety of animals, most of which are permanent residents. Amphibians such as the California slender salamander and the western toad are found in moist canyon areas. Reptiles such as the western fence lizard, side-blotched lizard, western whiptail, gopher snake, common kingsnake, and western rattlesnake also occupy this habitat. The sensitive coast horned lizard can be found in open areas within scrub and grassland areas where native harvester ants are present. Resident bird species include the Anna's hummingbird, California towhee, spotted towhee, wrentit, Bewick's wren, blue-gray gnatcatcher, California thrasher, mourning dove, and California quail. Coastal sage scrub provides the primary year-round hunting ground for many raptors, such as the turkey vulture



Source: City of San Buenaventura, and Rincon Consultants, Inc., 2005, and California Department of Forestry and Fire Protection, 2000 (cover types renamed based on local vegetation characteristics).

Habitat Types

Figure 4.4-1
 City of Ventura

and red tail hawk, that forage in the adjacent grasslands during the spring. This plant community also provides the shelter necessary for nesting of many wildlife species. Typical mammals found in this habitat include ground squirrels, gophers, coyote, pocket mice, western harvest mouse, wood rat, cottontail rabbit, bobcat, opossum, raccoon, skunk, and deer.

Oak Woodland. Oak woodlands occur along with riparian woodlands and some dense groves of planted trees along developed and agricultural areas within the City. This designation refers to a closed- to partially-open canopy woodland dominated by the coast live oak. Oaks are relatively limited within the Planning Area, located only within major drainages such as Harmon, Long, and Sexton Canyons and hillside areas along the west side of Ventura Avenue. Oak trees significantly affect the micro-environment around them because their extensive shade produces significantly lowered temperatures than in the nearby scrub and grassland communities. This allows a variety of plants and animals to occur in areas where they otherwise would not be found. Oak trees also provide significant vertical diversity that is important to bird species.

Oak woodlands provide roosting and nesting sites for many birds, particularly raptors. Red-tailed hawk, Cooper's hawk, sparrow hawk, and sharp-shinned hawk are all found in this community. Oak woodland also provides habitat for several species of woodpeckers, including red-shafted flicker, acorn woodpecker, Downey woodpecker, and Nuttall's woodpecker. Titmouse, warblers, and flycatchers are also common. Amphibians present in sage scrub communities are also found here, along with reptiles and mammals common to several plant associations. Monarch butterflies are known to utilize woodland areas within the Planning Area.

Riparian Woodland and Thickets. Riparian woodland and thickets consist of scattered semi-aquatic trees, shrubs, and herbs along intermittent and perennial streams. Willows dominate the riparian areas within the City, along with coast live oaks in the adjacent oak woodlands. Wildlife in riparian woodlands is similar to that found in oak woodlands. Several sensitive bird species breed in riparian areas in the City, including the listed least Bell's vireo and willow flycatcher, and sensitive yellow warbler and yellow breasted chat (CSC).

Riparian habitats contain open water at least part of the year, typically during the winter and spring seasons and after rain events, and are an important part of many animals' habitats. Open water is heavily used by larval forms of several insect orders, and is the sole breeding ground for amphibians. Fish, limited to permanent water areas, found within the Ventura and Santa Clara Rivers include, bluegill, carp, green sunfish, mosquito fish, staghorn sculpin, the sensitive arroyo chub (CSC), and listed unarmored threespine stickleback. Steelhead and rainbow trout are known to occur in the Ventura River upstream of the City, and steelhead trout migrate along both the Ventura and Santa Clara Rivers through the City to the ocean.

Grasslands. Grasslands in the area are primarily composed of non-native introduced annuals and biennials used extensively for grazing. Some small pockets of native wildflowers, such as California poppy, blue-eyed grass, and lupines, are scattered throughout the grasslands in areas less exposed to grazing, primarily in grassy openings on upper slopes within the coastal sage scrub community.

The grassland areas provide habitat for grazers and seed eaters. Rodents, which characterize this area, include the ground squirrel, pocket gopher, and deer mice. Deer, coyote, and cottontail rabbits are also relatively common. Many reptiles occupy this habitat, especially where exposed rock or barren soil surfaces are present. Carnivores including the badger and coyote roam this area, though raptor birds such as the sparrow hawk (kestrel), red-tailed hawk, and white-tailed kites are the major dominants of the area. These birds play an important role in controlling rodent populations. Seed-eating bird species are also common constituents of grasslands. Species such as the savannah sparrow, mourning dove, and various finches are common. Grasslands are also the primary foraging grounds for swallows, swifts, and bats, which nest elsewhere.

Thickets and Windrows. Tree thickets and windrows are common within the Planning Area. Trees and windrows can provide habitat to nesting birds, their eggs, and young, which are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The locally sensitive monarch butterfly can also utilize these areas as wintering sites and sensitive bats can utilize the areas as roosting site.

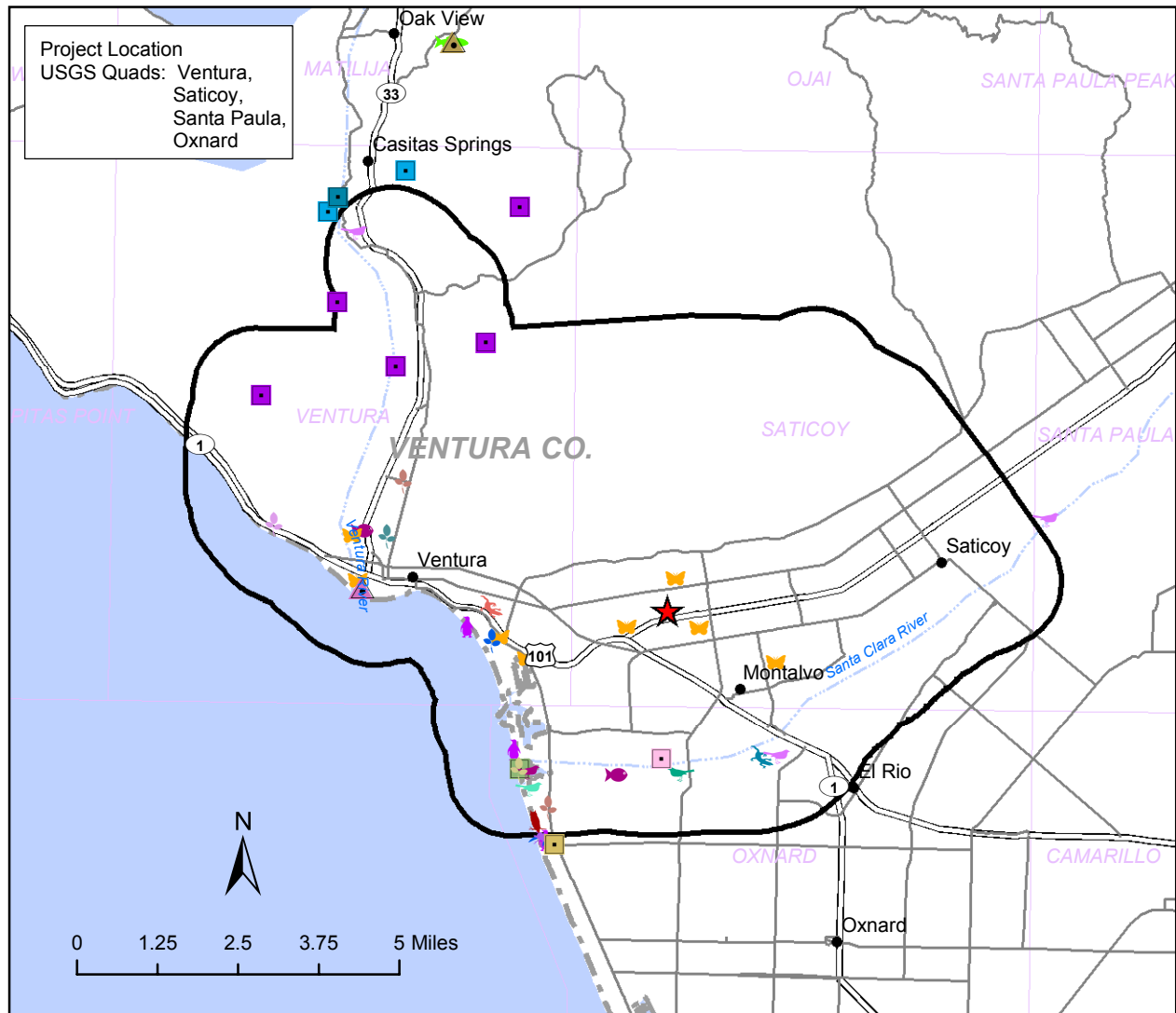
b. Special-Status Biological Resources. The term special-status biological resources includes those plants, animals, vegetation communities, jurisdictional drainages and other sensitive biological resources that are governed under federal, state, and local laws and regulations.

Listed Species. Federal, State, and local authorities under a variety of legislative acts share regulatory authority over biological resources. The California Department of Fish and Game (CDFG) has direct jurisdiction under law for biological resources through the state Fish and Game Code and under the California Endangered Species Act. The federal Endangered Species Act also provides direct regulatory authority over specially designated organisms and their habitats to the U.S. Fish and Wildlife Service (USFWS). These acts specifically regulate listed and candidate endangered and threatened species, which are defined as:

- *Endangered Species:* any species that is in danger of extinction throughout all or a significant portion of its range.
- *Threatened Species:* any species that is likely to become an endangered species within the foreseeable future throughout all or a significant part of its range.

Sensitive Plants. Special-status plant species are either listed as endangered or threatened under the federal or California Endangered Special Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (e.g., California Native Plant Society [CNPS]), and the scientific community. Table 4.4-1 shows 13 special-status plant species that may occur within the Planning Area, two of which are considered endangered. Figure 4.4-2 identifies special-status species documented historically within the Planning Area by the CDFG California Natural Diversity Database (December 2004).

Sensitive Wildlife. Several amphibian, fish, reptile, bird, and mammal species of concern that are known or possibly found in the Planning Area are listed in Table 4.4-2. Documented species are shown on Figure 4.4-2. State or federally listed species are accorded the highest protection status. The two fish species and eight bird species that are federally



Sources: California Natural Diversity Database, December 2004, U.S. Bureau of the Census TIGER 2000 data, and ESRI, 2002. Note: Markers represent approximate locations where species may be found.

Legend

- Project Location
- One-Mile Buffer around Planning Area
- ABNNB03031, western snowy plover
- ABNNM08103, California least tern
- ABNRB02022, western yellow-billed cuckoo
- ABNSB10010, burrowing owl
- ABPAU08010, bank swallow
- ABPBW01114, least Bell's vireo
- ABPBX99015, Belding's savannah sparrow
- AFCHA0209J, southern steelhead - southern California esu
- AFCQN04010, tidewater goby
- ARACC01012, silvery legless lizard
- ARACF12021, Coast (San Diego) horned lizard
- CALE1220CA, Southern California Coastal Lagoon
- CARE2310CA, Southern California Steelhead Stream
- CTT52120CA, Southern Coastal Salt Marsh
- CTT52410CA, Coastal and Valley Freshwater Marsh
- CTT61310CA, Southern Coast Live Oak Riparian Forest
- CTT62400CA, Southern Sycamore Alder Riparian Woodland
- CTT63300CA, Southern Riparian Scrub
- CTT71210CA, California Walnut Woodland
- IICOL02101, sandy beach tiger beetle
- IILEPP2010, monarch butterfly
- PDAST20095, Orcutt's pincushion
- PDAST5L0A1, Coulter's goldfields
- PDCHE02010, aphanisma
- PDFAB0F7B1, Ventura Marsh milk-vetch
- PDSCR0J0C2, salt marsh bird's-beak

**Sensitive Elements Reported by the
 California Natural Diversity Database**

Figure 4.4-2
 City of Ventura

**Table 4.4-1
 Sensitive Plant Species of the Ventura Planning Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)
Aphanisma	<i>Aphanisma blitoides</i>	--/--/CNPS List 1B
Ventura marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE/CE/CNPS 1B
Plummer' s baccharis	<i>Baccharis plummerae</i> ssp <i>plummerae</i>	--/--/CNPS List 4
Brewer's calandrinia	<i>Calandrinia breweri</i>	--/--/CNPS List 4
Catalina mariposa lily	<i>Calochortus catalinae</i>	--/--/List 4
Plummer's mariposa lily	<i>Calochortus plummerae</i>	--/--/CNPS List 1B
Southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	--/--/CNPS List 1B
Orcutt's pincushion	<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	--/--/CNPS List 1B
Prostrate spineflower	<i>Chorizanthe procumbens</i>	--/--/List 4
Salt marsh bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	SE/FE/CNPS 1B
Western dichondra	<i>Dichondra occidentalis</i>	--/--/List 4
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/CNPS List 1B
California spineflower	<i>Mucronea californica</i>	--/--/List 4

Source: CDFG Special Plants (4/2004), California Natural Diversity Database (CNDDDB), December 2004;
 Baseline Conditions Report (2002)
 CNPS List 1B = California Native Plant Society List (CNPS) List 1B: Plants rare, threatened, or endangered in California and elsewhere; CNPS List 4: Plant's of limited distribution, a watch list; FE = Federal Endangered;
 SE = State Endangered

**Table 4.4-2
 Sensitive Animals of the Ventura Planning Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)
Arthropods		
Sandy beach tiger beetle	<i>Cincindela hirticollis abrupta</i>	--/--/SA
Monarch butterfly (wintering sites)	<i>Danaus plexippus</i>	--/--/SA
Amphibians		
Coast Range newt	<i>Taricha torosa torosa</i>	--/CSC/--
Western spadefoot toad	<i>Spea (=Scaphiopus) hammondi</i>	--/CSC/--
Fish		
Unarmored threespine stickleback.	<i>Gastreosteus aculeatus williamsoni</i>	FE/SE,CFP/--
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE/CSC/---
Southern California steelhead trout (Southern California ESU)	<i>Oncorhynchus mykiss</i>	FE/CSC/--
Reptiles		
Coast horned lizard	<i>Phrynosoma coronatum</i>	--/CSC/--
Coastal western whiptail	<i>Apsidoscelis tigris stejnegeri</i> (=Cnemidophorus <i>tigris multiscutatus</i>)	--/SA/--
Silvery legless lizard	<i>Aniella pulchra Pulchra</i>	--/CSC/--



**Table 4.4-2
 Sensitive Animals of the Ventura Planning Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)
Southwestern pond turtle	<i>Emys (=Clemmys) marmorata pallida</i>	--/CSC/--
Coastal patch-nosed snake	<i>Salvadora hexalepis virgulata</i>	--/CSC/--
Two-striped garter snake	<i>Thamnophis hammondi</i>	--/CSC/--
Birds		
Cooper's hawk (nesting)	<i>Accipiter cooperii</i>	--/CSC/--
Sharp-shinned hawk (nesting)	<i>Accipiter striatus</i>	--/CSC/--
White-tailed kite (nesting)	<i>Elanus leucurus</i>	--/CFP/--
Northern harrier (nesting)	<i>Circus cyaneus</i>	--/CSC/--
California brown pelican (nesting, communal colonies)	<i>Pelecanus occidentalis californicus</i>	FE/SE,CFP/--
California least tern (nesting colony)	<i>Sterna antillarum browni</i>	FE/SE,CFP/--
Western yellow-billed cuckoo (nesting)	<i>Coccyzus americanus occidentalis</i>	FC/SE/--
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	--/SE/--
Western snowy plover (nesting, coastal population)	<i>Charadrius alexandrinus nivosus</i>	FT/CSC/--
Merlin	<i>Falco columbarius</i>	--/CSC/--
Ferruginous hawk (wintering)	<i>Buteo regalis</i>	--/CSC/--
Least Bell's vireo	<i>Vireo belli pusillus</i>	FE/SE/--
Willow flycatcher (nesting)	<i>Empidonax traillii</i>	FE (<i>E. t. extimus</i> only)/SE/--
Coastal cactus wren	<i>Campylorhynchus brunneicapillus sandiegensis</i>	--/--/LS
Bank swallow (nesting)	<i>Riparia riparia</i>	--/ST/--
Yellow warbler (nesting)	<i>Dendroica petechia brewsteri</i>	--/CSC/--
Loggerhead shrike (nesting)	<i>Lanius ludovicianus</i>	--/CSC/--
California horned lark	<i>Eremophila alpestris actia</i>	--/CSC/--
Bell's sage sparrow	<i>Amphispiza bellii bellii</i>	--/CSC/--
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	--/CSC/--
Mammals		
Pallid bat	<i>Antrozous pallidus</i>	--/CSC/--
Pale big-eared bat	<i>Corynorhinus townsendii pallescens</i>	--/CSC/--
California mastiff bat	<i>Eumops perotis</i>	--/CSC/--
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	--/CSC/--
San Diego black-tailed jackrabbit	<i>Lepus californicus ssp. bennettii</i>	--/CSC/--
American badger	<i>Taxidea taxus</i>	--/CSC/--

Source: CDFG, *Special Animals List* (8/2004) and CNDDDB (12-/2004)

CE = California Endangered; CFP = California Fully Protected; CSC = California Species of Concern; ESU=Evolutionary Significant Unit; Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; LS=Locally Sensitive; and SA = CDFG California Special Animal



and/or State listed tend to inhabit the rivers and estuary habitats where development is unlikely to occur. Least bell's vireo is known to forage in scrub areas adjacent to the Santa Clara and Ventura Rivers.

c. Wildlife Corridors. Wildlife corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return.

The key wildlife corridors in the Planning Area include the Ventura River, which connects the Ventura Area to open space associated with the Los Padres National Forest, and the Santa Clara River, which provides linkage to the east to the Sespe area and the San Gabriel Mountains. Other important corridors in the Planning Area include the drainages (e.g., Weldon Canyon, Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon) and open space areas that connect the Ventura River to the hills overlooking Ventura to the north, and ultimately, the Sulphur Mountain area. Highly degraded corridors between the hillsides north of the City and the Santa Clara River within the Planning Area include the Harmon Canyon, Arundell, Franklin, and Brown Barrancas.

d. Special-Status Communities/Areas. Special-status communities and areas are those that are considered sensitive by federal, state, and local agencies due to their rarity or value in providing habitat for vegetation, fish, and wildlife. Identified special-status communities/areas present within the Planning Area include the following:

- *Oak woodland*
- *Walnut woodland*
- *Native oak and sycamore trees*
- *Native bunchgrass grasslands*
- *Drainages, wetlands and associated riparian vegetation under the jurisdiction of CDFG as waters of the State or USACE as waters of the U.S; the City has also identified the Ventura and Santa Clara River as sensitive resources requiring preservation and possible restoration*
- *City Sensitive Habitat Areas (SHA): Alessandro Lagoon, Santa Clara River Mouth Area, Ventura River Mouth Area*
- *Coastal dunes*

e. Regulatory Setting. The following is a summary of the regulatory context under which biological resources are managed at the federal, state, and local level. Agencies with responsibility for protection of biological resources within the Study Area include:

- *Regional Water Quality Control Board (RWQCB)*
- *U. S. Army Corps of Engineers (USACE; wetlands and other waters of the United States)*
- *U.S. Fish and Wildlife Service (USFWS; federally listed species and migratory birds)*
- *National Marine Fisheries Service (NMFS; anadromous fish)*

- *California Department Fish and Game (CDFG; waters of the State, state listed and fully-protected species, and other protected plants and wildlife)*
- *State of California (Natural Communities Conservation Plan)*
- *City of Ventura (Proposed General Plan Goals, Policies, and Actions)*
- *California Coastal Commission (CCC, Coastal Areas)*

A number of Federal and/or State statutes provide a regulatory structure that guides the protection of biological resources. The following discussion provides a summary of those laws that are most relevant to biological resources in the vicinity of the Planning Area.

Regional Water Quality Control Board. The protection of water quality in the watercourses of Ventura County is under the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). The Board establishes requirements prescribing discharge limits and establishes water quality objectives through the Ventura County Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit. The Storm Water Quality Urban Impact Mitigation Plan (SQUIMP), which is part of the NPDES Permit, addresses specific storm water pollution requirements for new developments such as the proposed project. As co-permittee, the City of Ventura is responsible for assuring that new developments are in compliance with the SQUIMP.

The SQUIMP requires that all development projects implement various control techniques (termed best management practices, or BMPs) to minimize the amount of pollutants entering surface waters. The following requirements apply to all new development:

- *Control post-development peak stormwater runoff discharge rates to maintain or reduce pre-development downstream erosion and to protect stream habitat*
- *Conserve natural areas*
- *Minimize stormwater pollutants of concern*
- *Protect slopes and channels*
- *Provide storm drain system stenciling and signage*
- *Properly design outdoor material storage areas*
- *Properly design trash storage areas*
- *Provide proof of on-going best management practice (BMP) maintenance*
- *Implement structural or treatment BMPs that meet design standards*

U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act, the USACE has authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. Perennial and intermittent creeks and adjacent wetlands are considered waters of the United States and are within the regulatory jurisdiction of the USACE. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetlands values or acres. In achieving the goals of the Clean Water Act, the Corps seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of waters of the U.S., wetlands may require a permit from the Corps prior to the start of work. Typically, permits issued by the Corps are a condition of a project as mitigation to offset unavoidable impacts on wetlands and other waters of the U.S. in a manner that achieves the goal of no net loss of wetland acres or values.



U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), the Bald and Golden Eagle Protection Act (16 United States Code (USC) Section 668), Section 10 and the Federal Endangered Species Act (FESA; 16 USC § 153 *et seq.*). Projects that would result in take of any federally listed threatened or endangered species are required to obtain permits from the USFWS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (incidental take permit) of FESA, depending on the involvement by the federal government in permitting or funding the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species.

Take under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA, however, the USFWS advises project applicants that they could be elevated to listed status at any time.

National Marine Fisheries Service. The National Marine Fisheries Service (NMFS) shares joint authorities with the USFWS under the FESA for administering the incidental take permit program. Generally, the USFWS is responsible for terrestrial and freshwater aquatic species while NMFS is responsible for listed marine mammals, anadromous fish, and other living marine resources. NMFS also permits for incidental taking of listed fish species during other activities such as state-run hatchery operations and commercial or recreational fisheries.

California Department of Fish and Game. The CDFG derives its authority from the Fish and Game Code of California Species listed under the California Endangered Species Act (CESA; Fish and Game Code Section 2050 *et seq.*) prohibits take of listed threatened or endangered species. Take under CESA is restricted to direct killing of a listed species and does not prohibit indirect harm by way of habitat modification.

California Fish and Game Code Sections 3503, 3503.5, and 3511 describe unlawful take, possession, or needless destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Species of Special Concern (CSC) is a category used by CDFG for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that afforded by the Fish and Game Code. The CSC category is intended by the CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the development of natural lands.

The CDFG also has authority to administer the Native Plant Protection Act (Fish and Game Code Section 1900 *et seq.*). The Act requires CDFG to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the Act, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Perennial and intermittent streams also fall under the jurisdiction of the CDFG. Sections 1601-1603 of the Fish and Game Code (Streambed Alteration Agreements) gives the CDFG regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

State of California. The Natural Communities Conservation Planning Act of 1991 was established by the California Legislature, is directed by the Department of Fish and Game, and is being implemented by the state, and public and private partnerships to protect habitat in California. As opposed to the single species interpretation of the Endangered Species Act (ESA), this act aims at protecting many species using a regional approach to habitat preservation. A Natural Communities Conservation Plan (NCCP) identifies and provides for the regional or area wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. The impact analysis is based on available literature regarding the existing biological resources within the Planning Area, aerial photography, and field visits conducted on February 3, 5-6, 2005. Field investigations concentrated on potentially developable areas that contain sensitive biological resources. The majority of the surveys were conducted by car from roads surrounding the areas; however, some areas were surveyed on foot. Surveys were performed to verify habitat types against available background information and aerial photography. The following analysis determines the potential effects of development on biological resources of the Planning Area, especially within the developable areas.

Environmental impacts relative to biological resources may be assessed using impact significance criteria from federal, state, and local regulations. Project impacts to flora and fauna may be determined to be significant even if they do not directly affect rare, threatened, or endangered species.

Significant impacts to biological resources may occur if a project action would:

- *Conflict with local or regional conservation plans or state goals*
- *Substantially affect rare, threatened or endangered species*
- *Interfere substantially with the movement of any resident or migratory fish or wildlife species*
- *Substantially diminish habitat for fish, wildlife or plants*
- *Involve the use, production or disposal of materials which pose a hazard to animal or plant populations in the area affected*
- *Have impacts that are individually limited, but cumulatively considerable; or involve the alteration or conversion of biological resources (locally important species or locally important communities) identified as significant within the county or region*

When assessing or applying these threshold guidelines, plants and animals may be considered locally important if any of the following criteria are met:



- *The species, subspecies or variety is limited in distribution in the county or region, and endemic (limited to a specific area) in the region.*
- *The species population is at the extreme limit of its overall distribution or is disjunct from the known overall range.*
- *The species potentially affected by project actions has habitat requirements or limitations which makes it susceptible to local extirpation as a consequence of those actions, the introduction of barriers or restrictions to movement, changes in ambient conditions, or increases in human activity.*
- *Populations exhibit unusual localized adaptations, or are high quality examples of the species overall.*
- *Species are considered special-status by recognized biological experts and monitoring groups, such as the California Native Plant Society (CNPS) and Audubon Society.*

Plant communities or habitat types may be considered locally important if they are any of the following:

- *Formations or habitat types of singular or limited occurrence within the jurisdictional boundaries*
- *Formations or habitat types that provide critical or essential support resources for rare, threatened or endangered or locally important species*
- *Formations, habitat types, or geographic areas that serve as wildlife movement routes or habitat linkages between substantial, intact open space areas*
- *Formations or habitat types that are recognized or designated as pristine or highest quality examples of a particular type within a jurisdiction*
- *Specific sites that are type localities for plant or animal species*
- *Formations or habitat types considered sensitive by recognized biological experts and monitoring groups, such as the CNPS, California Natural Diversity Data Base, The Nature Conservancy, or Department of Fish and Game*
- *Ephemeral or perennial wetlands that have been defined as areas which sporadically, seasonally or perennially serve to transmit, conduct or impound water, making it available for use by wildlife and/or facultatively dependent associations of plants and animals (such as vernal pools)*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of biological resource impacts for each of the scenarios under consideration. The discussion that follows is intended to describe the generalized effects of potential future development within the Planning Area and provide policy level mitigation appropriate for a General Plan analysis. Depending upon the nature and location of individual future development projects, information contained in this EIR regarding the potential occurrence and listing status of special-status species of plants and wildlife and plant communities of special concern may need to be updated at the time specific projects undergo environmental review.

Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Riparian, Wetlands, and Open Water Habitats (Impact BIO-1)	Development near the Santa Clara River, Ventura River, and barrancas in the North Avenue and Saticoy districts could adversely affect wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development near Manuel Canyon Creek, Arundell Barranca, Harmon Canyon Barranca, and drainages near Olivas expansion area may result in adverse impacts to wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development near Manuel Canyon Creek, Arundell Barranca, and drainages near Olivas expansion area may result in adverse impacts to wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development near Manuel Canyon Creek, and Harmon Canyon Barranca may result in adverse impacts to wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development near Manuel Canyon Creek, Weldon Creek, and Cañada Larga Creek may result in adverse impacts to wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development near Manuel Canyon Creek and Harmon Canyon Barranca may result in adverse impacts to wetland habitats. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.
Sensitive Habitats and Native Trees (Impact BIO-2)	Development may adversely affect oak/walnut woodlands in North Avenue/Upper North Avenue, dune habitat in Harbor district, bunchgrass grasslands, and mature landmark trees. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue expansion area may affect oak woodlands. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion impacts similar to Scenario 2. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion impacts similar to Scenario 2. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue expansion area may affect oak woodlands. Development in Canada Larga may affect oak/walnut woodlands, and native grasslands. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion impacts similar to Scenario 2. Compliance with Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Special-status Species (Impact BIO-3)	Possible elimination of native habitats including wetlands, dunes, scrub, woodland may affect special-status species. General Plan actions protect sensitive habitats and encourage preservation of mature trees and windrows. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue, Serra, and Olivas may affect species that inhabit mature trees, windrows, oak woodland, riparian, and scrub areas. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue and Olivas may affect species that inhabit mature trees and windrows, oak woodland, riparian, and scrub areas. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue and Serra may affect species that inhabit mature trees and windrows, oak woodland, riparian, and scrub areas. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue and W. Cañada Larga may affect species that inhabit mature trees and windrows, oak woodland, grassland, and scrub areas. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Development in North Avenue may affect species native to oak woodland, riparian, and scrub, mature trees and windrows. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.
Wildlife Corridors (Impact BIO-4)	Development near riparian areas, barrancas, and open space near Mariano Ranch may affect ecological connectivity through these corridors. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Development impacts similar to Scenario 1. Expansion into North Avenue area may affect the Manuel Creek corridor. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Development impacts similar to Scenario 1. Expansion into North Avenue area may affect the Manuel Creek corridor. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Development impacts similar to Scenario 1. Expansion into North Avenue area may affect the Manuel Creek corridor. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Development impacts similar to Scenario 1. Expansion into North Avenue area may affect the Manuel Creek corridor. Expansion into W. Cañada Larga and Weldon canyon Creek corridors. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.	Development impacts similar to Scenario 1. Expansion into North Avenue area may affect the Manuel Creek corridor. Proposed General Plan policies and actions reduce potential impacts to Class III, less than significant.



Impact BIO-1 All of the 2005 General Plan land use scenarios generally avoid direct impacts to riparian, wetland, and open water habitats. However, in certain areas, development could adversely affect the quality of riparian and wetland habitat. Implementation of proposed General Plan policies and actions, including Action 1.8 (which requires buffers from rivers, creeks, and barrancas), would reduce potential impacts to a Class III, *less than significant*, level for any of the six land use scenarios.

Each of the land use scenarios focus predominantly on intensification and reuse of already developed areas and limited expansion into agricultural and/or relatively undisturbed areas. As such, the scenarios would generally avoid direct impacts to riparian, wetland, and open water habitats. In addition, the removal of the hillside areas above the City from the Sphere of Influence, as is anticipated to occur under any of the scenarios, would avoid the potential for impacts to riparian and wetland resources in the hillside areas.

The 2005 General Plan includes the following actions aimed at the protection of riparian areas from the impacts of future development:

- Action 1.8** *Buffer barrancas and creeks that retain natural soil slopes from development according to State and Federal guidelines.*
- Action 1.9** *Prohibit placement of material in watercourses other than native plants and required flood control structures, and remove debris periodically.*
- Action 1.10** *Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.*
- Action 1.11** *Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or "natural" coastal areas.*
- Action 1.17** *Require development to mitigate its impacts on wildlife through the development review process.*
- Action 1.18** *Require new development adjacent to rivers, creeks, and barrancas to use native or non-invasive plant species, preferably drought tolerant, for landscaping.*
- Action 1.19** *Require projects near watercourses and shoreline areas to include surveys for State and/or federally listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species.*



Action 1.21 *Work with State Parks on restoring the Alessandro Lagoon and pursue funding cooperatively.*

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes the intensification of development in already developed or disturbed areas. As a result, the extent of riparian and wetland resources affected under this scenario is generally limited. In addition, most of the resources have been modified from their natural state. Examples include the concrete channelized Arundell Barranca, which crosses through the Harbor and Arundell districts, the Barlow Barranca that intersects the Telegraph Road corridor, and the Brown Barranca in the Wells Road corridor and Saticoy district. See Photo 1 on Figure 4.4-3 for a view of Brown Barranca.

Implementation of standard Best Management Practices (BMPS) during construction and receipt and implementation of permits would be required to address potential impacts and modification to jurisdictional drainages. Potential permits that could be required include the USACE Section 404 permit, CDFG Streambed Alteration Agreement, RWQCB Section 401 Certification, and for projects with greater than one acre of ground disturbance, a State Water Resources Control Board (SWRCB) Stormwater Pollution Prevention Plan (SWPPP). Intensification would likely improve the value of some of these areas through future drainage improvements required during development and the requirements of resource agency permits.

The Upper North Avenue, North Avenue, and Saticoy districts have more sensitive riparian and wetland resources than the other areas proposed for intensification and reuse because of their proximity to the Ventura and Santa Clara Rivers. The following partially natural drainages are also present in these areas:

Upper North Avenue

- *Cañada Larga Creek - A natural channel of sand and cobble with dense patches of willow for areas west of Ventura Avenue; and a concrete box devoid of vegetation to the east of Ventura Avenue.*
- *Manuel Canyon Creek - East of Ventura Avenue it is a natural-bottomed channel, scoured of vegetation. West of Ventura Avenue the drainage is partially channelized, but has dense patches of native vegetation.*
- *Cañada de las Encinas - A primarily channelized drainage passing through and under developed areas.*

North Avenue

- *School Canyon Creek - A natural-bottom channel with patches of willow and nonnative vegetation. This drainage is undergrounded west of Ventura Avenue.*

Saticoy

- *Brown Barranca - A concrete rip-rapped channel devoid of vegetation.*
- *Franklin Barranca - A concrete channel that changes to a natural channel with dense native vegetation near the Santa Clara River.*



Photo 1 View of concreted rip-rap that lines the banks of Brown Barranca in the Satcoy District.



Photo 2 Riparian habitat within Manuel Canyon Creek, a natural drainage west of Ventura Avenue.



Photo 3 Cañada Larga Creek, west of Ventura Avenue, is in a relatively natural state.



Photo 4 East of Ventura Avenue, Cañada Larga Creek has been channelized with concrete banks.

Riparian Areas and Drainages

Figure 4.4-3
City of Ventura

The western portions of these areas, closest to the Ventura River, have a scattering of riparian vegetation in highly disturbed ruderal fields. The Saticoy area has patches of dense riparian and ruderal vegetation along the Santa Clara River. Least bell's vireo is known to be present along the reach of the Ventura River in the Planning Area and other listed or sensitive species could potentially utilize these areas (e.g. Coulter's goldfields and native oaks and sycamores). Wetlands may also be present in the western portions of the North Avenue and Upper North Avenue districts, as suggested by wet cracked soils observed during the field visits.

Implementation of Action 1.8, requiring buffers from the Ventura and Santa Clara Rivers, would minimize potential impacts to riparian and ruderal vegetation near these rivers to a less than significant level. Action 1.9 would require the use of native landscaping adjacent to rivers, creeks, and barrancas, which would address potential indirect adverse effects to downstream fish, wildlife, and vegetation as a result of water quality degradation associated with increased human activity. In addition, Action 1.10 would restore channelized barrancas and creeks to a quasi-natural condition to the extent feasible.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Scenario 2 would meet projected growth by focusing development on a combination of intensification and reuse of the existing urban area and three expansion areas: North Avenue, Olivas, and Serra. Additional impacts associated with expansion into the North Avenue, Olivas, and Serra expansion areas include potential direct impacts to riparian and wetland resources and jurisdictional areas, reduction and degradation of available wildlife habitat, and indirect impacts to downstream areas via degradation of water quality. With implementation of 2005 General Plan Actions 1.8 and 1.9, these impacts would be reduced to a less than significant level. Specific impacts associated with each expansion area are discussed below.

North Avenue. Development of this area could result in the degradation of riparian habitat associated with additional reaches of Manuel Canyon Creek, a natural channel that is a tributary to the Ventura River, due to increased human activity. See Photo 2 on Figure 4.4-3 for a view of riparian habitat within Manuel Canyon Creek. Wetlands are potentially present within the creek and could also be affected. Downstream water quality could also be affected from erosion. This drainage and its water resources are under the jurisdiction of the USACE, CDFG, and RWQCB.

Olivas. Development of this area could result in impacts to wetland habitat and associated wildlife located within a natural bottomed roadside drainage channel along Olivas Park Drive and scattered patches of riparian vegetation onsite. Despite the adjacent traffic, wildlife utilizes this area, as noted by the egrets and mallards observed within the drainage. Future development of this expansion area could result in a net loss of wetlands and riparian habitat onsite. Indirect water quality impacts to downstream areas could also occur. Like the Arundell Barranca onsite, the drainage may also be under the jurisdiction of USACE, CDFG, and RWQCB. Arundell Barranca would not be adversely affected by future development as it is channelized and supports no significant riparian or other biological resources. See Photo 6 on Figure 4.13 in Section 4.1, *Aesthetics*, for a view of Arundell Barranca. To the contrary, development of this expansion area could potentially provide an opportunity for restoration of the Arundell Barranca to a more natural condition.

Serra. Development of this area could adversely affect the least Bell's vireo and steelhead trout and other special-status species, if present, along the banks and channel Santa Clara River. Indirect water quality impacts to the Santa Clara River via the armored Harmon Canyon Barranca and the protected species that travel along it (e.g. steelhead trout, tidewater goby) could also occur, as discussed above.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Scenario 3 includes intensification and reuse of lands as discussed under Scenario 1, as well as the North Avenue and Olivas expansion areas as discussed under Scenario 2. This scenario would be similar to the Scenario 2 in that riparian and wetland resources associated with four natural drainages (Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon Creeks) and the adjacent Ventura and Santa Clara Rivers could be potentially affected. Riparian and wetland habitat associated with Manuel Canyon Creek, the roadside drainage along Olivas Drive, and Arundell Barranca could also be adversely affected under this scenario. With implementation of General Plan Actions 1.8 and 1.9, these impacts would be reduced to a less than significant level.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Scenario 4 includes intensification and reuse of lands as discussed under Scenario 1, as well as the North Avenue and Serra expansion areas as discussed under Scenario 2. Potential impacts associated with this scenario would be similar to those of Scenario 2 except for the following: (1) no impacts to wetland habitat and associated wildlife located within a natural bottomed roadside drainage channel along Olivas Park Drive would occur; and (2) there would be no opportunity for restoration of Arundell Barranca. With implementation of General Plan Actions 1.8 and 1.9, impacts would be reduced to a less than significant level.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Scenario 5 includes intensification and reuse of lands as discussed under Scenario 1, as well as the North Avenue expansion area as discussed under Scenario 2. This scenario also includes the Western Cañada Larga expansion area. Riparian and wetland resources associated with four natural drainages (Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon Creeks) and the adjacent Ventura and Santa Clara Rivers could be potentially affected as could riparian and wetland habitat associated with the upper reaches of Manuel Canyon Creek in the North Ventura area. In addition, the lower reaches of Cañada Larga and Weldon Canyon Creeks near State Route 33, which are in a relatively natural state, could potentially be affected. It is useful to note the difference between Canada Larga Creek west and east of Ventura Avenue (see Photos 3 and 4 on Figure 4.4-3). General Plan Action 1.8 would provide unchannelized creeks with buffers from development, and Action 1.9 would require the use of native landscaping in riparian areas, and Action 1.10 would aim to restore channelized barrancas to a quasi-natural condition. Implementation of these actions would reduce potential impacts to a less than significant level.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Scenario 6 includes intensification and reuse of lands as discussed under Scenario 1, as well as the North Avenue expansion area as discussed under Scenario 2. This scenario also includes the Poinsettia expansion area. Riparian and wetland resources associated with four natural drainages (Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon Creeks) and the adjacent Ventura and Santa Clara Rivers could be potentially affected, as could riparian and wetland habitat associated with upstream reaches of Manuel Canyon Creek in the North Ventura Avenue area. Development of the Poinsettia expansion area could further degrade the Harmon Canyon Barranca. As this natural bottomed channel is surrounded by dense vegetation dominated by non-native eucalyptus and tree-tobacco with some scattered native scrub species, the impact to riparian and wetland resources is not anticipated to be significant for this area with use of standard BMPs during construction to protect water quality. With implementation of 2005 General Plan Actions 1.8 and 1.9, potential impacts to riparian and wetland habitats would be reduced to a less than significant level.

MITIGATION MEASURES

Implementation of 2005 General Plan Actions 1.8 and 1.9 would reduce potential impacts to wetland and riparian habitats to a less than significant level. No additional mitigation measures are required.

SIGNIFICANCE AFTER MITIGATION

Implementation of proposed 2005 General Plan actions would reduce impacts to riparian, wetland, and aquatic resources to a less than significant level for any of the six scenarios.

Impact BIO-2	All of the General Plan land use scenarios would largely avoid impacts to sensitive habitats and mature native trees by emphasizing intensification/reuse of urbanized areas. Implementation of General Plan policies and actions that aim to protect sensitive habitats and mature trees would reduce potential impacts to a Class III, <i>less than significant</i>, level for all six scenarios.
---------------------	--

All of the General Plan land use scenarios focus predominantly on intensification of existing developed areas and limited expansion into agricultural and/or relatively disturbed areas. As such, sensitive habitats and mature trees are limited in the Planning Area and consist primarily of jurisdictional waters and wetlands. Limited oak woodlands, mature oak trees, and dune habitat are present, and walnut woodland, native bunchgrass grasslands, and mature sycamores and other native trees are anticipated to be present in limited quantities and in a relatively disturbed state. It should also be noted that removal of the hillside areas above the City from the Sphere of Influence, as is anticipated to occur under any of the six land use scenarios, would avoid the potential for impacts to sensitive habitats and mature native trees in the hillside areas.

The 2005 General Plan includes the following policy and actions aimed at the protection of sensitive habitats from the impacts of future development:

- Policy 1C** *Improve protection for plants and animals.*
- Action 1.18** *Require new development adjacent to rivers, creeks, barrancas, and other sensitive habitat areas to use native or non-invasive plant species, preferably drought tolerant, for landscaping.*
- Action 1.19** *Require projects near watercourses, shoreline areas, and other sensitive habitat areas to include surveys for State and/or federally listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species.*
- Action 1.22** *Adopt development code provisions to protect mature trees on public and private property.*
- Action 1.23** *Require, where appropriate, the preservation of healthy tree windrows associated with current and former agricultural uses, and incorporate trees into the design of new developments.*
- Action 1.24** *Require new development to maintain all indigenous tree species or provide adequately sized replacement native trees on a 3:1 basis.*

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes the intensification of development in already developed or disturbed areas. Sensitive habitat types are therefore limited within the intensification areas. Development of the Upper North Avenue, North Avenue, Arundell, and Saticoy districts could affect jurisdictional waters and wetlands as discussed above under Impact BIO-1. See Photo 1 on Figure 4.4-4 for a view of ruderal and riparian vegetation near the Upper North Avenue district. A small area of dune habitat along the western edge of Spinnaker Drive would be restored as part of the Harbor district development. Dredging or similar activities within the open waters of the Ventura Harbor could occur with development of the Harbor district; however, these activities are ongoing and would continue to be regulated by permits from the USACE, CCC, and other entities. Oak and/or walnut woodlands are located along the western edge of the Upper North Avenue district and the eastern edge of the North Avenue district. These areas could be potentially affected by proposed intensification through direct removal of habitat or indirect degradation via non-native plant introduction and increased human usage. There is also some potential for native bunchgrass grasslands or other sensitive habitats to be adversely affected in these areas as well as the Mariano Ranch area above Foothill Road, which could potentially accommodate residential development under the 2005 General Plan. However, provided that Actions 1.8, 1.18, 1.19, and 1.22 are implemented, impacts would be reduced to a less than significant level.



Photo 1 Ruderal areas with scattered riparian vegetation near the Upper North Avenue district.



Photo 2 Native coastal sage scrub can be seen on the hillsides adjacent to the North Avenue expansion area. Much of this area is actively farmed with citrus orchards (foreground).



Photo 3 Coastal sage scrub and grasses cover the hillsides within the Western Cañada Larga expansion area.



Photo 4 Dense nonnative vegetation (eucalyptus) with some native scrub components dominates Harmon Barranca along the eastern edge of the Poinsettia expansion area.

Sensitive Habitats

Figure 4.4-4
City of Ventura



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Scenario 2 would meet projected growth by focusing development on a combination of intensification and reuse of the existing urban area and three expansion areas: North Avenue, Olivas, and Serra. Future development of the North Avenue expansion area could affect jurisdictional waters and wetlands potentially present in the upper reaches of Manuel Canyon Creek and disturbed oak woodland south of the creek via direct removal sensitive habitat areas, introduction of incompatible landscape species, and increased human intrusion. In addition, native habitats including coastal sage scrub, grasslands, and oak woodlands occur naturally on the hillsides within the North Avenue expansion area (see Photo 2 on Figure 4.4-4). Sensitive habitats potentially affected by development of the Olivas and Serra areas are limited to the potential jurisdictional waters and wetlands onsite and, for the Serra area, the adjacent Santa Clara River bed, banks, and channel. Several locations within the Planning Area, including the Olivas area, contain rows of eucalyptus trees (windrows) that provide a distinct visual character as well as providing habitat for many species. Please refer to Photo 5 in Section 4.1, *Aesthetics*, for a view of eucalyptus windrows located within the Olivas expansion area. Implementation of General Plan Action 1.8 would require a buffer from the top of bank of the Santa Clara River bed and Action 1.22 directs the City to adopt development code provisions to protect mature trees. Action 1.23 directs the preservation of windrows and Action 1.24 requires the preservation or 3:1 replacement of indigenous tree species. Implementation of these actions would reduce potential impacts to a less than significant level.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Scenario 3 includes the same intensification potential as described for Scenario 1, as well as the potential future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, sensitive habitats within the North Avenue area include jurisdictional waters and wetlands associated with upper reaches of Manuel Canyon Creek and oak woodland. Habitat impacts could occur via direct removal, introduction of incompatible landscape species, and increased human intrusion. Sensitive habitats present in the Olivas area are limited to the wetland areas onsite. As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Scenario 4 includes the same intensification potential as described for Scenario 1, as well as the potential future development of the North Avenue and Serra expansion areas. As discussed under Scenario 2, sensitive habitats within the North Avenue area include jurisdictional waters and wetlands associated with Manuel Canyon Creek, oak woodland, walnut woodland, and bunchgrass grasslands. Habitat impacts could occur via direct removal, introduction of incompatible landscape species, and increased human intrusion. Impacts to the sensitive riparian habitats associated with the Santa Clara River could occur with development of the Serra area. As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Scenario 5 includes the same intensification potential as described for Scenario 1, as well as the potential future development of the North Avenue and Western Cañada Larga expansion areas. As discussed under Scenario 2, sensitive habitats within the North Avenue area include jurisdictional waters and wetlands associated with Manuel Canyon Creek, oak woodland, walnut woodland, and bunchgrass grasslands. Impacts could occur via direct removal, introduction of incompatible landscape species, and increased human intrusion. The Western Cañada Larga area is the least disturbed of the expansion areas and has the greatest likelihood for sensitive upland habitats (e.g., coastal sage scrub, native bunchgrass grassland, oak woodland) to be present, as seen in Photo 3 on Figure 4.4-4. Proposed General Plan Action 1.19 would update the existing tree protection guidelines to include mature trees on public and private property. Implementation of General Plan Action 1.8 would require a buffer from the top of bank of the Ventura River bed, and would reduce potential impacts to a less than significant level. Action 1.19 would require the protection of sensitive habitats from the impacts of urban development. Implementation of these proposed General Plan actions would reduce impacts to a less than significant level.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Scenario 6 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue and Poinsettia expansion areas. As discussed under Scenario 2, sensitive habitats within the North Avenue area could include jurisdictional waters and wetlands associated with the upper reaches of Manuel Canyon Creek, oak woodland, walnut woodland, and bunchgrass grasslands. Habitat impacts could occur via direct removal, introduction of incompatible landscape species, and increased human intrusion. Sensitive habitat areas that could be affected by development of the Poinsettia area are limited to the jurisdictional Harmon Canyon Barranca, as seen in Photo 4 on Figure 4.4-4. Implementation of General Plan Action 1.8 would require a buffer from the top of bank of the Santa Clara River bed, and would reduce potential impacts to a less than significant level. The Poinsettia area also includes several windows of poplars that could potentially be affected by development of that area. However, General Plan Action 1.23 calls for the preservation of windrows. Implementation of these actions would reduce impacts to a less than significant level.

MITIGATION MEASURES

Compliance with proposed 2005 General Plan actions would reduce potential impacts to sensitive habitats to a less than significant level. No additional mitigation measures are required.

SIGNIFICANCE AFTER MITIGATION

Implementation of proposed 2005 General Plan policies and actions would reduce impacts to sensitive habitats, including mature trees, to a less than significant level for any of the six scenarios.



Impact BIO-3 All of the General Plan land use scenarios would largely avoid impacts to special-status plant and animal species by emphasizing intensification/reuse of already urbanized areas rather than developing greenfields at the City's periphery. Potential impacts could occur in certain locations, but would be addressed through implementation of proposed General Plan policies and actions. Impacts are considered Class III, *less than significant*, for all six scenarios.

Each of the land use scenarios focuses predominantly on intensification of existing developed areas, with some potential for development in agricultural and/or relatively disturbed areas. As such, the potential for special-status species impacts is limited due to the extent of habitats that can support these resources in the Planning Area. When present, special-status species are most likely to be associated with the Ventura and Santa Clara Rivers (e.g. least Bell's vireo, steelhead trout, southwestern pond turtle), and trees or windrows (nesting birds, monarch butterfly, sensitive bats). Special-status species could also occur in the small areas of oak woodland, riparian, wetland, and other native habitats that are present in the Planning Area.

It should also be noted that removal of the hillside areas above the City from the Sphere of Influence, as is anticipated to occur under any of the six land use scenarios, would avoid the potential for impacts to special-status species in that portion of the Planning Area.

General Plan Action 1.19, listed under Impact BIO-2, requires projects near sensitive habitat areas to include surveys for listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species. Action 1.22 requires the City to update its tree protection guidelines to protect mature trees on public and private property. Action 1.23 requires the preservation of healthy tree windrows associated with current and former agricultural uses. Action 1.24 requires the preservation or 3:1 replacement of indigenous tree species.

Scenario 1 - Intensification/Reuse Only

Scenario 1 generally involves the intensification of development in already developed or disturbed areas. Special-status species are therefore limited within the intensification areas. Development of the Upper North Avenue, North Avenue, and Saticoy districts could affect special-status species offsite and downstream along the Santa Clara and Ventura Rivers (e.g. least Bell's vireo, arroyo chub, steelhead trout, southwestern pond turtle, two-striped garter snake) via water quality impacts (erosion and spills), reduction of vegetation buffers and increased human intrusion. Areas of native vegetation or natural drainages associated with the Upper North Avenue and North Avenue districts and the Mariano Ranch area in the hillsides above Foothill Road could also support special-status species (e.g. coast horned lizard, silvery legless lizard, burrowing owl, and sensitive plants) and could be affected by removal of native vegetation. Although the dune habitat west of Spinnaker Drive in the Harbor District would be restored as part of future development, short-term impacts to sensitive plants and animals (e.g. Western snowy plover and sensitive plants) could occur during construction. Impacts to special-status species in these areas would be reduced to less than significant with the

implementation of Action 1.19, which requires project proponents to conduct surveys for listed species and provide buffers and other mitigation as necessary.

Trees and windrows could be used for nesting (e.g. raptors, nesting birds) or wintering (e.g. monarch butterfly) by special-status species. Several sensitive bats could also utilize these areas, but would not be significantly affected by development, as they are highly mobile, relatively adapted to human environments, and have adjacent open space areas available to them. Notable areas with large trees or windrows that could be affected by development include the Upper North Avenue, North Avenue, Arundell, and Saticoy districts, and other agricultural lands within the SOI that are slated for residential development (including the agricultural area near the 101/126 interchange and several agricultural properties in the Saticoy area). Actions 1.22, 1.23, and 1.24 require the preservation of mature tree, including windrows. Implementation of these actions, in combination with the requirements of Action 1.19, would reduce impacts to a less than significant level.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Scenario 2 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue, Olivas, and Serra expansion areas. Development of the North Avenue expansion area could affect special-status species associated with oak woodland, coastal sage scrub and Manuel Canyon Creek (e.g. burrowing owl, San Diego woodrat, coastal western whiptail, patch-nosed snake, nesting birds, oak trees, etc.). Special-status species potentially associated with the Olivas and Serra areas are anticipated to be limited to species associated with trees and windrows (e.g. nesting birds, monarch butterfly wintering areas). Species associated with the Santa Clara River area (e.g. least Bell's vireo, steelhead trout, southwester pond turtle) could also be adversely affected with development of the Serra area. General Plan Action 1.19 requires proponents of projects near sensitive habitat areas to conduct special-status species and mitigate impacts as necessary. Actions 1.22, 1.23, and 1.24 require the protection of mature trees, including windrows. Implementation of these actions would reduce impacts to a less than significant level.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Scenario 3 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, development of the North Avenue area could affect special-status species associated with the oak woodland, coastal sage scrub, and Manuel Canyon Creek onsite (e.g. burrowing owl, San Diego woodrat, coastal western whiptail, patch-nosed snake, nesting birds, oak trees, etc.). Special-status species potentially associated with the Olivas area are anticipated to be limited to species associated with trees and windrows (e.g. nesting birds, and monarch butterfly wintering areas), although sensitive birds may use the wetland areas onsite for foraging. As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Scenario 4 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue and Serra expansion areas. As discussed

under Scenario 2, development of the North Avenue area could affect special-status species associated with oak woodland, coastal sage scrub, and Manuel Canyon Creek onsite (e.g. burrowing owl, San Diego woodrat, coastal western whiptail, patch-nosed snake, nesting birds, oak trees, etc.). Special-status species potentially associated with the Serra area are anticipated to be limited to species associated with trees and windrows (e.g. nesting birds, and monarch butterfly wintering areas) and species associated with the Santa Clara River area (e.g. least Bell's vireo, steelhead trout). As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Scenario 5 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue and Western Cañada Larga areas. As discussed under Scenario 2, development of the North Avenue area could affect special-status species associated with the oak woodland, coastal sage scrub, and Manuel Canyon Creek onsite (e.g. burrowing owl, San Diego woodrat, coastal western whiptail, patch-nosed snake, nesting birds, oak trees, etc.). Although relatively small in size, the Western Cañada Larga area could include special-status species associated with oak woodlands, scrub, grasslands, and riparian areas present onsite and connected to more extensive open space areas to the north. Special-status species associated with the segment of the Ventura River floodplain onsite and downstream open water areas (e.g. least Bell's vireo, steelhead trout, southwestern pond turtle) could also be affected. Trees and windrows in these areas could support nesting birds and Monarch butterfly wintering areas. As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Scenario 6 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue and Poinsettia expansion areas. Development of the North Avenue area could affect special-status species associated with the oak woodland, coastal sage scrub, and Manuel Canyon Creek onsite (e.g. burrowing owl, San Diego woodrat, coastal western whiptail, patch-nosed snake, nesting birds, oak trees, etc.). Special-status species potentially associated with the Poinsettia area are anticipated to be limited to species associated with trees and windrows (e.g. nesting birds, and monarch butterfly wintering areas). As discussed under Scenario 2, implementation of proposed 2005 General Plan actions would reduce impacts to a less than significant level.

MITIGATION MEASURES

Implementation of 2005 General Plan Action 1.19 would require protect state and federally listed species and buffer such species from urban uses. Actions 1.22, 1.23, and 1.24 would preserve existing mature trees, including windrows. Additional mitigation is not needed.

SIGNIFICANCE AFTER MITIGATION

Implementation of proposed 2005 General Plan policies would reduce impacts to special-status plant and animal species to a less than significant level for any of the six scenarios.

Impact BIO-4 All of the General Plan land use scenarios would largely avoid impacts to wildlife movement corridors by emphasizing intensification/reuse of existing urbanized areas. Implementation of General Plan Actions 1.8, 1.9, and 1.10 would maintain ecological connectivity corridors through urban spaces and potentially enhance connectivity in some locations. Therefore, impacts to wildlife movement are considered Class III, *less than significant*, for all six scenarios.

The proposed scenarios for growth focus predominantly on intensification of existing developed areas and limited expansion into agricultural and/or relatively disturbed areas. As such, the potential for impacts to wildlife corridors is limited and is primarily associated with the semi-natural drainages located in the western and southern portions of the Planning Area (Ventura and Santa Clara Rivers, and Weldon Canyon, Cañada Larga, Manuel Canyon, Cañada de las Encinas and School Canyon Creeks). It should also be noted that removal of the hillside areas above the City from the Sphere of Influence, as is anticipated to occur under any of the six land use scenarios, would limit the potential for impacts to wildlife corridors in that portion of the Planning Area.

As noted under Impact BIO-1, proposed General Plan Action 1.8 requires buffers between barrancas and creeks that retain natural soil slopes and new development. Action 1.9 prohibits the placement of material in watercourses other than native plants and required flood control structures, and Action 1.10 requires the removal of concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.

Scenario 1 - Intensification/Reuse Only

Scenario 1 generally emphasizes the intensification of development in already developed or disturbed areas. Wildlife movement corridors are therefore limited only to those portions of the plan that have open space areas, or drainages that connect open space areas. Development of the Upper North Avenue, North Avenue, and Saticoy districts, and other areas such as Mariano Ranch (undeveloped area within the existing City limits above Foothill Road) could potentially affect animal movement, especially along the existing creeks/barrancas and the Ventura and Santa Clara Rivers. However, implementation of the buffer requirement of Action 1.8 and restoration of these drainages as part of Action 1.10 could have a beneficial effect to wildlife movement. Impacts to wildlife corridors under this scenario are therefore considered less than significant.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Scenario 2 includes the same intensification potential as described for Scenario 1, as well as the possible future development of the North Avenue, Olivas, and Serra expansion areas. Manuel Canyon Creek, which crosses through the North Avenue expansion area, is considered a significant wildlife corridor between the Ventura River area and hillsides to the east and could potentially be adversely affected by development of that area. Arundell and Harmon Canyon



Barrancas, which are associated with the Olivas and Serra areas respectively, are not anticipated to be significant corridors due to their high level of disturbance and lack of native vegetation. It should be noted that improvements to these drainages during future development could improve the quality of these areas for wildlife movement. Development along the banks of the Santa Clara River as part of the development of the Serra area could adversely affect fish and wildlife movement along the River. Implementation of General Plan Action 1.8, which would require a buffer of natural vegetation, would reduce potential impacts to less than significant. Implementation of Action 1.10 on Arundell Barranca through the Olivas area could restore wildlife movement values to some degree along that concrete channel.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Scenario 3 includes the same intensification potential as described for Scenario 1, as well as the North Avenue, and Olivas areas. Manuel Canyon Creek is considered a significant wildlife corridor within the North Avenue expansion area and could be adversely affected by development. Arundell Barranca, which is associated with the Olivas area, is not a significant corridor due to its channelized nature and lack of vegetation. As discussed under Scenario 2, implementation of proposed General Plan actions would reduce impacts to a less than significant level.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Scenario 4 includes the same intensification potential as described for Scenario 1, as well as the North Avenue, and Serra areas. Manuel Canyon Creek is considered a significant wildlife corridor within the North Avenue expansion area and could be adversely affected by development. Harman Canyon Barranca, which is associated with the Serra area, is not a significant wildlife corridor due to its high level of disturbance and areas lacking vegetation. As discussed under Scenario 2, implementation of proposed General Plan actions would reduce impacts to a less than significant level.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Scenario 5 includes the same intensification potential as described for Scenario 1, as well as the North Avenue, and Western Cañada Larga areas. Manuel Canyon Creek is considered a significant wildlife corridor within the North Avenue expansion area and could be adversely affected by development. Cañada Larga and Weldon Canyon Creeks associated with the Western Cañada Larga area are considered significant wildlife corridors between the Ventura River area and hillsides to the east and northeast, and could also be adversely affected by development of that area. However, implementation of Action 1.8, which would require a buffer of natural vegetation, would reduce potential impacts to a less than significant level.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Scenario 6 includes the same intensification potential as described for Scenario 1, as well as the North Avenue, and Poinsettia areas. Manuel Canyon Creek is considered a significant wildlife corridor within the North Avenue expansion area and could be adversely affected by development. However, implementation of General Plan Action 1.8, which would require a

buffer of natural vegetation, would reduce potential impacts to a less than significant level. Harmon Canyon Barranca, which is the eastern boundary of the Poinsettia area, is not anticipated to be a significant corridor due to its high level of disturbance and areas lacking vegetation. Restoration of the barranca as part of the development of the Poinsettia in accordance with Action 1.10 would have a beneficial effect to wildlife movement.

MITIGATION MEASURES

Compliance with proposed General Plan policies and actions would reduce potential impacts to wildlife corridors to a less than significant level. No additional mitigation measures are required.

SIGNIFICANCE AFTER MITIGATION

Implementation of General Plan Actions 1.8, 1.9, and 1.10 would reduce impacts to wildlife corridors to a less than significant level for any of the six scenarios.

4.5 CULTURAL and HISTORIC RESOURCES

This section analyzes the impacts of the 2005 General Plan on cultural and historic resources. Impacts to both pre-historic archaeological resources and historic resources are addressed.

4.5.1 Setting

Cultural resources include pre-historic resources, historic resources, and Native American resources. Pre-historic resources represent the remains of human occupation prior to European settlement. Historic resources represent remains after European settlement and may be part of a “built environment,” including man-made structures used for habitation, work, recreation, education and religious worship. Historic resources may also include natural features, sites, or areas having historical, archaeological, cultural, or aesthetic significance. Native American resources include cultural elements pertaining to Native American issues and values.

The Ventura Planning Area is rich in cultural and historic resources. In addition to numerous pre-historic sites in the vicinity, about 100 sites (primarily in the Downtown area) and four neighborhood districts have been designated as historic. Figure 4.5-1 shows the locations of these districts and sites.

a. Pre-historic Resources. The diversity of natural resources, the temperate climate that allows for long growing seasons, proximity to the coast, and abundant natural materials available for tool manufacturing all combined to produce an archaeological record in Ventura of almost the entire chronological and cultural span of human activity in southern California.

Significant Recorded Pre-historic Sites. For the 1989 Comprehensive Plan Master EIR, an inventory of recorded archaeological sites was compiled from the files of the State Information Center, Institute of Archaeology, University of California at Los Angeles, site records, excavation reports, and relevant literature. This information has been updated for the 2005 General Plan with materials obtained from the City, local museums, Native American organizations, and historical groups.

Within the Planning Area, there are 25 recorded archaeological sites and 96 historic landmarks or points of interest, at least 43 of which may also contain subsurface cultural resources. Pre-historic sites generally involve at least one of the following resources: middens, milling stone sites, large villages, cemeteries, hilltop bead shrines, flake scatters and camp workshops. Key areas include: Shisholop Village, the San Buenaventura Mission, and village sites in the North Avenue community, Saticoy, and Taylor Ranch. Drainages, especially the Ventura River, are also important archaeological locations. Some of the major resources are described below.

Shisholop Village. Also known as Historic Landmark 18, this site, located at the foot of Figueroa Street in Downtown Ventura, once contained a Chumash village believed to have been a Chumash provincial capital. One portion of the village has been excavated. Additional remains may exist.

Mission Area. Village sites exist on both the north and south sides of Main Street in downtown Ventura. Important structures associated with the Mission have also been



documented. The Mission Aqueduct, which is fragmented, lies in sections as it heads north and south from the Mission property.

North Avenue Community. Two different parts of a major Chumash village have been excavated in one area. In another location, excavation revealed “dark mound soil” which contrasted to the light claylike surrounding soils. This location has been covered by a dwelling, roads, gardens, and orchards. The owner of the property collected mortars, pestles, milling stones, and projectile points, as well as branding irons, spurs, and knives. A segment of the Mission aqueduct runs along the base of a hill east and south of the site. Since the original recording of the site, the construction of State Route 33 may have affected part of the front yard. The owner has since died; the whereabouts of his collection are unknown.

Saticoy Community. Included in this area is a village site, most likely Chumash, covering an area that is 300 by 1,000 feet, containing projectile points, scrapers, blades, drills, manos, milling stones, and trading beads. A cemetery, potentially Chumash, is also located in Saticoy.

Taylor Ranch. A major village has been excavated at Taylor Ranch, which is located west of the Ventura River. This site has been deemed the “most prominent cultural resource within the area” (Singer and Atwood, 1987). Estimated to be from the Oak Grove (Milling Stone) period, the site measures 500 by 1,000 feet, and includes the following artifacts: milling stones, hammerstones, and various flakes.

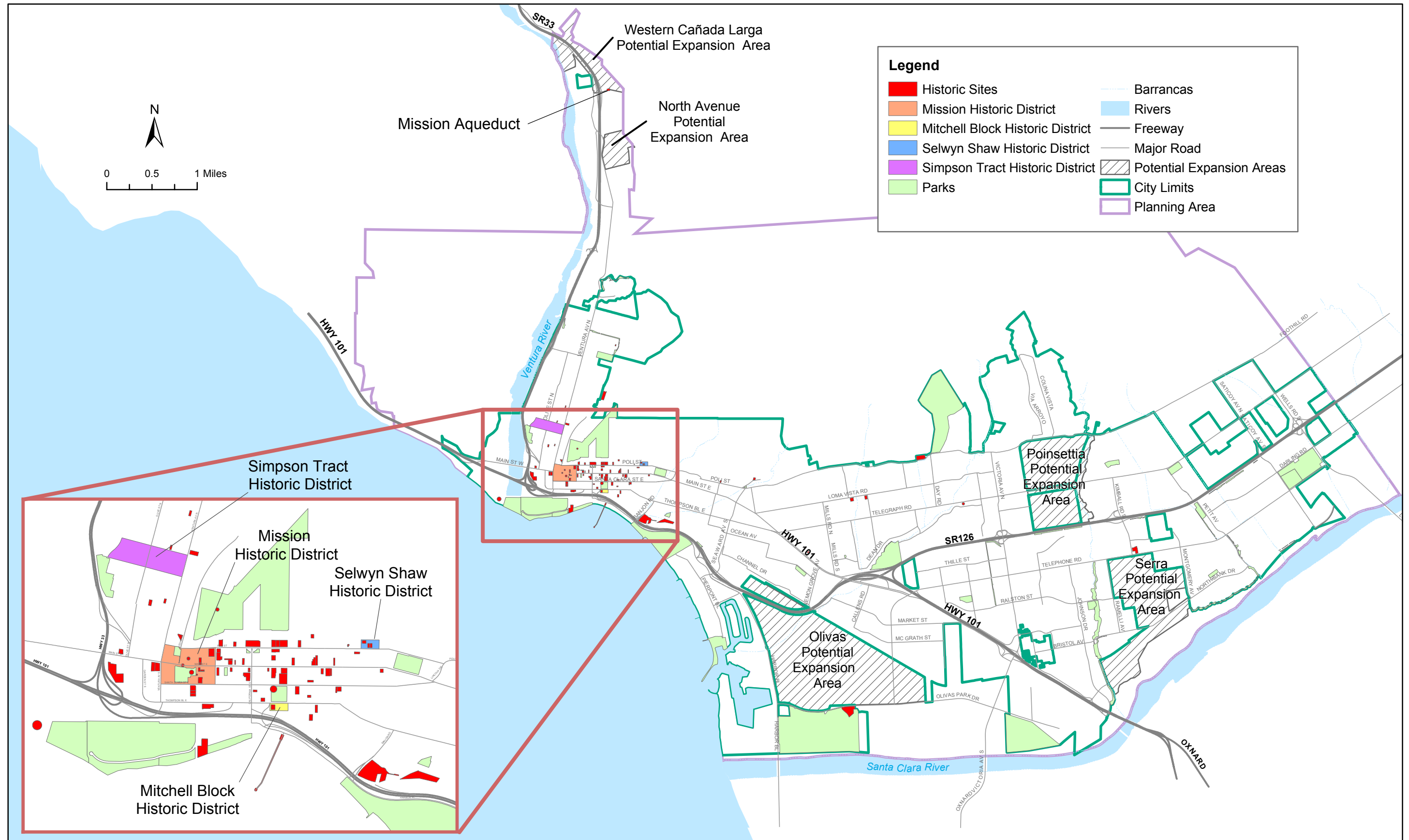
b. Historic Resources. There are a total of 96 designated historic sites/points of interest and four historic districts within the Planning Area. These include local, County, State, and National Register landmarks, landmark districts, and points of interest. The City owns several historic properties operated as sites open to the public and run by the Parks and Recreation Department. These include the Olivas Adobe, Ortega Adobe, Albinger Archaeological Museum, and other recorded archaeological sites in the Downtown area.

Historic sites include the Mission and its facilities, the Ortega adobe and the Olivas adobe, the Santa Gertrudis Chapel and San Miguel Chapels, and Chinatown. Historical landmarks that may also contain significant archaeological resources are mainly the nineteenth and early twentieth century residences of Ventura citizens, or early commercial buildings such as the Ferraud and Peirano stores downtown or the Bard Hospital on North Fir Street.

In 1982, the City received a grant from the State Office of Historic Preservation to conduct a comprehensive survey of the Downtown and Ventura Avenue areas. This study, combined with the Historical Architectural Survey completed in 1980 as part of the Downtown San Buenaventura Redevelopment Study Area, created a list of potential landmark sites in the downtown and Avenue areas of the City. Many of these proposed landmarks have since been designated.

The identification and designation of landmarks and points of interest outside City limits is the responsibility of the Ventura County Cultural Heritage Board. Landmarks include structures, natural features, sites, or areas having historical, archaeological, cultural, or aesthetic significance. The Ventura County Cultural Heritage Board also has designated a number points of interest, which include: sites of historical events; sites of historical resources or





Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Historic Districts and Sites

Figure 4.5-1
 City of Ventura

structures that no longer exist; and, natural features or areas having historical significance. Ventura County landmarks and points of interests that are located within the Planning Area include “Five Trees,” the Saticoy Walnut Growers Association Warehouse, the Saticoy Bean Warehouse, and the Farmers and Merchants Bank of Santa Paula.

In addition to the properties identified through the Cultural Heritage Survey, the Ventura Historic Preservation Committee is continually considering other sites eligible for landmark status. After recommendation from the Historic Preservation Committee, the Ventura Planning Commission holds a public hearing and sends the subject application to the City Council. If the proposed landmark meets the applicable standards set forth in the Ventura City Code 1971, Section 3.310.170, then the Council may vote to adopt a resolution approving a landmark or point of interest and refer such recommendation to the County Clerk’s office.

Appendix D includes a complete list of designated historic sites, points of interest, and historic districts within the Planning Area.

c. Regulatory Setting. A property may be designated as historic by National, State, or local authorities. In order for a building to qualify for listing in the National Register of Historic Places, the California Register of Historical Resources, or as a locally significant property in the City of Ventura, it must meet one or more identified criteria of significance. If the designation is for a building, the structure should also retain sufficient architectural integrity to continue to evoke the sense of place and time with which it is historically associated. An explanation of these designations follows.

National Register of Historic Places. The National Register of Historic Places (NRHP), which is administered by the National Park Service, is “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.” However, the federal regulations explicitly provide that National Register listing of private property “does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property.”

Listing in the National Register assists in preservation of historic properties through the following actions: recognition that a property is of significance to the nation, the state, or the community; consideration in planning for Federal or federally assisted projects; eligibility for Federal tax benefits; consideration in the decision to issue a federal permit; and qualification for Federal assistance for historic preservation grants, when funds are available. Properties may qualify for NRHP listing if they:

- A. *Are associated with events that have made a significant contribution to the broad patterns of our history*
- B. *Are associated with the lives of persons significant in our past*
- C. *Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction*
- D. *Have yielded, or may be likely to yield, information important in prehistory or history*



According to the NRHP guidelines, the essential physical features of a property must be present for it to be considered significant. Further, in order to qualify for the NRHP, a resource must retain its integrity, or the “ability to convey its significance.” The seven aspects of integrity are:

1. **Location** (the place where the historic property was constructed or the place where the historic event occurred);
2. **Design** (the combination of elements that create the form, plan, space, structure, and style of a property);
3. **Setting** (the physical environment of a historic property);
4. **Materials** (the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property);
5. **Workmanship** (the physical evidence of the crafts of a particular culture or people during any given period of history or prehistory);
6. **Feeling** (a property’s expression of the aesthetic or historic sense of a particular period of time); and
7. **Association** (the direct link between an important historic event or person and a historic property).

The relevant aspects of integrity depend upon the NRHP criteria applied to the property. For example, a property nominated under the location criterion would be likely to convey its significance primarily through integrity of location, setting, and association. A property nominated solely under the design criterion would usually rely primarily on integrity of design, materials, and workmanship. The California Register procedures include similar language with regard to integrity.

California Register of Historic Resources. The California Register of Historic Resources is an authoritative guide in California used by State and local agencies, private groups, and citizens to identify the State’s historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. A resource is eligible for listing on the California Register if it meets any of the following criteria for listing:

- A. *It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;*
- B. *It is associated with the lives of persons important in our past;*
- C. *It embodies the distinctive work of an important creative individual, or possesses high artistic values; or*
- D. *It has yielded, or may be likely to yield, information important in prehistory or history.*

The California Register may also include properties listed in “local registers” of historic properties. A “local register of historic resources” is broadly defined in Public Resources Code Section 5020.1(k) as “a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.” Local registers of historic properties come in two forms: (1) surveys of historic resources conducted by a local agency in accordance with Office of Historic Preservation procedures and standards, adopted by the local agency and maintained as current; and (2) landmarks designated under local ordinances or resolutions (Public Resources Code Sections 5024.1, 21804.1, 15064.5).



By definition, the California Register of Historic Resources also includes all “properties formally determined eligible for, or listed in, the National Register of Historic Places,” (NRHP) and certain specified State Historical Landmarks. The majority of formal determinations of NRHP eligibility occur when properties are evaluated by the State Office of Historic Preservation in connection with federal environmental review procedures (Section 106 of the Historic Preservation Act of 1966). Formal determinations of eligibility also occur when properties are nominated to the NRHP, but are not listed due to owner objection. The minimum age criterion for the NRHP and the California Register is 50 years. Properties less than 50 years old may be eligible for listing on the NRHP if they can be regarded as “exceptional”, as defined by the NRHP procedures, or in terms of the California Register, if “it can be demonstrated that sufficient time has passed to understand its historical importance.”

City of Ventura Criteria. The City of Ventura Municipal Code, Chapter 24.455, *Historic Preservation Regulations*, establishes the procedures for identifying, designating, and preserving historic landmarks or points of interest. Pursuant to §24.455.120.2, a building, structure, archaeological excavation, or object that is unique or significant because of its location, design, setting, materials, workmanship, or aesthetic feeling may qualify as a landmark if it is marked by any of the following:

- A. *Events that have made a meaningful contribution to the nation, state, or community*
- B. *Lives of persons who made a meaningful contribution to national, state, or local history*
- C. *Embodying the distinctive characteristics of a type, period, or method of construction*
- D. *Reflecting or exemplifying a particular period of the national, state, or local history*
- E. *The work of one or more master builders, designers, artists, or architects whose talents influenced their historical period, or work that otherwise possesses high artistic value*
- F. *Representing a significant and distinguishable entity whose components may lack individual distinction*
- G. *Yielding or likely to yield, information important to national, state, or local history or prehistory*

Pursuant to §24.455.120.3, any real property or object may qualify as a point of interest if:

- A. *It is the site of a building, structure, or object that no longer exists but was associated with historic events, important persons, or embodied a distinctive character of architectural style.*
- B. *It has historic significance, but was altered to the extent that the integrity of the original workmanship, materials, or style is substantially compromised.*
- C. *It is the site of a historic event which has no distinguishable characteristics other than that a historic event occurred there and the historic significance is sufficient to justify the establishment of a historic landmark.*

Potential landmarks or points of interests are first considered by the Historic Preservation Committee at a noticed public hearing and with the property owner’s permission. The Historic Preservation Committee then makes a recommendation to the Planning Commission. After consideration of the Historic Preservation Committee’s recommendation, the Planning Commission is responsible for making a recommendation to the City Council, which, after consideration at a noticed public hearing, has sole authority to designate landmarks or points of interest.



In addition to the designation of individual historical landmarks and points of interest, the Historic Preservation Committee, Planning Commission, and, ultimately, the City Council may designate certain areas of the City as Historic District (HD) Overlay Zones, pursuant to the City of Ventura Municipal Code, Chapter 23.340 and §24.455.310. The purpose of the HD Overlay Zone is to regulate a landmark, point of interest, or any combination thereof in order to:

- A. *Protect against destruction or encroachment upon such areas and structures*
- B. *Encourage uses which promote the preservation, maintenance, or improvement of landmarks and points of interest*
- C. *Assure that new structures and uses within such areas will be in keeping with the character to be preserved or enhanced*
- D. *Promote the educational and economic interests of the entire City*
- E. *Prevent creation of environmental influences adverse to such purposes*

The procedure for establishing an HD Overlay Zone is similar to that required for designating a historical landmark or point of interest and includes recommendations by the Historic Preservation Committee and Planning Commission to the City Council for consideration at noticed public hearings. After designation as a historical landmark, point of interest, or Historic District, future development that might have an impact on designated buildings, structures, or areas is subject to design review for compliance with any architectural and development guidelines that the City Council has adopted as a part of the designation process.

The City has adopted the Mills Act, a state law that grants local governments the authority to directly implement a historic preservation program to encourage the preservation and restoration of designated Historic Landmarks. In exchange for property tax relief, property owners agree to maintain and preserve the exterior of their properties according to the Secretary of the Interior's Standards for the Treatment of Historical Properties guidelines

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. Evaluation of significance under the California Environmental Quality Act is based on eligibility for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources. The NRHP is an effective planning tool for both long- and short-term cultural resource management considerations. An evaluation of significance in pre-historic and historic sites is usually measured by a number of variables, which reflect their applicability to present and future research questions posed by scientists in describing and explaining culture change.

Comprehensively, a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (1992) or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), shall be considered as mitigated to a level of less than significant impact on the historical resource.

Archaeological materials are extremely fragile and non-renewable. Thus, any activity that alters the surface of the land, inducing archaeological pursuits, can affect these resources. The cultural resource evaluation process requires that a resource, or the information it represents, be



related to some framework held in common by all archaeologists, and thus provide a measure of reference for determining the potential significance of similar resources. This framework usually addresses research orientation, and geographic, cultural, and temporal questions within the context of significance.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources [pursuant to section 5020.1(k) of the Public Resources Code], or identified in an historical resources survey [meeting the criteria in section 5024.1(g) of the Public Resources Code] does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

If development conducted pursuant to the 2005 General Plan could potentially cause damage to a significant archaeological resource, implementation of the General Plan may have a significant effect on the environment. Section 15064.5 of CEQA pertains to the determination of the significance of impacts to archaeological and historic resources. CEQA §15126.4(b) provides guidelines that assist in determining appropriate mitigation measures when it is determined that a project has the potential to create a significant impact on archaeological resources. Achieving CEQA compliance with regard to treatment of impacts to significant cultural resources requires that a mitigation plan be developed for the resource(s). Preservation in place is the preferred manner of mitigating impacts to significant archaeological resources.

Direct impacts may occur by:

- *Physically damaging, destroying, or altering all or part of the resource*
- *Altering characteristics of the surrounding environment that contribute to the resource's significance*
- *Neglecting the resource to the extent that it deteriorates or is destroyed. Indirect impacts primarily result from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources*
- *The incidental discovery of cultural resources without proper notification*

Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources, assessing the potential significance of the resources that may be affected, and determining the appropriate mitigation.

Indirect impacts primarily result from the effects of growth accommodated under the General Plan. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources. Due to their nature, indirect impacts are much harder to assess and quantify.

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts to cultural and historic resources for each of the scenarios under consideration. A discussion of the impacts follows.



Impact CR-1 Growth accommodated under any of the six scenarios could adversely affect previously identified and unidentified pre-historic archaeological resources. However, implementation of policies and actions included in the 2005 General Plan would reduce impacts to a Class III, *less than significant*, level for any of six land use scenarios.

A number of archaeological resource areas have been identified within the Planning Area. Notable sites include the Shisholop Village at the foot of Figueroa Street, the Mission area, two different parts of a Chumash Village in the North Avenue area, a village site and cemetery in Saticoy, and a village on Taylor Ranch. In general, the areas where future development intensification and reuse are likely to occur would not affect these known sites. Although there is the possibility that as yet undiscovered resources could be present at any location, based on the fact that most of the intensification/reuse sites have been previously graded, the likelihood of finding intact resources is considered low. Areas with the greatest potential for intact resources that could potentially be disturbed include portions of the North Avenue area (e.g., the area south of the Brooks Institute that is not developed), portions of the Downtown neighborhood, and Saticoy.

None of the potential expansion areas have been formally surveyed for archaeological resources. No known archaeological resources are present in any of the expansion areas and all of the areas have been substantially disturbed by past grading and agricultural activities. Therefore, the likelihood that significant archaeological resources are present is not considered high. Nevertheless, the Serra and Poinsettia areas are located within the vicinity of archaeologically sensitive areas, as resources have been identified on other sites in the East Ventura area, particularly near Saticoy. In addition, the Mission Aqueduct, which stretched from Cañada Larga to the San Buenaventura Mission and south through the Downtown area, is thought to cross through the western portion of the North Ventura Avenue expansion area, though it is not known whether any trace of that resource remains. Although archaeological resources are not expected to be a major constraint to possible future development in any of the expansion areas, archaeological investigations would be needed on a case-by-case basis for any of the areas in order to confirm the presence or absence of archaeological remains.

The 2005 General Plan includes the following policy and actions that address potential impacts to archaeological resources:

- Policy 9D* *Ensure proper treatment of archaeological and historic resources.*
- Action 9.14* *Require archaeological assessment for projects proposed in the Coastal Zone and other areas where cultural resources are likely to be located.*



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Archaeological Resources (Impact CR-1)	Future development could potentially disturb previously unknown archaeological resources. However, implementation of policies and actions in the 2005 General Plan would reduce impacts to Class III, less than significant.	Impacts similar to Scenario 1. North Avenue and Serra expansion areas are in areas of archaeological significance. Impacts are Class III, less than significant, with implementation of 2005 General Plan policies and actions.	Impacts similar to Scenario 1. North Avenue expansion area is in an area of archaeological significance. Impacts are Class III, less than significant, with implementation of 2005 General Plan policies and actions.	Impacts similar to Scenario 1. North Avenue and Serra expansion areas are in areas of archaeological significance. Impacts are Class III, less than significant, with implementation of 2005 General Plan policies and actions.	Impacts similar to Scenario 1. North Avenue and Western Cañada Larga expansion areas are in an area of archaeological significance. Impacts are Class III, less than significant, with implementation of 2005 General Plan policies and actions.	Impacts similar to Scenario 1. North Avenue expansion area is in an area of archaeological significance. Impacts are Class III, less than significant, with implementation of 2005 General Plan policies and actions.
Historic Resources (Impact CR-2)	Possible impacts to existing Historical Districts and historical landmarks due to intensification and reuse. However, implementation of proposed 2005 General Plan policies and actions would reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible impacts relating to future demolition of farmhouses and ancillary structures in North Avenue, Olivas, and Serra expansion areas. North Avenue area potentially includes remnants of the Mission Aqueduct. Implementation of General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible impacts relating to future demolition of farmhouses and ancillary structures in North Avenue and Olivas expansion areas. North Avenue area potentially includes remnants of the Mission Aqueduct. Implementation of General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible impacts relating to future demolition of farmhouses and ancillary structures in North Avenue and Serra expansion areas. North Avenue area potentially includes remnants of the Mission Aqueduct. Implementation of General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible impacts relating to future demolition of farmhouses and ancillary structures in North Avenue expansion area. North Avenue and Western Cañada Larga areas potentially include remnants of the Mission Aqueduct. Implementation of General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Possible impacts relating to future demolition of farmhouses and ancillary structures in North Avenue expansion area. North Avenue area potentially includes remnants of the Mission Aqueduct. Implementation of General Plan policies and actions reduces impacts to Class III, less than significant.



Action 9.15 *Suspend development activity when archaeological resources are discovered, and require the developer to retain a qualified archaeologist to oversee handling of the resources in coordination with the Ventura County Archaeological Society and local Native American organizations as appropriate.*

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of areas within the existing SOI that are already urbanized or designated for urban uses, and does not include expansion areas. Due to the extensive ground disturbance associated with urbanization and agricultural activity that has occurred throughout most of the SOI, it is unlikely that development that would be accommodated under this scenario would disturb any known significant archaeological resources. However, as discussed above, development could occur within the vicinity of known archaeological sites, particularly within the North Avenue, Downtown, and Saticoy districts. As such, grading and trenching activities associated with new development that would occur under Scenario 1 have the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. The Serra and North Avenue expansion areas are located within the vicinity of known archaeological resources in the east Ventura/Saticoy and North Avenue areas, respectively. The Olivas expansion area consists primarily of agricultural lands that have experienced ground disturbance activities and is in an area that is not known to be of archaeological significance; nevertheless, the potential remains for previously unknown archaeological resources to be present within the Olivas area. Development under Scenario 2 has the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue and Olivas expansion areas. As discussed above under Scenarios 1 and 2, known resources are present in portions of the City, notably the North Avenue, Downtown, and Saticoy districts. No known archaeological deposits are present in the North Avenue or Olivas expansion areas, though the North Avenue expansion area is within an area of archaeological significance. Development accommodated under this scenario has the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 4 would accommodate the possible future development of the North Avenue and Serra expansion areas. As discussed above under Scenarios 1 and 2, known resources are present in portions of the City, notably the North Avenue, Downtown, and Saticoy districts. No known archaeological deposits are present in the North Avenue or Serra expansion areas; however, both of these expansion areas are within portions of the Planning Area that are known to be of archaeological significance. Development accommodated under this scenario has the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 5 would accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. As discussed above under Scenarios 1 and 2, known resources are present in portions of the City, notably the North Avenue, Downtown, and Saticoy districts. No known archaeological deposits are present in the North Avenue or Western Cañada Larga expansion areas, though both areas are within a general area that is known to be of archaeological significance. Development accommodated under Scenario 5 has the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 6 would accommodate the possible future development of the North Avenue and Poinsettia expansion areas. As discussed above under Scenarios 1 and 2, known resources are present in portions of the City, notably the North Avenue, Downtown, and Saticoy districts. No known archaeological deposits are present in the North Avenue or Poinsettia expansion areas, though the North Avenue expansion area is within a general area that is known to be of archaeological significance. Development accommodated under Scenario 6 has the potential to disturb previously unknown archaeological resources. Potentially significant impacts would be mitigated through implementation of 2005 General Plan Actions 9.14 and 9.15.

MITIGATION MEASURES

Implementation of Policy 9D and Actions 9.14 and 9.15 would reduce potential archaeological resource impacts to a less than significant level for all six land use scenarios. Mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Implementation of policies and actions included in the 2005 General Plan would reduce the potential for impacts to archaeological resources to a less than significant level for any of the six land use scenarios.

Impact CR-2 Several of the growth districts and corridors include identified historic resources, as does the Western Cañada Larga expansion area. The other expansion areas also include structures that meet the minimum age criterion for eligibility for the National and California Registers of Historic Places. However, implementation of proposed 2005 General Plan policies and actions, in combination with existing regulatory requirements, would reduce impacts to a Class II, *less than significant*, level for Scenarios 1-6.

There are 96 designated historic resources within the current SOI. Among the notable historic resources are San Buenaventura Mission, the Ortega and Olivas Adobes, and the Santa Gertrudis and San Miguel chapels. (See Appendix D for a complete list and description of historic resources within the Planning Area.)

Four historic districts have also been established in the City. These include the Mission District, the Mitchell Block District (south of Thompson Boulevard and East of California Street), the Selwyn Shaw District (north of Poli Street between Ann Street and Hemlock Street), and the Simpson Tract District (west of Ventura Avenue and between Ramona Street and Center Street). Several of the designated Growth Districts and Corridors, where intensification and reuse would occur, contain identified historic resources.

A portion of the Mission Aqueduct, a designated County historic landmark, is located within the Western Cañada Larga expansion area. As the Mission Aqueduct at one time extended from the Mission Historic District north along the eastern foothills of the Ventura Avenue corridor approximately eight miles to the north, it is possible that portions of the Mission Aqueduct might remain within these areas. In addition, although it has not been formally designated as a historic landmark, the Fraser House is located adjacent to the North Avenue expansion area and meets at least three criteria for designation as a County historic landmark (Westside Elementary School Final EIR, 2002). There are no designated historic sites in the Olivas, Poinsettia, and Serra expansion areas; however, all of these areas include older farmhouses and other buildings that likely meet the minimum age criterion to qualify for the National Register of Historic Places. Meeting the minimum age criterion does not necessarily mean that the structures are eligible for listing on the National Register and, based on preliminary observations, it is not likely that structures would meet the other criteria for eligibility. However, analysis of the historic significance of the structures would be warranted in the event that development is proposed within any of these areas.

The 2005 General Plan includes the following actions that would help reduce the potential for impacts to cultural and historic resources throughout the City under Scenarios 1-6:



- Action 9.16 Pursue funding to preserve historic resources.*
- Action 9.17 Provide incentives to owners of eligible structures to seek historic landmark status and invest in restoration efforts.*
- Action 9.18 Require that modifications to historically-designated buildings maintain their character.*
- Action 9.19 For any project in a historic district or that would affect any potential historic resource or structure more than 40 years old, require an assessment of eligibility for State and federal register and landmark status and appropriate mitigation to protect the resource.*
- Action 9.20 Seek input from the City's Historic Preservation Commission on any proposed development that may affect any designated or potential landmark.*
- Action 9.21 Update the inventory of historic properties.*
- Action 9.22 Create a set of guidelines and/or policies directing staff, private property owners, developers, and the public regarding treatment of historic resources that will be readily available at the counter.*
- Action 9.23 Complete and maintain historic resource surveys containing all the present and future components of the historic fabric within the built, natural, and cultural environments.*
- Action 9.24 Create a historic preservation element.*

Implementation of the City of Ventura Historic Preservation Regulations and HD Overlay Zone regulations described in the *Setting* would also reduce impacts to historical resources within designated Historic Districts under Scenarios 1-6.

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of properties within the existing SOI that are either urbanized or designated for urban uses, and does not include expansion areas. Development under Scenario 1 would most likely result in development on, or adjacent to, several of the designated Historic Districts and landmarks that are located throughout the City – especially within the Downtown district, which includes the Mission, Selwyn Shaw, and Mitchell Block Historic Districts. Although impacts to historic buildings and districts could be avoided, growth accommodated under Scenario 1 would have the potential to adversely affect historic buildings and districts through either direct removal of structures or by changing the historic setting of the communities/neighborhoods in which historic buildings and other resources are located. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. The North Avenue expansion area could include vestiges of the Mission Aqueduct, a designated historic landmark. In addition, all three





Photo 1 - Farmhouse fronting Ventura Avenue in the North Avenue expansion area.



Photo 2 - Farmhouse and ancillary structures fronting Telephone Road in the Serra expansion area.

Farmhouses in the
North Ventura Avenue and
Serra Expansion Areas

Figure 4.5-2
City of Ventura



expansion areas either have, or are located adjacent to, farmhouses and other structures that likely meet the minimum age criterion to qualify for the National Register of Historic Places. Figure 4.5-2 shows onsite structures in the North Avenue and Serra areas. Although no structures in any of these areas have been determined to be eligible for the National or California Registers, analysis of the historic significance of the North Avenue, Olivas, and Serra areas would be warranted at such time as any development of the areas is proposed. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 3 would accommodate the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, the North Avenue area could include vestiges of the Mission Aqueduct and both expansion areas either have, or are located adjacent to, farmhouses and other buildings that likely meet the minimum age criterion to qualify for the National Register of Historic Places. Although no structures in any of these areas have been determined to be eligible for the National or California Registers, analysis of the historic significance of the North Avenue, Olivas, and Serra areas would be warranted at such time as any development of the areas is proposed. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 4 would accommodate the possible future development of the North Avenue and Serra expansion areas. As discussed under Scenario 2, the North Avenue area could include vestiges of the Mission Aqueduct and both expansion areas either have, or are located adjacent to, farmhouses and other buildings that likely meet the minimum age criterion to qualify for the National and California Registers of Historic Places. Although no structures in any of these areas have been determined to be eligible for the National or California Registers, analysis of the historic significance of the North Avenue and Serra areas would be warranted at such time as any development of the areas is proposed. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 5 would accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. A portion of the Mission Aqueduct is located in the vicinity of the Western Cañada Larga expansion area. The North Avenue expansion area could include vestiges of the Mission Aqueduct and includes buildings that likely meet the minimum age criteria to qualify for the National and California Registers of Historic Places. Although no structures have been determined to be eligible for the National or California Registers, analysis of the historic significance of the North Avenue and Western Cañada Larga areas would be warranted at such time as any development of the areas is

proposed. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 6 would accommodate the possible future development of the North Avenue and Poinsettia expansion areas. As discussed under Scenario 2, the North Avenue expansion area could include vestiges of the Mission Aqueduct, a designated historic landmark and also includes buildings that likely meet the minimum age criterion to qualify for the National Register of Historic Places. The Poinsettia area does not appear to contain any buildings or other resources that meet eligibility criteria for federal or state register consideration. Potentially significant impacts could be mitigated through implementation of 2005 General Plan Action 9.19.

MITIGATION MEASURES

Implementation of the City of Ventura Historic Preservation Regulations and HD Overlay Zone regulations would reduce impacts to historical resources within designated Historic Districts under Scenarios 1-6. These existing requirements, in combination with the policies included in the 2005 General Plan, would reduce historic resource impacts to a less than significant level. Mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Implementation of the policies and actions included in the 2005 General Plan, in combination with the Historic Preservation Regulations and HD Overlay Zone regulations, would reduce potential impacts to historic resources to a less than significant level for Scenarios 1-6.

4.6 GEOLOGIC HAZARDS

This section discusses potential seismic and geologic hazards in the Ventura Planning Area.

4.6.1 Setting

a. Seismic Hazards. Ventura lies in a highly active earthquake region of southern California and thus is subject to various seismic and geologic hazards, including ground shaking, surface rupture, and landslides. Each potential geological hazard is described below.

Seismically Induced Ground Shaking. Faults produce comprehensive damage in two ways: ground shaking and surface rupture. Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Surface rupture is limited to very near the fault. Other hazards associated with seismically induced ground shaking include earthquake-triggered landslides and liquefaction.

Alquist-Priolo (A-P) Earthquake Fault Zones encompass surface traces of active faults that have potential for future surface fault rupture. A-P Fault Zones are designated within 500 feet from a known fault trace. Per the Alquist-Priolo legislation, no structure for human occupancy is permitted on the trace of an active fault. The term “structure for human occupancy” is defined as any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year. If development is proposed within an A-P Fault Zone, a geologic study must be conducted for developments of four units or more to determine the location of the fault trace. Based on the findings in the geologic study, all structures for human occupancy must be set back a minimum of 50 feet from the fault trace because, unless proven otherwise, an area within 50 feet of an active fault is presumed to be underlain by active traces of the fault.

The U.S. Geological Survey defines active faults as those that have had surface displacement within Holocene time (about the last 11,000 years). Holocene surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and aligned saddles, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had surface displacement during Quaternary time, within the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years. A fault is a plane or surface in the earth along which failure has occurred and materials on opposite sides have moved relative to one another in response to the accumulation and release of stress. Faults that are known to have moved in recent history (the last 200 years) are considered historically active. Faults that have exhibited signs of activity during the last 11,000 years are considered active, and faults that have exhibited signs of activity within 11,000 years to 2 to 3 million years ago are considered potentially active. Ground surface displacement along a fault, although more limited in area than the ground shaking associated with it, can have disastrous consequences when structures are located across or near the fault zone.

Amounts of movement during an earthquake can range up to tens of feet. Fault displacement may also occur gradually, not as a result of earthquakes, but as the nearly imperceptible

continual movement known as creep. Creep can produce the rupture or bending of buildings, fences, railroads, streets, pipelines, curbs, and other linear structures.

Faults in the Planning Area. Areas on or around active and potentially active fault traces are potentially subject to surface rupture. Major faults in the Planning Area that may produce damaging ground shaking in the City are shown on Figure 4.6-1. They include the Ventura-Foothill, Oak Ridge/McGrath, Red Mountain, and Country Club Faults.

The **Ventura-Foothill Fault** zone is considered active and was designated as an Alquist-Priolo Earthquake Fault Zone by the State Geologist in 1978. This designation requires a geological investigation to determine if a site is threatened by surface displacement from future fault movement prior to the approval of a development permit. The Ventura-Foothill Fault trends east-west across the northern section of the City near the base of the foothills. Properties along this fault trace have the greatest potential for surface rupture in the City.

The **Country Club Fault** is a northwest-southeast trending zone in the eastern portion of the City between Kimball Road and Wells Road to the west and east, and Telegraph and Telephone Roads to the north and south. This fault is considered potentially active but was evaluated in 1976 and not designated as an Alquist-Priolo Special Studies Zone.

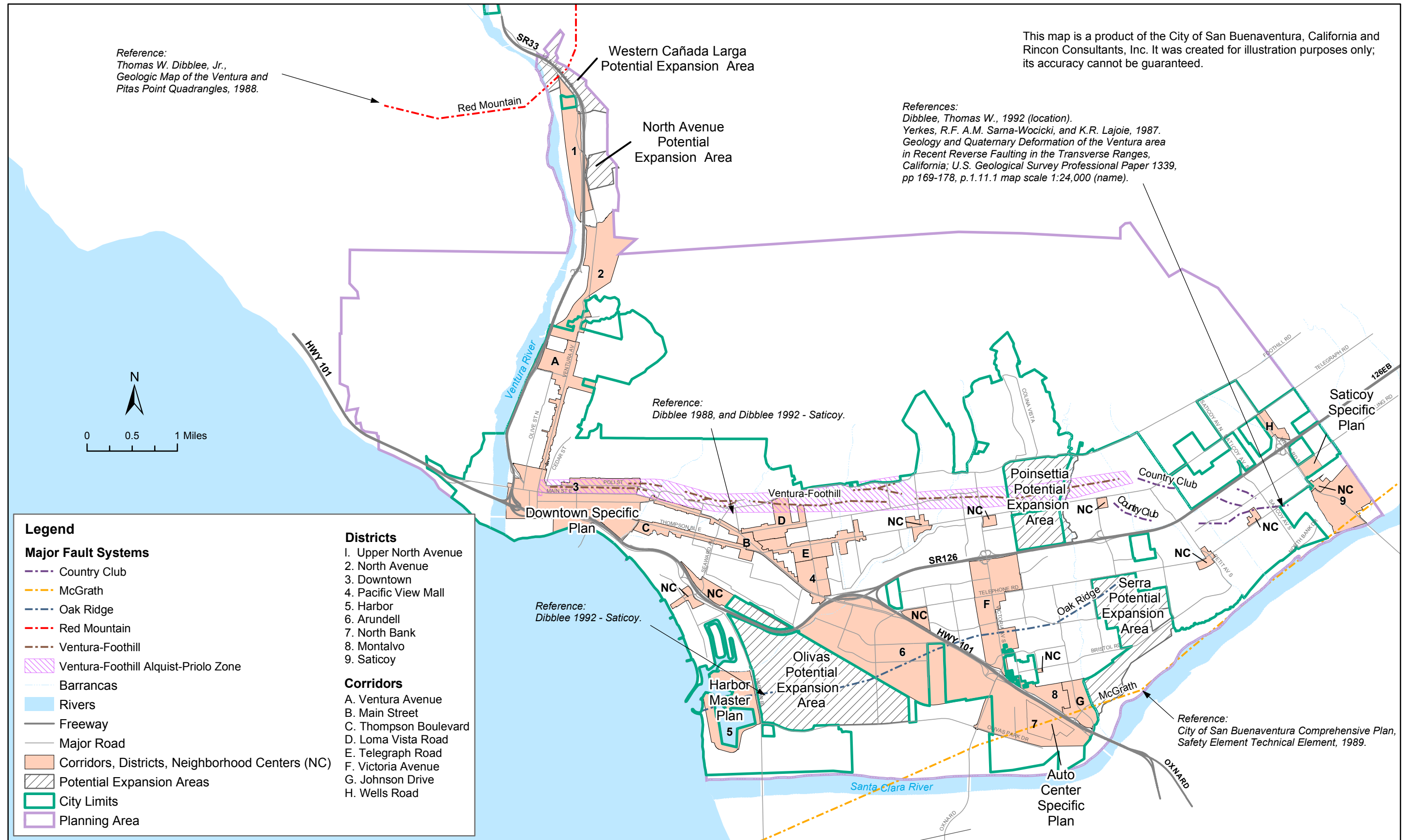
The **Oak Ridge and McGrath Faults** comprise a zone that trends northeast-southwest and across the southern portion of the City. The fault has thousands of feet of subsurface displacement but is poorly defined at the surface. This fault zone is considered at least potentially active and probably active.

The **Red Mountain Fault Zone** lies north of and adjacent to the City water filtration plant on North Ventura Avenue. This fault is considered active and portions outside the Planning Area are Alquist-Priolo Earthquake Fault Zones.

Effects of Seismicity. Table 4.6-1 shows the estimated maximum earthquake that may occur due to activity along the most significant faults that could affect the Planning Area. It includes active regional faults such as the San Andreas and the Anacapa that are known to produce tremors sufficient in magnitude to affect large areas.

In the event of a strong earthquake (magnitude 6.0 to 7.5) originating in southern Ventura County, or a major earthquake (8.0 magnitude) along the San Andreas Fault, damage to many existing structures could be severe and some loss of life could occur.

b. Landslides. A landslide is the perceptible downslope movement of earth mass. It is part of the continuous, natural, gravity-induced movement of soil, rock and debris. Landsliding can range from downslope creep of soil and rock material to sudden failure of entire hillsides. Landslides include rockfalls, slumps, block glides, mudslides, debris flows, and mud flows. Landsliding or slope instability may be caused by natural factors such as fractured or weak bedrock, heavy rainfall, erosion, earthquake activity, and fire, as well as by human alteration of topography and water content in the soil.



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Major Fault Systems

Figure 4.6-1
 City of Ventura

**Table 4.6-1
 Significant Faults and Estimated Maximum
 Earthquake Size**

Fault Name	Estimated Maximum Credible Earthquake
Ventura-Pitas Point	6.9
Red Mountain	7.0
Oak Ridge	7.0
Simi-Santa Rosa	7.0
San Cayetano	7.0
Arroyo Parida-More Ranch	7.2
Mid Channel	6.6
Santa Ynez (East)	7.1
Malibu Coast	6.7
Anacapa	7.5
San Andreas (Mojave)	7.4

Source: Cao, T, Bryant, W.A., Rowshandel, B., Branum, D., and Wills, C. (2003).

The hillsides north of Poli Street/Foothill Road and east of Ventura Avenue and Cedar Street contain a number of existing landslides and are likely to experience future landslide activity. Although landslides generally occur on slopes 30% or steeper, they may also occur on slopes that are less steep. Slope stability conditions vary locally in the hillside area based on soil and rock type and groundwater depth. Figure 4.6-2 depicts existing areas with landslide morphology in the Planning Area.

Figure 4.6-3 shows the area addressed in the City Hillside Management Program, which ties the amount, distribution, and quality of future development to topographical, geological, and hydrological constraints in an effort to retain natural and scenic character and to minimize the danger to life and property from landsliding, erosion, fire, flooding, and water pollution.

c. Secondary Seismic and Soil Related Hazards. Secondary seismic and soil related hazards include liquefaction, expansive soils, settlement, subsidence, and hydrocompaction. These types of hazards, and the areas within the City and/or expansion areas that have the potential for such failure, are discussed as follows.

Liquefaction. Liquefaction is a temporary, but substantial, loss of shear strength in granular solids, such as sand, silt, and gravel, usually occurring during or after a major earthquake. This occurs when the seismic waves, from an earthquake of sufficient magnitude and duration, shear a soil deposit that has a tendency to decrease in volume. If drainage cannot occur, this reduction in soil volume will increase the pressure exerted on the water contained in



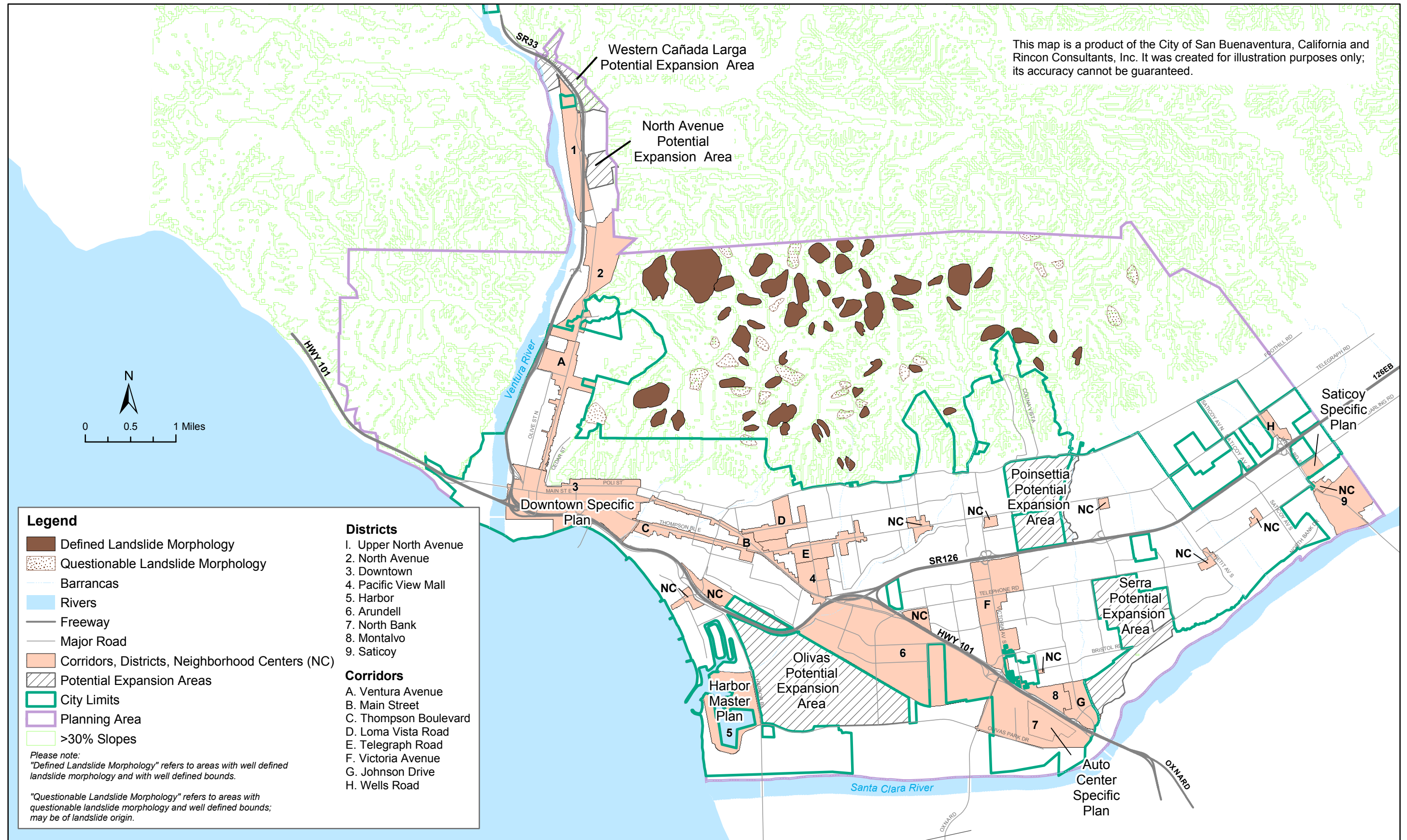
the soil. This process can transform stable granular material into a fluid-like state. The potential for liquefaction to occur is greatest in areas with loose, granular, low-density soil, where the water table is within the upper 40 to 50 feet of the ground surface. Liquefaction can result in slope and/or foundation failure, and also post-liquefaction settlement. Liquefaction hazards are present in large portions of the Planning Area, primarily in coastal areas and along rivers. Areas classified by the State of California as being subject to liquefaction are depicted on Figure 4.6-4.

Expansive Soil. Expansive soils are generally clayey and swell when wetted and shrink when dried. Wetting can occur naturally in a number of ways, (e.g., absorption from the air, rainfall, groundwater fluctuations, lawn watering and broken water or sewer lines). In hillside areas, as expansive soils expand and contract, gradual downslope creep may occur, eventually causing landsliding. Clay soils also retain water and may act as lubricated slippage planes between other soil/rock strata, also producing landslides, often during earthquakes or by unusually moist conditions.

Expansive soils are also often prone to erosion. Foundations of structures placed on expansive soils may rise during the wet season and fall during the succeeding dry season. Zones of highly expansive soils occur in the hillsides and located west of the intersection of Harbor Boulevard and Olivas Park Drive and around the intersection of Victoria Avenue and Olivas Park Drive. Figure 4.6-5 shows expansive soil zones in the Planning Area.

Settlement, Lateral Spreading, Subsidence, and Hydroconsolidation. Extreme settling or ground subsidence may result from post-liquefaction reconsolidation. Ground settlement often occurs differentially because liquefiable deposits and ground water elevations are seldom distributed evenly over broad areas. If the ground surface slopes even gently, liquefaction may lead to lateral spreading or low angle landsliding of soft saturated soils. This can result in the rapid or gradual loss of strength in the foundation materials, so that structures built upon them settle or break up as the foundation soils flow out from beneath them.

Subsidence may be caused by post-liquefaction reconsolidation. It may also be caused by groundwater withdrawal, oil or gas withdrawal, and hydroconsolidation. Groundwater withdrawal subsidence generally occurs in valley areas underlain by alluvium. This type of subsidence results from extraction of a large quantity of water from an unconsolidated aquifer. As water is removed from the aquifer, the total weight of the overburden, which the water had helped support, is placed on the alluvial structure and it is compressed. If fine-grained silts and clays make up portions of the aquifer, the additional load can squeeze the water out of these layers and into the coarser-grained portions of the aquifer. All of this compaction produces a net loss in volume and hence a subsidence of the land surface. A very similar sequence of events leads to subsidence with the oil and gas withdrawals. Hydroconsolidation subsidence can occur in dry, unconsolidated, porous, semi-arid and arid deposits that, when wetted, lose their strength and develop spontaneous settling, slumping, or cracking.

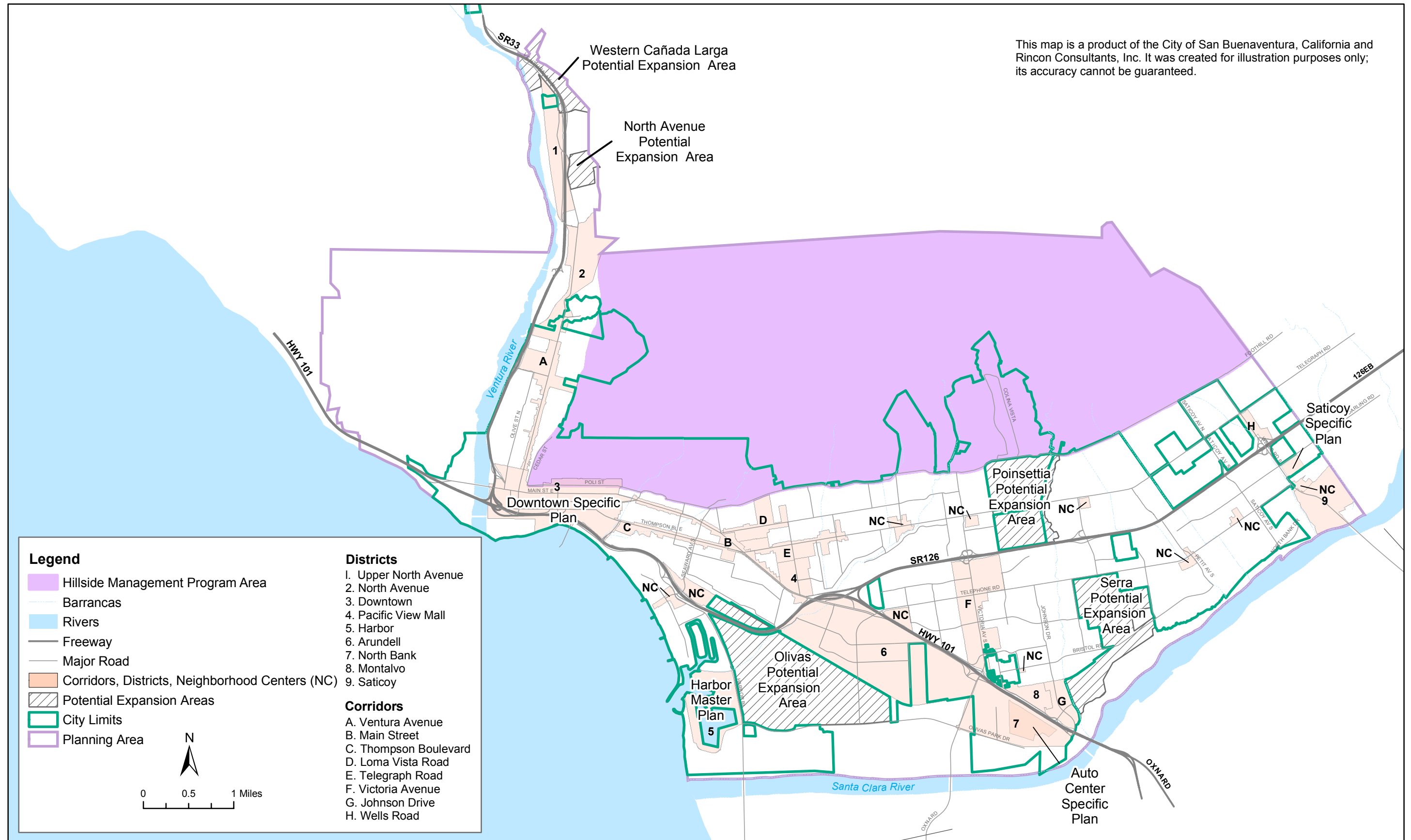


Source: State of California Department of Mines and Geology, June 1972, City of San Buenaventura, 2005, and Rincon Consultants, Inc., 2005.

Potential Landslide Areas

Figure 4.6-2
City of Ventura

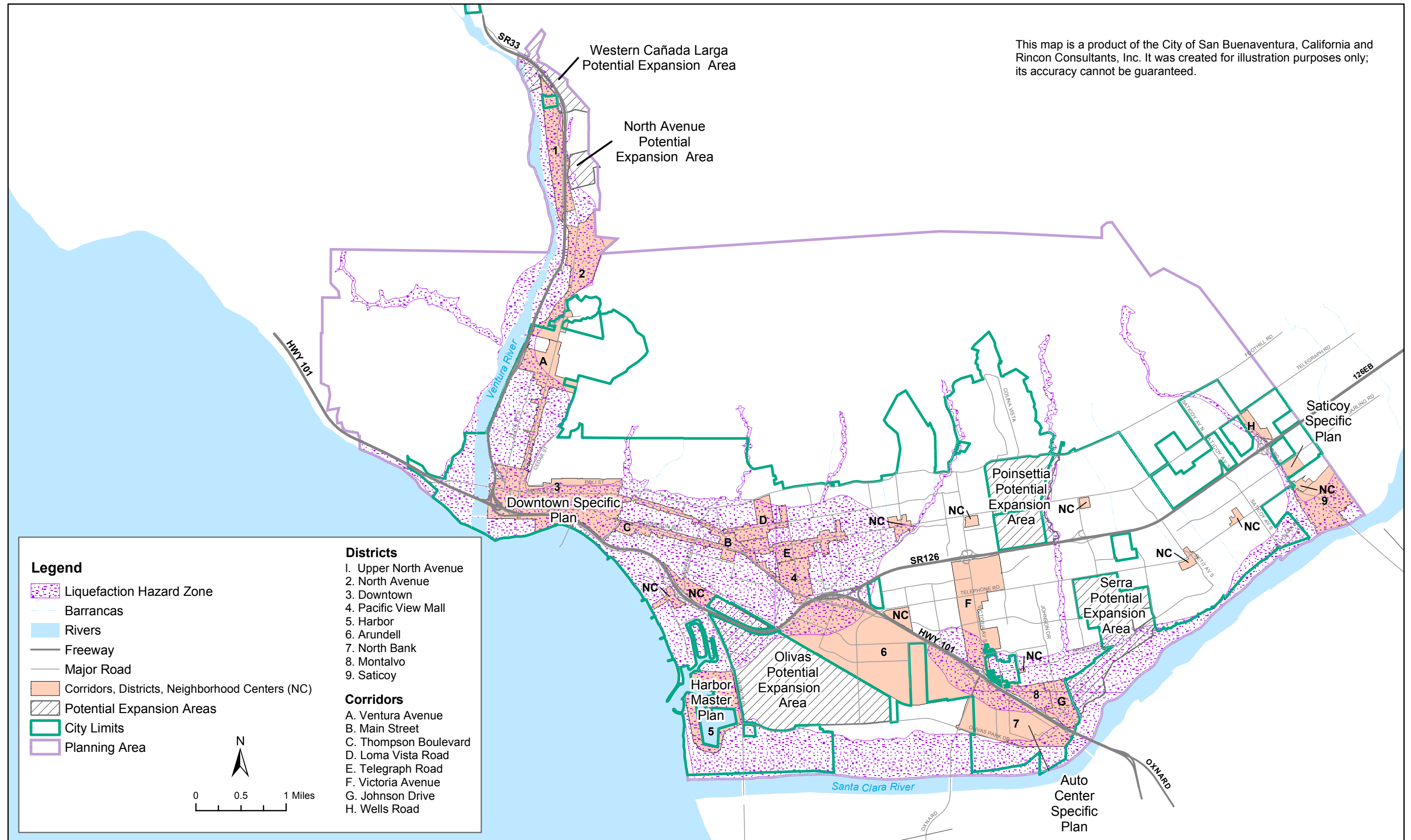
This map is a product of the City of San Buenaventura, California and Rincon Consultants, Inc. It was created for illustration purposes only; its accuracy cannot be guaranteed.



Source: City of San Buenaventura Water Resources Public Works Agency, 1976, City of San Buenaventura, 2005, and Rincon Consultants, Inc., 2005.

Hillside Management Program Area Figure 4.6-3
City of Ventura

This map is a product of the City of San Buenaventura, California and Rincon Consultants, Inc. It was created for illustration purposes only; its accuracy cannot be guaranteed.

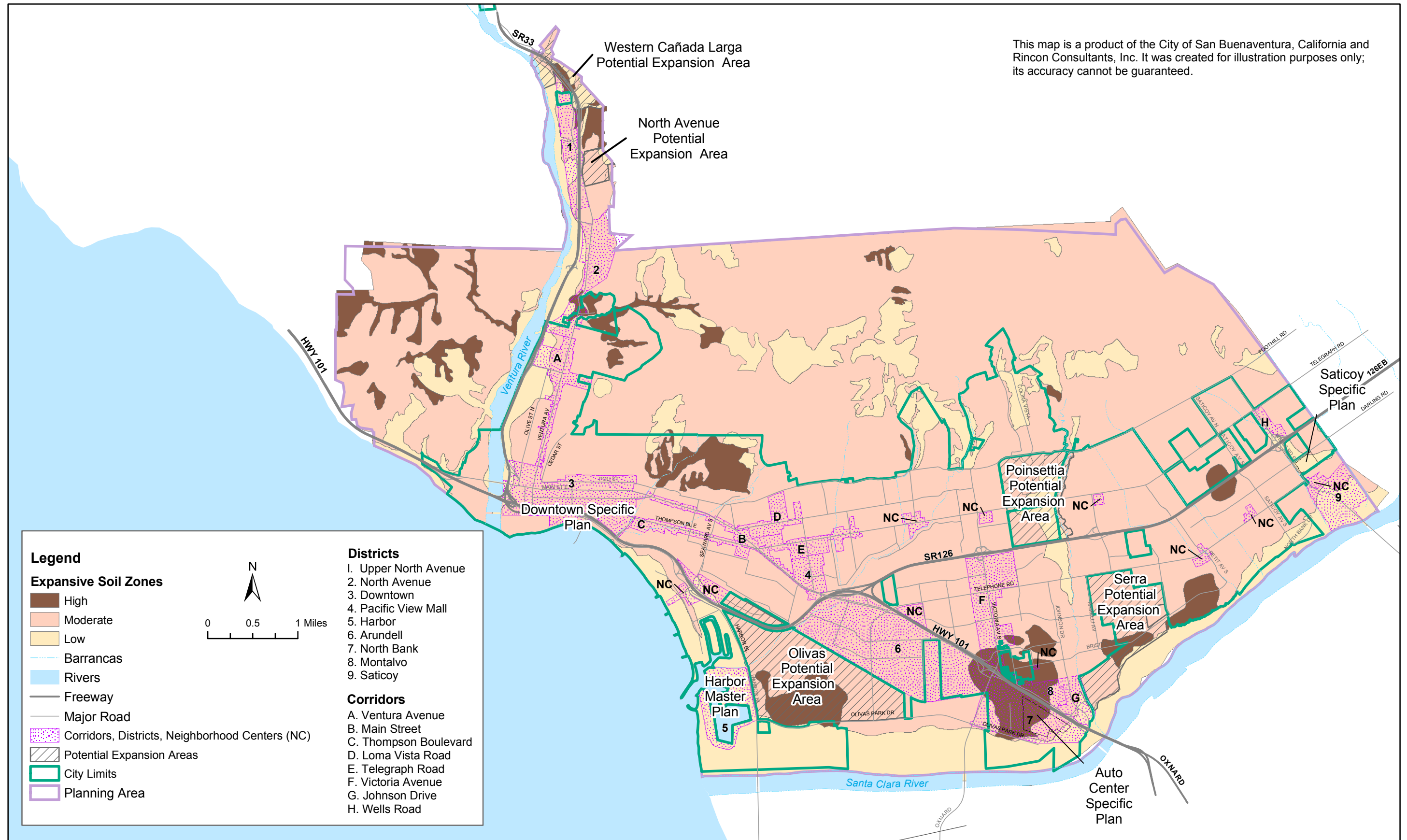


Source: California Department of Conservation, California Geological Survey, Seismic Hazard Mapping Program, 2003, City of San Buenaventura, 2005, and Rincon Consultants, Inc., 2005.

Liquefaction Hazard Areas

Figure 4.6-4
City of Ventura

This map is a product of the City of San Buenaventura, California and Rincon Consultants, Inc. It was created for illustration purposes only; its accuracy cannot be guaranteed.



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005, Ventura Soil Survey (Cañada Larga area), and SSURGO Data, 2002.

Expansive Soil Areas

Figure 4.6-5
City of Ventura

Damage caused by subsidence generally is not immediate or violent in nature. The consolidation of alluvium and settling of the land surface is a process that tends to take many years, except when prompted by seismic shaking or wetting of highly collapsible soils. However, subsidence that results from groundwater or oil and gas withdrawal can be responsible for numerous structural effects. Most seriously affected are long surface infrastructure facilities that are sensitive to slight changes in gradient, such as wells, sewers, and other underground utility lines. Hydroconsolidation is one of the most destructive forms of subsidence because it can cause severe damage to pipelines, roads, buildings, and other structures over shorter time periods. Hydroconsolidation has been known to occur in and around the Ventura College vicinity (Ventura Comprehensive Plan Update Background Report, 2002).

Gradual inundation by surface water is a potentially serious secondary effect of subsidence in the City as both the ocean and the Santa Clara River could flow into depressed areas. In the case of the coastal portion of Ventura, beach erosion may extend inland due to the loss of elevation caused by subsidence. Any area where probable subsidence is on the order of 0.05 feet/year is considered highly susceptible. In Ventura, this category extends along the coast roughly from Pierpont to the intersection of Highway 101 with the Santa Clara River (Ventura Comprehensive Plan Update Background Report, 2002).

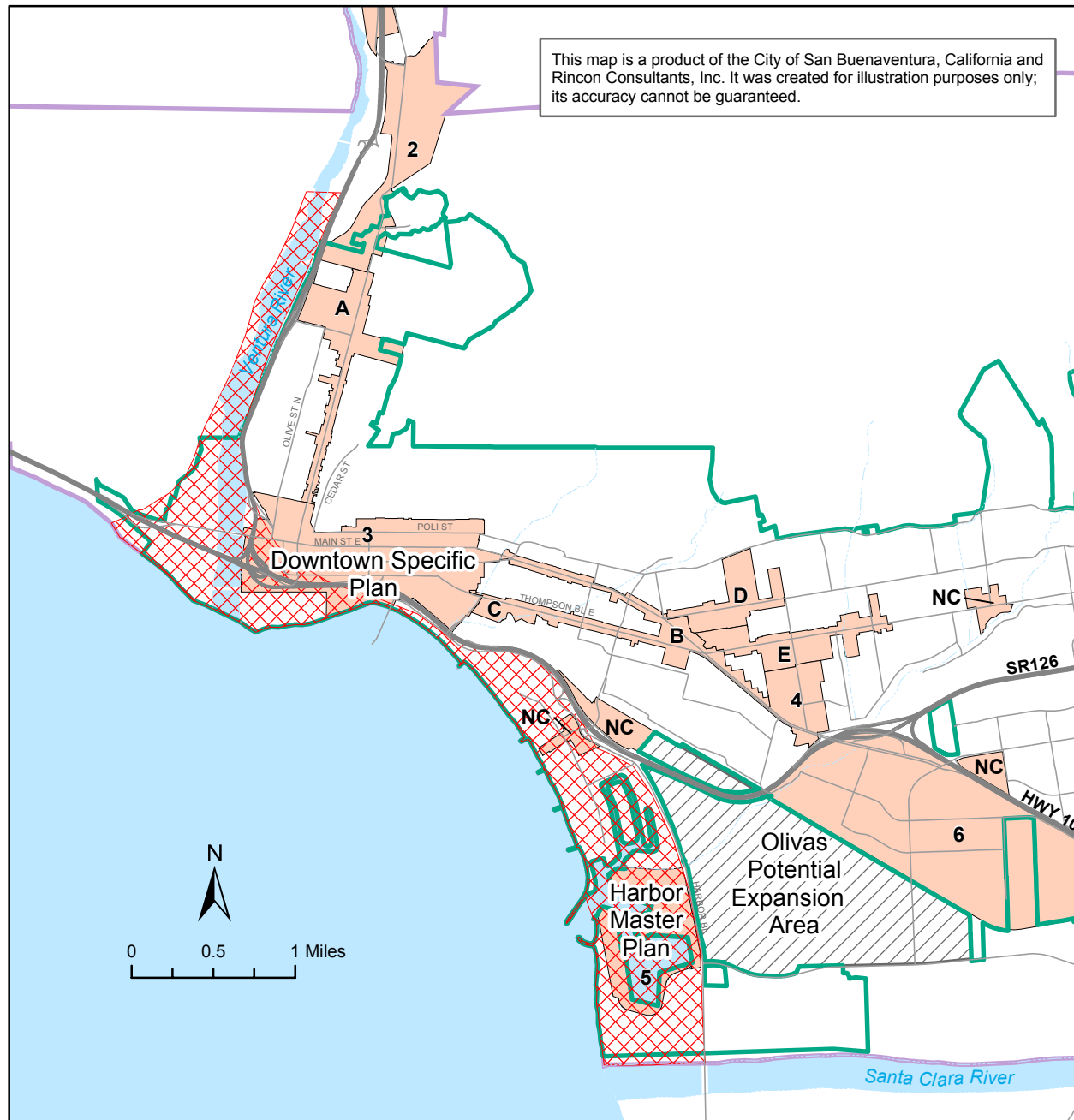
Tsunamis and Seiche. Tsunamis are large ocean surges that are generated by submarine landslides, volcanic eruptions, or earthquakes. Tsunamis originate in deep water and have a long wavelength (distance from the crest of one wave to the crest of the succeeding wave), normally over 100 miles, and a very low amplitude (height from crest to trough). As these waves approach shallow water, the speed decreases from a deep water speed of over 600 mph to less than 30 mph, as they move across the beach. The wave energy is transferred from wave speed (velocity) to wave height (amplitude) and waves as high as 100 feet can be formed. Although the arrival time of a wave generated far out at sea can be predicted quite accurately, the intensity of the wave when it reaches the shore is difficult to predict. The duration of a tsunami threat can sometimes last up to ten to twelve hours.

The tsunami threat is mainly confined to immediate beach areas and river channels. See Figure 4.6-6 for the areas within the City of Ventura that would be the most susceptible to a tsunami threat. Beach areas have historically been affected up to a mile or more inland in very flat areas. Tsunamis can also travel considerable distances inland on waterways, particularly those with shallow gradients. The effects of the tsunami are most noticeable on manmade features, but the waves can also change river channels and modify coastal landforms.

A seiche is a wave, or series of waves, set up in an enclosed or partially enclosed body of water by wind, earthquake, or landslide. Earthquakes are the most common cause of most seiches in lakes and bays, either directly or indirectly. Seiches are similar to tsunamis, but the waves are generally smaller and of lower energy. The extent of most seiches is small, usually no more than 10 to 20 feet above water level, and the duration is short, usually only a few minutes. The threat to the City from seiches is considered remote. Only facilities in or very near enclosed bodies of water could be immediately affected.

This page intentionally left blank.





Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Legend

- Tsunami Risk Areas
- Barrancas
- Rivers
- Freeway
- Major Road
- Corridors, Districts, Neighborhood Centers (NC)
- Potential Expansion Areas
- City Limits
- Planning Area

Districts

- 2. North Avenue
- 3. Downtown
- 4. Pacific View Mall
- 5. Harbor
- 6. Arundell

Corridors

- A. Ventura Avenue
- B. Main Street
- C. Thompson Boulevard
- D. Loma Vista Road
- E. Telegraph Road

Tsunami Risk Areas

Figure 4.6-6

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. The General Plan Update would result in potentially significant impacts if development under the General Plan through the year 2025 would result in substantial adverse physical impacts associated with any of the following conditions:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides, or seismic-related inundation from tsunami or seiche*
- *Result on substantial soil erosion or the loss of topsoil*
- *Result in the loss of a unique geologic feature*
- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse*
- *Be located on expansive soil, creating substantial risks to life or property*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of geologic hazard impacts for each of the scenarios under consideration. A discussion of the impacts follows. When appropriate, the differing impacts of the six scenarios are discussed individually. However, for certain issues (landsliding and tsunami), impacts are the same for all scenarios.

The 2005 General Plan includes the following policy and actions relating to minimizing geologic and seismic hazards:

- Policy 7B** *Minimize risks from geologic and flood hazards.*
- Action 7.6** *Adopt updated editions of the California Construction Codes and International Codes as published by the State of California and the International Code Council respectively.*
- Action 7.7** *Require project proponents to perform geotechnical evaluations and implement mitigation prior to development of any site:*
- *With slopes greater than 10% or that otherwise have potential for landsliding*
 - *Along bluffs, dunes, beaches, or other coastal features*
 - *In an Alquist-Priolo earthquake fault zone or within 100 feet of an identified active or potentially active fault*
 - *In areas mapped as having moderate or high risk of liquefaction, subsidence, or expansive soils*
 - *In areas within 100-year flood zones, in conformance with all Federal Emergency Management Agency regulations.*



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Ground Shaking/ Surface Rupture (Impact GEO-1)	Ventura-Foothill Alquist-Priolo fault zone may affect development within Downtown and Arundell. Compliance with General Plan Action 7.7, CBC, and A-P requirements reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Oak Ridge Fault may affect Olivas and Serra expansion areas. McGrath fault may affect Serra area. Compliance with General Plan policies and CBC requirements reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Oak Ridge Fault may affect Olivas expansion area. Compliance with General Plan policies and CBC requirements reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Oak Ridge and McGrath Faults may affect Serra expansion area. Compliance with General Plan policies and CBC requirements reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Red Mountain Fault may affect Western Cañada Larga expansion area. Compliance with General Plan policies and CBC requirements reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Ventura-Foothill Alquist-Priolo fault zone may also affect Poinsettia expansion area. Compliance with General Plan policies and CBC requirements reduce impacts to Class III, less than significant.
Landslide (Impact GEO-2)	No potential landslide areas in designated growth districts or corridors; landslide potential in limited to small area above Foothill. Landslide impacts are Class III, less than significant.	No landslide potential in North Avenue, Olivas, or Serra expansion areas. Impacts similar to Scenario 1 and Class III, less than significant.	No landslide potential in North Avenue or Olivas expansion areas. Impacts similar to Scenario 1 and Class III, less than significant.	No landslide potential in North Avenue or Serra expansion areas. Impacts similar to Scenario 1 and Class III, less than significant.	No landslide potential in North Avenue expansion area; minor landslide potential in Western Cañada Larga. Impacts similar to Scenario 1 and Class III, less than significant.	No landslide potential in North Avenue or Poinsettia expansion areas. Impacts similar to Scenario 1 and Class III, less than significant.
Liquefaction (Impact GEO-3)	Liquefaction hazards present in the Ventura Avenue, Saticoy, and Harbor Districts. Compliance with General Plan Action 7.7 pertaining to high-risk liquefaction areas reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Portions of North Avenue, Olivas, and Serra expansion areas subject to moderate to high liquefaction risk. Compliance with City policies and CBC reduce impacts	Intensification/reuse impacts similar to Scenario 1. Portions of North Avenue and nearly all of Olivas expansion area subject to moderate to high liquefaction risk. Compliance with City policies and CBC reduce	Intensification/reuse impacts similar to Scenario 1. Portions of North Avenue and Serra expansion areas subject to moderate to high liquefaction risk. Compliance with City policies and CBC reduce impacts to Class III,	Intensification/reuse impacts similar to Scenario 1. Moderate liquefaction risk in portions of North Avenue and Western Cañada Larga expansion areas. Compliance with City policies and CBC reduce	Intensification/reuse impacts similar to Scenario 1. Portions of North Avenue expansion area subject to moderate liquefaction risk; no liquefaction hazard in Poinsettia area. Compliance with City policies and



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
		to Class III, less than significant.	impacts to Class III, less than significant.	less than significant.	impacts to Class III, less than significant.	CBC reduce impacts to Class III, less than significant.
Expansive Soil (Impact GEO-4)	High expansive soil hazards present within portions of the North Avenue, North Bank, and Montalvo districts and possible hillside development area above Foothill (Mariano Ranch). Harbor district is susceptible to subsidence. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. High-risk expansive soils present in portions of Olivas and Serra expansion areas. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. High-risk expansive soils present in portions of Olivas expansion area. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. High-risk expansive soils present in portions of Serra expansion area. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. Western Cañada Larga expansion area contains pockets of highly expansive soil potential along Ventura Avenue and near Cañada Larga Road. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. No expansive soil conditions in North Avenue or Poinsettia expansion areas. With implementation of CBC and General Plan policies, impacts are Class III, less than significant.
Tsunami (Impact GEO-5)	Development along the coast and near rivers may be susceptible to inundation from a tsunami, particularly the Harbor and parts of Downtown. Continued participation in the SSWWS and SEMS Multihazard Response Plan reduces impacts to Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.



- Action 7.8** *To the extent feasible, require new critical facilities (hospital, police, fire, and emergency service facilities, and utility “lifeline” facilities) to be located outside of fault and tsunami hazard zones, and require critical facilities within hazard zones to incorporate construction principles that resist damage and facilitate evacuation on short notice.*
- Action 7.9** *Maintain and implement the Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan.*

Impact GEO-1 **Future seismic events could produce groundshaking throughout the Planning Area as well as surface rupture in some areas where future development could be accommodated. Groundshaking and surface rupture could damage structures and/or create adverse safety effects. However, compliance with City policies, in combination with the requirements of the CBC and the Alquist-Priolo legislation, would reduce the risk associated with groundshaking and surface rupture to a Class III, less than significant, level for all six scenarios.**

The entire Planning Area is subject to severe groundshaking from any of a number of faults in the region. As shown in Table 4.6-1 in the *Setting*, the largest ground-shaking event in Planning Area would occur from a maximum earthquake on the Arroyo Parida-More Ranch, Mid Channel, Santa Ynez (East), and Malibu Coast Faults. The Ventura-Foothill Fault, which generally runs along Foothill Road, is the only fault within the Planning Area that the State of California has officially designated as “active” (i.e., one having ruptured within the last 11,000 years). Other potentially active faults in the Planning Area include the Oak Ridge, McGrath, Red Mountain, and Country Club faults. Surface rupture could potentially occur along these fault lines.

All new development within the City would conform to the California Building Code (CBC) (as amended at the time of permit approval), as required by law. This addresses potential impacts relating to ground shaking. In addition, the 2005 General Plan contains policies that address risks from fault rupture. Action 7.7 requires geotechnical evaluation and mitigation prior to development of any site within an Alquist-Priolo earthquake fault zone or within 100 feet of a potentially active fault. Action 7.8 require new critical facilities (hospital, police, fire, and emergency service facilities, and utility “lifeline” facilities) to be located outside of fault zones.

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of properties within the existing developed City and does not include expansion areas. All future development within the Planning Area would potentially be subject to severe groundshaking. Although nothing can ensure that structures do not fail under seismic stress, proper engineering, including compliance with the CBC, can

minimize the risk to life and property, resulting in a less than significant impact to new development from ground shaking.

Several possible development areas are potentially subject to surface rupture due to the presence of active or potentially active faults. The Ventura-Foothill Fault Alquist-Priolo Hazard Zone runs along the Foothill Road corridor, through the northern section of the Downtown district, the western end of the Main Street corridor, and the northern portion of the Loma Vista corridor. Per the Alquist-Priolo legislation, a geologic study would be needed for any development of four or more residential units proposed within this zone to determine the location of the fault trace. All structures for human occupancy would have to be set back a minimum of 50 feet from the fault trace unless it can be shown that no trace is present. Compliance with the Alquist-Priolo legislation requirements would reduce ground-rupture impacts associated with the Ventura-Foothill Fault to a less than significant level.

The Oak Ridge, McGrath, and Country Club faults also cross through the Planning Area. The Oak Ridge fault crosses the Arundell district (including the northern portion of the McGrath property) and the Victoria Avenue corridor. The McGrath fault crosses the North Bank district and the Johnson Drive corridor. Traces of the Country Club fault cross portions of the Saticoy area, including a neighborhood center on Telephone Road. Impacts in these areas are considered potentially significant. However, implementation of the General Plan policies discussed above would reduce ground-rupture impacts to a less than significant level.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. The potentially active Oak Ridge Fault, with an estimated maximum earthquake of magnitude of 7.2, bisects the Olivas expansion area and is in the northern section of the Serra expansion area. The potentially active McGrath Fault is located along the southern boundary of the Serra expansion area, near the Santa Clara River. Impacts in these areas are considered potentially significant. However, General Plan policies that address compliance with the CBC and that require fault studies for development projects on or adjacent to active and potentially active faults would reduce risk from ground shaking and surface rupture to a less than significant level.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 3 would accommodate the possible future development of the North Avenue and Olivas expansion areas. As mentioned under Scenario 2, the potentially active Oak Ridge Fault bisects the Olivas expansion area and is in the northern section of the Serra expansion area. Impacts in this area are considered potentially significant. However, General Plan policies that address compliance with the CBC and that require fault studies for development projects on or adjacent to active and potentially active faults would reduce risk from ground shaking and surface rupture to a less than significant level.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 4 would also accommodate the possible future development of the North Avenue and Serra expansion areas. The potentially active Oak Ridge Fault crosses the northern section of the Serra expansion area. In addition, the potentially active McGrath Fault is located along the southern boundary of the Serra expansion area. Impacts in these areas are considered potentially significant. However, General Plan policies that address compliance with the CBC and that require fault studies for development projects on or adjacent to active and potentially active faults would reduce risk from ground shaking and surface rupture to a less than significant level.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 5 would also accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. The Red Mountain Fault, which is an active fault with an estimated maximum credible earthquake of 7.3, crosses through the northern portion of the Western Cañada Larga expansion area. Impacts in this area are considered potentially significant. However, General Plan policies that address compliance with the CBC and that require fault studies for development projects on or adjacent to active and potentially active faults would reduce risk from ground shaking and surface rupture to a less than significant level.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 5 would also accommodate the possible future development of the North Avenue and Poinsettia expansion areas. The active Ventura-Foothill Fault runs through the Poinsettia expansion area, which poses an additional ground-shaking hazard to future development. Impacts associated with this fault are considered potentially significant. However, General Plan policies that address compliance with the CBC and that require fault studies for development projects on or adjacent to active and potentially active faults would reduce risk from ground shaking and surface rupture to a less than significant level.

MITIGATION MEASURES

Compliance with the California Building Code and General Plan Action 7.7 would reduce impacts to a less than significant level. No mitigation measures are required in addition to proposed General Plan Update policies.

SIGNIFICANCE AFTER MITIGATION

Implementation of State requirements and proposed General Plan policies on all new development would reduce impacts associated with ground shaking and fault rupture to a less than significant level for any of the six land use scenarios.

Impact GEO-2 The Planning Area contains several steep slopes that present a potential slope stability hazards. However, none of the General Plan land use scenarios encourage substantial new development in areas of high landslide risk. In addition, General Plan actions require geotechnical analysis and case-by-case mitigation for any development in an area with a high potential for landslides. Therefore, impacts due to landslide risk are considered Class III, *less than significant*, for all scenarios.

The Planning Area contains several steep slopes, which present a moderate slope stability hazard, as seen in Figure 4.6-2. Slope instability may result in landslides, mudslides, or debris flows that can cause substantial damage to structures, roadways, and other improvements as well as to deflect and block drainage channels, causing further damage and erosion. Soil slumping can damage or destroy structures and lead to erosion problems.

The hillside areas located north of Poli Street/ Foothill Road and east of Ventura Avenue and Cedar Street contain existing landslides and are likely to experience future landslide activity. The major concentration of existing landslides occurs within the northern portions of the Hall and Barlow Canyon drainage areas. Other landslide areas are scattered throughout the hillside areas and generally occur on hillsides with slopes of 30% or greater, although slides may occur in areas less steep. The areas within the City Hillside Management Program, as shown on Figure 4.6-3, would require detailed studies that would apply to any potential future development on local hillside areas. The 2005 General Plan contains a policy that would reduce the risk from landslides. Action 7.7 requires geotechnical analysis and mitigation prior to development of any site within an area with slopes greater than 10% or with the potential for landsliding.

The majority of potential landslide areas are in the hills outside the City limits, but within the Planning Area. It is anticipated that the hillside areas outside the City limits would be removed from the City's Sphere of Influence under any of the six land use scenarios, suggesting that the City does not intend to extend services to those areas. In practical terms, this means that these areas likely will not be developed. Though the Western Cañada Larga area includes steeper topography than the other expansion areas, none of the five expansion areas includes any land with high landslide potential.

Limited additional hillside development could occur in areas within the City limits, notably within the upper portion of the Downtown District, north of Poli Street, known as Mariano Ranch. However, these areas are within the Hillside Management Program Area. Any development proposed within that area would require a detailed geologic study prior to development. Implementation of existing requirements for any new development in the hillsides would reduce landslide impacts to a less than significant level.

MITIGATION MEASURES

Compliance with applicable General Plan policies/ actions and the City Hillside Management Program would reduce potential impacts from development in hillside areas to a less than significant level. No mitigation would be required.

SIGNIFICANCE AFTER MITIGATION

Implementation of State requirements and proposed General Plan policies on all new development would reduce impacts associated with landsliding to a less than significant level for any of the six land use scenarios.

Impact GEO-3 Future seismic events could result in liquefaction of soils in portions of the Planning Area. Development in certain areas within the City could be subject to liquefaction hazards under any of the 2005 General Plan land use scenarios. However, compliance with City General Plan policies would reduce potential impacts to Class III, *less than significant*, for all six scenarios.

Liquefaction, a process in which soils liquefy during ground shaking, is of greatest concern in areas with high water tables. As shown on Figure 4.6-4, areas along and adjacent to the Ventura and Santa Clara Rivers, barrancas, and along the coast are subject to liquefaction hazards. Intensification/reuse areas with relatively high liquefaction potential include much of West Ventura Avenue (Ventura Avenue corridor and the North Avenue and Upper North Avenue districts), Downtown, Midtown (Main Street and Thompson Boulevard corridors), Saticoy, the Harbor, the North Bank and Montalvo districts, and the Johnson Drive corridor. Much of the southern portion of the Serra expansion area also has a high water table and relatively high potential for liquefaction. The southwest area of the Olivas potential expansion area is also within a high water table area while the remainder of the site is in a moderate water table area. Although engineering solutions (most commonly, densification of site soils) typically can adequately reduce liquefaction hazards to acceptable levels, liquefaction hazards would warrant further investigation for development proposals in areas with high water tables.

The 2005 General Plan contains an action that would reduce the risks from liquefaction. Action 7.7 requires a geotechnical analysis and mitigation prior to development of any site within an area mapped as having high or moderate risk for liquefaction.

Scenario 1 - Intensification/Reuse Only

This land use scenario emphasizes intensification and reuse of properties within the existing developed City and does not include expansion areas. Liquefaction hazards are present primarily in areas adjacent to the Ventura and Santa Clara Rivers. All of Downtown, Midtown, and Ventura Harbor are in an area of liquefaction risk, as is most of West Ventura, including the North Avenue and Upper North Avenue districts and the Ventura Avenue corridor. Portions of the Arundell, North Bank, Montalvo, and Saticoy districts and the Johnson Drive corridor are

also at liquefaction risk. New development in areas at liquefaction risk would be subject to City policy requirements for geotechnical evaluation. Provided that any pending development complies with the requirements of General Plan Action 7.7, impacts would be reduced to a less than significant level.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Liquefaction impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. The southwest corner of the North Avenue area, the northwestern portion of the Olivas area, and the southeastern portion of the Serra area are within the liquefaction hazard zone. New development within the liquefaction hazard zone would be subject to Action 7.7, which requires a geotechnical analysis and mitigation. Compliance with this action would reduce impacts to a less than significant level.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Liquefaction impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 3 would accommodate the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, the southwest corner of the North Avenue area and the northwestern portion of the Olivas area are within the liquefaction hazard zone. New development within the liquefaction hazard zone would be subject to Action 7.7, which requires a geotechnical analysis and mitigation. Compliance with this action would reduce impacts to a less than significant level.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Liquefaction impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 4 would accommodate the possible future development of the North Avenue and Serra expansion areas. As discussed under Scenario 2, the southwest corner of the North Avenue area and the southeastern portion of the Serra area are within the liquefaction hazard zone. New development within the liquefaction hazard zone would be subject to Action 7.7, which requires a geotechnical analysis and mitigation. Compliance with this action would reduce impacts to a less than significant level.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Liquefaction impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 5 would accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. The southwest corner of the North Avenue area and the western portion of the Western Cañada Larga area are within the liquefaction hazard zone. New development within the liquefaction hazard zone would be subject to Action 7.7, which requires a geotechnical analysis and mitigation. Compliance with this action would reduce impacts to a less than significant level.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Liquefaction impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 6 would accommodate the possible future development of the North Avenue and Poinsettia expansion areas. The southwest corner of the North Avenue area and the eastern edge of the Poinsettia area are within the liquefaction hazard zone. New development within the liquefaction hazard zone would be subject to Action 7.7, which requires a geotechnical analysis and mitigation. Compliance with this action would reduce impacts to a less than significant level.

MITIGATION MEASURES

Compliance with the California Building Code and implementation of General Plan Action 7.7 would reduce impacts due to liquefaction risk to a less than significant level. Additional mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Implementation of State requirements and proposed General Plan policies/actions on all new development would reduce impacts associated with ground shaking and fault rupture to a less than significant level for any of the six land use scenarios.

Impact GEO-4 Expansive soil or other soil conditions leading to subsidence could result in foundation and building distress problems and cracking of concrete slabs. Areas that could accommodate development could be subject to subsidence hazards under any of the six land use scenarios. However, compliance with 2005 General Plan policies would reduce potential impacts to Class III, less than significant, for all six scenarios.

Expansive soil or other conditions that could lead to subsidence or settlement may result in loss of strength in foundation materials, such that structures built upon them gradually settle or break up. Expansive soils may contribute to downslope creep, landslides, and erosion. The seasonal expansion and contraction of soils may cause foundations, walls, and ceilings to crack and various structural portions of building to warp and distort. Expansive soils are generally clayey and swell when wetted and shrink when dried. Several zones of highly expansive soils are in the hillsides of the Planning Area. Two other significant areas of high shrink-swell potential are located west of the intersection of Harbor Boulevard and Olivas Park Drive and near the Victoria Avenue/Highway 101 intersection. Figure 4.6-5 depicts high, moderate, and low expansive soil zones in the Planning Area.

Subsidence may be caused by post-liquefaction reconsolidation, groundwater/oil/gas withdrawal, or hydroconsolidation. Groundwater withdrawal subsidence generally occurs in areas underlain by alluvium deposits. Subsidence issues generally exist along the coast and adjacent to the Santa Clara River. If extraction of fluids from this general area is increased, subsidence rates could possibly increase. Damage caused by subsidence occurs over a long

period of time except when prompted by seismic shaking or wetting of highly collapsible soils. The most severe subsidence zone extends roughly from the Pierpont area on the west to the intersection of U.S. 101 with the Santa Clara River. Probable subsidence in this zone is on the order of 0.05 feet/year (Ventura Comprehensive Plan Update Background Report, 2002). Gradual inundation of depressed areas by the ocean and the Santa Clara River could occur only as a secondary effect of subsidence, possibly the result of flooding. Detailed geotechnical studies at a site-specific level would be necessary prior to development to evaluate the potential for geologic and soil hazards, including expansive soils, for these conditions to be minimized or corrected during construction. Large-scale settlement problems would not be significant provided that adequate soil and foundation studies are performed prior to construction and that CBC guidelines and appropriate site-specific mitigation are followed.

Scenario 1 – Intensification/Reuse Only.

Scenario 1 emphasizes intensification and reuse of properties within the existing developed City and does not include expansion areas. Most of the Planning Area has moderately expansive soils. There are several pockets of high-risk expansive soil within the North Avenue and Upper North Avenue, North Bank, and Montalvo districts, as well as in a hillside area known as Mariano Ranch where limited hillside development could occur. The Harbor growth district is also highly susceptible to subsidence hazards. The risk to development in these areas would be reduced to a less than significant level through compliance with CBC standards and implementation of General Plan Action 7.7, which requires geotechnical analysis and mitigation for developments within high-risk expansive soil areas or other areas prone to subsidence.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. High-risk expansive soils are present in portions of the Serra and Olivas expansion areas. In addition, any development within the Olivas expansion area may be susceptible to subsidence hazards. The risk to property in these areas would be reduced to a less than significant level through compliance with CBC standards and implementation of General Plan Action 7.7, which requires geotechnical analysis and mitigation for developments within high-risk expansive soil areas or other areas prone to subsidence.

Scenario 3 – Intensification/Reuse + North Avenue+ Olivas

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 3 would also accommodate the possible future development of the North Avenue and Olivas expansion areas. High-risk expansive soils are present in portions of the Olivas area. In addition, any development within the Olivas expansion area may be susceptible to subsidence hazards. The risk to property in these areas would be reduced to a less than significant level through compliance with CBC standards and implementation of General Plan Action 7.7, which requires geotechnical analysis and mitigation for developments within high-risk expansive soil areas or other areas prone to subsidence.

Scenario 4 – Intensification/Reuse + North Avenue+ Serra

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 4 would also accommodate the possible future development of the North Avenue and Serra expansion areas. High-risk expansive soils are present in portions of the Serra area. The risk to property in these areas would be reduced to a less than significant level through compliance with CBC standards and implementation of General Plan Action 7.7, which requires geotechnical analysis and mitigation for developments within high-risk expansive soil areas or other areas prone to subsidence.

Scenario 5 – Intensification/Reuse + North Avenue+ Western Cañada Larga

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 5 would also accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. The North Avenue expansion area contains low and moderate expansive soil potential, but no areas of high risk. The Western Cañada Larga expansion area contains pockets of high expansive soil potential along Ventura Avenue and near Cañada Larga Road. The risk to property in these areas would be reduced to a less than significant level through compliance with CBC standards and implementation of General Plan Action 7.7, which requires geotechnical analysis and mitigation for developments within high-risk expansive soil areas or other areas prone to subsidence.

Scenario 6 – Intensification/Reuse + North Avenue+ Poinsettia

Impacts associated with intensification and reuse would be the same as those identified for Scenario 1. Scenario 6 would also accommodate the possible future development of the North Avenue and Poinsettia expansion areas. The North Avenue expansion area contains moderate expansive soil potential, but no areas of high risk. The Poinsettia area has low to moderate expansive soil hazards. The risk to property is considered potentially significant, but can be minimized through compliance with CBC standards and the requirement that the recommendations of detailed soil and foundation studies for projects within high-risk expansive soil areas are implemented.

MITIGATION MEASURES

Compliance with the California Building Code and implementation of General Plan Action 7.7 would reduce impacts due to expansive soils to a less than significant level. Additional mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Impacts related to expansive soils or soils prone to settlement would be reduced to a less than significant level for any of the six land use scenarios with implementation of CBC requirements and proposed General Plan policies.

Impact GEO-5 **Development along the coast and near rivers may be susceptible to inundation from tsunamis. However, provided that the City continues its participation in the Seismic Sea Wave Warning System and the SEMS Multihazard Functional Response Plan, impacts would be Class III, less than significant, for all six scenarios.**

All of the coastal areas in the City, including areas near the mouth of the Ventura River, are susceptible to tsunamis. A tsunami from the north Pacific could move down the Santa Barbara Channel and affect the northerly coastal areas. A tsunami originating from the South Pacific or from South America could strike the coastal areas from the south to southwest. A Santa Barbara Channel tsunami could affect much of the mainland coastal areas, because the Channel Islands would not provide any protection for the mainland (City of Ventura, 1989).

The worst recorded tsunami to hit California was in 1812. An earthquake occurred in the Santa Barbara Channel, and the resulting waves are reported by some sources to have been up to 15 feet above sea level in Ventura (SEMS Multihazard Functional Response Plan, 1999). The historic record indicates that there is a small probability of occurrence of a major tsunami in Ventura County. The recurrence interval for large tsunamis in California is approximately 100 years (USGS, 1985). This historical record is not extensive enough to develop recurrence predictions for the City.

The Seismic Sea Wave Warning System (SSWWS), directed by the U.S. Coast and Geodetic Survey, is the primary source of tsunami detection. This system has been in operation since 1948. The SSWWS and other cooperating countries operate a system of seismographs and tide stations. The purpose of this system is to provide early warning to low lying areas of the approach of tsunamis. In addition to the SSWWS, the Ventura County Sheriff's department has the responsibility to alert coastal areas, and work with local police departments should an evacuation be necessary.

The Ventura Fire Department has devised and maintains a comprehensive Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan (1999) that addresses the City's planned response to extraordinary emergency situations associated with natural disasters, including tsunamis. The plan provides operational concepts, identifies sources of outside support that would be provided through mutual aid agreements, State and Federal agencies, and the private sector.

All of the coastal areas in Ventura County are susceptible to tsunamis. Within the City of Ventura, the most threatened areas would be along the coast and rivers, as shown in Figure 4.6-6. In particular, the Harbor and parts of the Downtown district are within the Tsunami Hazard Zone. New development in these areas would be subject to tsunami-related damage.

Due to its proximity to the coast and relatively low elevation, the Olivas expansion area would appear to be the most susceptible to tsunami hazards among the five potential expansion areas. However, none of the potential expansion areas under consideration are within the designated

Tsunami Hazard Zone. Therefore, each scenario would essentially be equally susceptible to tsunami inundation. General Plan Action 7.8 would require new critical facilities (hospital, police, fire, and emergency service facilities, and utility “lifeline” facilities) to be located outside of tsunami hazard zones. Action 7.9 requires the City to continue to maintain and implement the SEMS Multihazard Functional Response Plan. In addition, it is anticipated that the City will continue its participation in the Seismic Sea Wave Warning System. Thus, area residents should have ample warning about pending tsunamis and impacts related to tsunami risk would be less than significant.

MITIGATION MEASURES

Continuing participation in the Seismic Sea Wave Warning System and maintenance of the SEMS Multihazard Functional Response Plan would reduce impacts related to tsunami risk to less than significant. No additional mitigation would be required.

SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant with continued implementation of current warning programs, though the emphasis on development in coastal areas such as the Harbor and Downtown would place additional buildings and infrastructure at risk of tsunami-related damage.

4.7 HAZARDS and HAZARDOUS MATERIALS

This section analyzes the impacts associated with exposure to hazards and hazardous materials. Impacts relating to hazardous materials use, transportation, and development on brownfield sites are addressed. Potential hazards associated with wildland fires are discussed in Section 4.11, *Public Services*.

4.7.1 Setting

a. Regulatory Setting. The federal government defines a hazardous material as a substance that is toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic, bioaccumulative properties, persistence in the environment, or that are water reactive.

Use, Storage, and Handling of Hazardous Materials. Numerous federal, state, and local regulations regarding use, storage, transportation, handling, processing and disposal of hazardous materials and waste have been adopted since the passage of the federal Resource Conservation and Recovery Act (RCRA) of 1976. The goal of RCRA is to assure adequate tracking of hazardous materials from generation to proper disposal. California Fire Codes (CFC) Articles 79, 80 et al., which augment RCRA, are the primary regulatory guidelines used by the City to govern the storage and use of hazardous materials. The CFC also serves as the principal enforcement document from which corresponding violations are written.

Pursuant to SB 1082 (1993), the State of California has adopted regulations to consolidate six hazardous materials management programs under a single, local agency, known as the Certified Unified Program Agency (CUPA). In 1997, the Ventura County Hazardous Materials Program was approved by the California Environmental Protection Agency (EPA) to be a Certified Unified Program Agency (CUPA). The CUPA provides regulatory oversight for the following program elements:

- *Hazardous Materials Reporting and Response Planning Program*
- *Uniform Fire Code Business Plan*
- *Hazardous Waste Generator Program*
- *Accidental Release Prevention*
- *Underground Storage Tanks*
- *Aboveground Storage Tanks*

In addition to conducting annual facility inspections, the Hazardous Materials Program is involved with hazardous materials emergency response, investigation of the illegal disposal of hazardous waste, public complaints, and stormwater illicit discharge inspections. The City Fire Department has been designated as the administering agency for CUPA. Accordingly, the City Fire Department compiles and maintains a list of businesses that meet the threshold criteria for use, storage, or disposal of hazardous materials, compressed gases and/or hazardous waste. Threshold quantities are defined as hazardous materials equal to or exceeding 55 gallons or 500 pounds, 200 cubic feet of compressed gas, and/or hazardous waste in any amount.



Soil Contamination. Regulatory agencies such as the United States Environmental Protection Agency (EPA) set forth guidelines that list at what point concentrations of certain contaminants pose a risk to human health. The EPA combines current toxicity values of contaminants with exposure factors to estimate what the maximum concentration of a contaminant can be in environmental media before it is a risk to human health. These concentrations set forth by the EPA are termed Preliminary Remediation Goals (PRGs) for various pollutants in soil, air, and tap water (USEPA Region IX, Preliminary Remediation Goals Tables, 2002). PRG concentrations can be used to screen pollutants in environmental media, trigger further investigation, and provide an initial cleanup goal.

The Los Angeles Regional Water Quality Control Board (RWQCB) has developed an interim guidance document that contains numerical site screening levels to determine the need for remediation of gasoline and volatile organic compound (VOC) contaminated soils (Los Angeles RWQCB, 1996). The guidance document has been used to determine when a site may require remedial action or to establish an acceptable clean up standard for a particular constituent.

Groundwater Contamination. Both the EPA and the California Department of Health Services (DHS) regulate the concentration of various chemicals in drinking water. The DHS thresholds are generally stricter than the EPA thresholds. Primary maximum contaminant levels (MCLs) are established for a number of chemical and radioactive contaminants (Title 22, Division 4, Chapter 15 California Code of Regulations). MCLs are often used by regulatory agencies to determine cleanup standards when groundwater is affected with contaminants.

Large-Scale Hazardous Material Upset. The Ventura Fire Department has devised and maintains a comprehensive Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan (1999) that addresses the city's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, or national security emergencies, including incidents involving major hazardous material upset. The plan provides operational concepts, identifies sources of outside support that would be provided through mutual aid agreements, State and Federal agencies, and the private sector.

Hazardous material incidents differ from other emergency response situations because of the wide diversity of causative factors and the pervasiveness of the potential threat. Circumstances such as the prevailing wind and geographic features in the vicinity of emergency incidents are relevant factors that may greatly increase the hazardous chemical dangers. Incidents may occur at fixed facilities where, most likely, the occupants have filed site-specific emergency response contingency and evacuation plans. However, incidents may also occur at any place along any land, water, or air transportation routes, and may occur in unpredictable areas, relatively inaccessible by ground transportation.

The Ventura City Fire Department responds to all hazardous materials calls within the City of Ventura. The city maintains a hazardous materials (HAZMAT) team at Fire Station 6, located at 10979 Darling Road. The HAZMAT team is specially trained and equipped to respond to emergencies involving potentially hazardous materials. As partners to a region wide Hazardous Materials Response Plan, additional fire protection equipment and staffing specifically designed for hazardous materials incidents is available from the City of Oxnard, the



Ventura County Fire Protection District and the U.S. Naval Construction Battalion Center in Port Hueneme.

b. Hazardous Materials. Improper use, storage, transport, and disposal of hazardous materials and waste may result in harm to humans, surface and groundwater degradation, air pollution, fire, and explosion. The risk of hazardous material exposure can come from a range of sources; these may include household uses, agricultural/commercial/industrial uses, transportation of hazardous materials, and abandoned industrial sites known as brownfields.

Household Products. By far the most common hazardous materials are those found or used in the home. Waste oil is a common hazardous material that is often improperly disposed of and can contaminate surface water through runoff. Other household hazardous wastes (used paint, pesticides, cleaning products and other chemicals) are common and often improperly stored in garages and homes throughout the community. Because of their prevalence and proximity to residents, household products constitute the most pervasive health hazard facing residents of the community.

Commercial and Industrial Uses. The City and County of Ventura (per CUPA) regulate several hundred facilities in the planning area that meet specified threshold quantities for hazardous materials. Under Chapter 6.95, Section 25503 of the California Health and Safety Code, Business Plans are required from California businesses that handle a hazardous material. As part of the Business Plan, emergency response plans must be developed and training sessions provided to employees. Businesses are routinely inspected by the Ventura County Environmental Health Division to ensure that handling, storage, and waste disposal practices conform to appropriate laws and regulations.

Larger users of hazardous materials include commercial manufacturing, petroleum exploration, industrial fabrication, biotechnology, and agribusinesses. These businesses are confined primarily to the Ventura Avenue area from Thompson Avenue to Stanley Avenue, the North Avenue area, and the Arundell district. Potentially hazardous materials used by businesses in these areas include petroleum based fuels, chlorinated solvents, acrylic coatings, corrosive or caustic additives, and to a lesser extent, chemical fertilizers, pesticides and herbicides.

Agricultural Pesticide Use. Scattered agricultural operations are located throughout the East Ventura and portions of West Ventura. Orchards in particular are often sprayed with various pesticides, which can contaminate the soils. In general, pesticide use can result in health impacts to those who come in contact with such chemicals and are unprotected. The County of Ventura requires that pesticides be applied so as to prevent substantial pesticide drift onto nearby properties. The Ventura County Agricultural Commissioner's office retains a registry of pesticides used on individual agricultural parcels in the County. Please refer to Section 4.1, *Agriculture*, for further discussion of potential conflicts between agricultural and potential new development.

Major Rail and Truck Transportation Corridors. The most likely cause of a major hazardous materials (HAZMAT) incident is a transportation accident involving a vehicle carrying hazardous materials. Historically, HAZMAT incidents frequently occur on the heaviest traveled streets, freeway interchanges, and railroad crossings. Although the odds of occurrence are less for a railroad HAZMAT incident, the severity is potentially greater because of the



numerous rail tanker cars involved and the potential for chemicals and explosive substances being mixed together. Hazardous materials are also transported by vessel. Vessels transporting hazardous materials are confined to the ocean and harbor areas of the city.

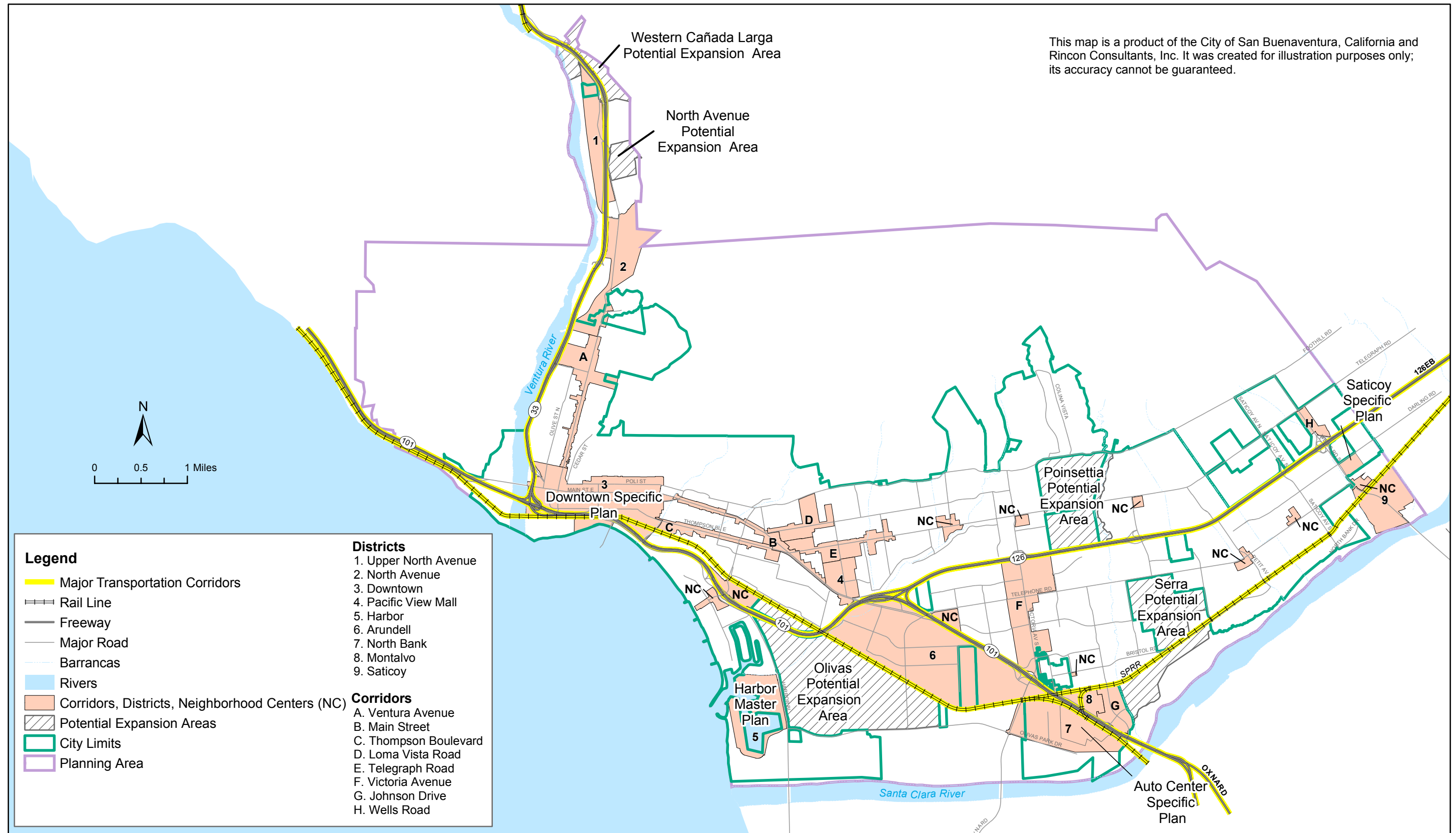
The main arteries in the City utilized by transporters of hazardous materials and waste are State Route 33, U.S. 101, State Route 126, and the Union Pacific Railroad (see Figure 4.7-1). The City does not currently restrict travel ways for hazardous materials transportation. Trains and trucks commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. When properly contained, these materials present no hazard to the community. But in the event of an accident or derailment, such materials may be released, either in liquid or gas form. In the case of some chemicals (such as chlorine), highly toxic fumes may be carried far from the accident site.

Pipelines. Underground pipelines are located throughout the City. Natural gas, crude oil, and refined petroleum products are transported in these lines. The failure of these pipelines can expose the adjacent population and improvements to the dangers of potential fire and explosion from the ignition of materials release. Pipelines are inspected on a regular basis per state and federal requirements, and normally present no hazard to the community.

Brownfield Sites. "Brownfield" sites are areas with actual or perceived contamination and that may have potential for redevelopment or reuse. Brownfields are often former industrial facilities that were once the source of jobs and economic benefits to the community, but lie abandoned due to fears about contamination and potential liability. Table 4.7-1 lists potential contaminants that may exist in brownfield areas. The United States Environmental Protection Agency (EPA) has selected the Ventura Westside neighborhood as part of a two-year Brownfield Assessment Demonstration Pilot Program (see Figure 4.7-2). The program calls for environmental assessments on former industrial properties to leverage their cleanup and redevelopment, make the sites more attractive to prospective developers, and generate employment and tax revenue. A 2001 study by West Coast Environmental Engineering identified properties potentially eligible for funding for site assessments (if the property owner is willing to participate in the pilot program).

The EPA granted the City \$200,000 in 1999 for the pilot program that can be used for Phase I and Phase II site assessments, but may not be used for remediation. It is difficult to locate property owners interested in participating in the program, possibly due to concerns regarding liability for site remediation under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

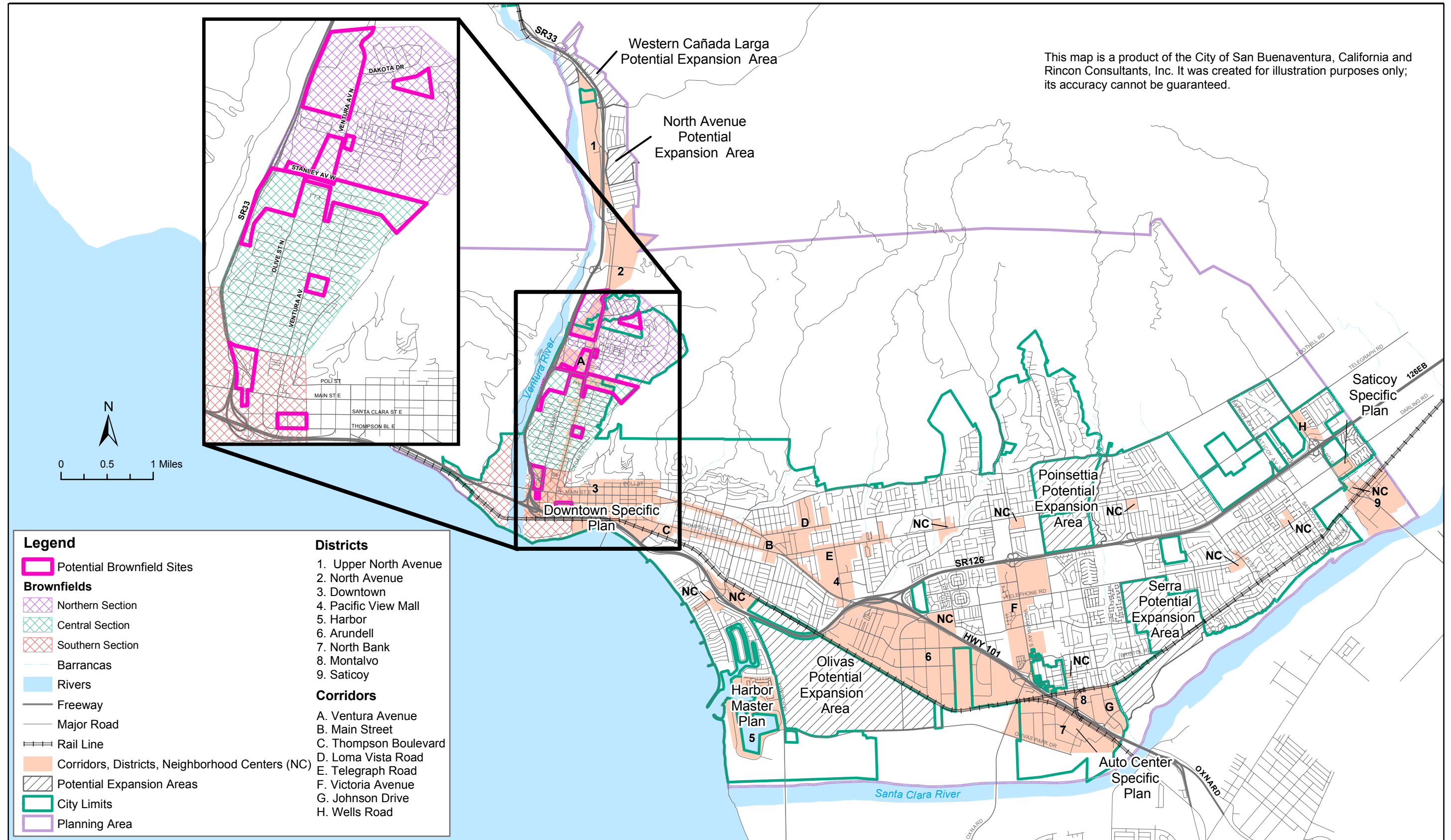
CERCLA was amended in January of 2002 with passage of the Small Business Liability Relief and Brownfields Revitalization Act. This Act provides some relief for small businesses from liability under CERCLA. It authorizes \$200 million per fiscal year through 2006 to provide financial assistance for brownfield revitalization. While some exclusions exist (such as for facilities at which there has been a release of PCBs), there are essentially four distinct funding opportunities available to the City under this Act beginning in fall 2002: (1) up to \$350,000 for site characterization; (2) \$200,000 for remediation of a brownfield site; (3) \$200,000 for environmental employment and training for residents impacted by brownfields; and (4) \$1,000,000 in revolving loan funds for remediation.



Source: City of Ventura Fire Department, 2002, City of San Buenaventura and Rincon Consultants, Inc., 2005.

**Major Rail and Truck
 Transportation Corridors**

Figure 4.7-1
 City of Ventura



Source: City of Ventura Fire Department, 2002, City of San Buenaventura and Rincon Consultants, Inc., 2005, and West Coast Environmental and Engineering, 2001.

**Areas Within Brownfield Assessment
 Demonstration Pilot Program** Figure 4.7-2
 City of Ventura

**Table 4.7-1
 Potential Environmental Contaminants by Industry**

Industry Type	Typical Operations	Potential Contaminants
Oilfield and Oilfield Service	Oil production and handling, oil tool, welding, and machine shops, vacuum truck services, equipment storage yards, waste disposal, wireline, perforation	Toxic metals, petroleum solvents, chlorinated solvents, semivolatile hydrocarbons, polychlorinated biphenyls (PCBs)
Scrap Metal and Salvage Yards	Metal recycling, equipment scrapping, waste disposal, auto salvage, vehicle scrapping	Toxic metals, petroleum solvents, chlorinated solvents, semivolatile hydrocarbons, PCBs
Chemical Facilities	Chemical supply, refineries, natural gas processing/compression plants, bulk fuel storage/sales	Toxic metals, petroleum solvents, chlorinated solvents, semivolatile hydrocarbons, caustics and acids, PCBs
Quarry Sites	Rock quarries, mining, processing, mixing	Toxic metals, petroleum solvents, chlorinated solvents, semivolatile hydrocarbons, explosive charges

Source: West Coast Environmental and Engineering, 2001.

Although the funding already granted to the City is restricted to sites not contaminated by petroleum, it can still be used for Phase I (and possibly part of Phase II) activities, as it may not be readily apparent that petroleum contamination exists at a particular site, and commingling of substances may allow for the funding to be utilized at certain sites. The 2002 legislation allows greater flexibility in the use of future funds. Other potential federal funding sources include:

- *The Department of Housing and Urban Development Empowerment Zone/Enterprise Community program*
- *The Department of Transportation Livable Communities program*
- *The Department of Commerce Economic Development Administration*
- *Various Department of the Interior programs*
- *The State Department of Toxic Substances Control Cleanup Loans and Environmental Assistance to Neighborhoods (CLEAN) Brownfield Loan Program*

The CLEAN Program (enacted in 2000) establishes financial incentives to encourage property owners, developers, community groups and local governments to redevelop abandoned and underutilized urban properties in California. Initially \$85 million was available through this program; however, only \$6 million is currently available in revolving loan funds. Some restrictions on the use of this funding exist (e.g., the property may not be previously owned by the government).



4.7.2 Impact Analysis

a. Methodology and Thresholds of Significance. For the purpose of this analysis, a significant impact would occur if the project would:

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials*
- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school*
- *Be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment*
- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of hazardous material impacts for each of the scenarios under consideration. A discussion of the impacts follows.

The 2005 General Plan includes the following policy and actions intended to minimize human exposure to hazardous substances:

- Policy 7D** *Minimize exposure to air pollution and hazardous substances.*
- Action 7.20** *Require air pollution point sources to be located safe distances from sensitive sites such as homes and schools.*
- Action 7.24** *Only approve projects involving sensitive land uses (such as residences, schools, daycare centers, playgrounds, medical facilities) within or adjacent to industrially designated areas if an analysis provided by the proponent demonstrates that the health risk will not be significant.*
- Action 7.25** *Adopt new development code provisions that ensure uses in mixed-use projects do not pose significant health effects.*
- Action 7.26** *Seek funding for cleanup of sites within the Brownfield Assessment Demonstration Pilot Program and other contaminated areas in West Ventura.*
- Action 7.27** *Require proponents of projects on or immediately adjacent to lands in industrial, commercial, or agricultural use to perform soil and groundwater contamination assessments in accordance with American Society for Testing and Materials standards, and if contamination exceeds regulatory action levels, require the proponent to undertake remediation procedures prior to grading and development under the*



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Hazardous Material Use and Storage (Impact HAZ-1)	The Ventura Avenue corridor, the western portion of the Downtown district, the Arundell district, and the northwest portion of the North Bank districts contain relatively high concentrations of hazardous material users. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. All expansion areas under this scenario include agricultural activity and associated pesticide/herbicide use and storage. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Potential expansion impacts similar to Scenario 2. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Potential expansion impacts similar to Scenario 2. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Potential expansion impacts similar to Scenario 2, though the Western Cañada Larga area is primarily open land. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Potential expansion impacts similar to Scenario 2. Compliance with General Plan policies and actions reduces impacts to Class III, less than significant.
Transportation of Hazardous Materials (Impact HAZ-2)	Development adjacent to major transportation corridors may be at risk of exposure to hazardous materials in the event of an accident on these routes. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. The North Avenue, Olivas, and Serra expansion areas are adjacent to U.S. 101, SR 33, and/or the railroad. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. The North Avenue expansion area is adjacent to SR 33, and the railroad is adjacent to the Olivas expansion area. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. The North Avenue expansion area is adjacent to SR 33, and the railroad bisects the Serra expansion area. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. The North Avenue and Western Cañada Larga expansion areas are adjacent to SR 33, which is a major truck transportation corridor. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.	Intensification/reuse hazards similar to Scenario 1. The North Avenue expansion area is adjacent to SR 33, and SR 126 forms the southern boundary of the Poinsettia expansion area. Continued participation in the SEMS Multihazard Functional Response Plan reduces impacts to Class III, less than significant.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Brownfield Sites (Impact HAZ-3)	Future development on brownfields and other sites with a potential for contamination, particularly in the Ventura Avenue corridor could create a public safety hazard. Compliance with General Plan Action 7.22, which requires soil and groundwater assessment, would reduce impacts to Class III, less than significant.	Intensification/reuse hazards similar to Alternative 1. No identified brownfield sites in North Avenue, Olivas, or Serra expansion areas. Compliance with General Plan Action 7.22 would reduce impacts to Class III, less than significant.	Intensification/reuse hazards similar to Alternative 1. No identified brownfield sites in North Avenue or Olivas expansion areas. Compliance with General Plan Action 7.22 would reduce impacts to Class III, less than significant.	Intensification/reuse hazards similar to Alternative 1. No identified brownfield sites in North Avenue or Serra expansion areas. Compliance with General Plan Action 7.22 would reduce impacts to Class III, less than significant.	Intensification/reuse hazards similar to Alternative 1. No identified brownfield sites in North Avenue or Western Cañada Larga expansion areas. Compliance with General Plan Action 7.22 would reduce impacts to Class III, less than significant.	Intensification/reuse hazards similar to Alternative 1. No identified brownfield sites in North Avenue or Poinsettia expansion areas. Compliance with General Plan Action 7.22 would reduce impacts to Class III, less than significant.



supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or Regional Water Quality Control Board (depending upon the nature of any identified contamination).

- Action 7.28** *Educate residents and businesses about how to reduce or eliminate the use of hazardous materials, including by using safer non-toxic equivalents.*
- Action 7.29** *Require non-agricultural development to provide buffers of 50 feet or more from agricultural operations to minimize the potential for pesticide drift.*
- Action 7.30** *Require all users, producers, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use, or transport, and to notify the appropriate City, County, State and Federal agencies in the event of a violation.*
- Action 7.31** *Work toward voluntary reduction or elimination of aerial and synthetic chemical application in cooperation with local agricultural interests and the Ventura County agricultural commissioner.*

Impact HAZ-1 **Some industrial and agricultural operations within the Planning Area use hazardous materials to which current and future residents could be exposed. Potential development near hazardous material users could expose individuals to health risks due to soil/groundwater contamination or emission of hazardous materials into the air. However, compliance with proposed General Plan policies and actions, in combination with existing regulations, would reduce potential impacts associated with hazardous material use to a Class III, less than significant, level for any of the six land use scenarios.**

The development of residential uses in proximity to commercial and industrial uses that use or store hazardous materials increases the risk of exposure to deleterious health effects. Areas where users of large quantities of hazardous materials are located are confined primarily to industrial areas along Ventura Avenue from Thompson Avenue to Stanley Avenue, in the North Avenue area, and in the Arundell district, and in agricultural lands in and around the Planning Area. Development or redevelopment in these areas would have the potential for exposure of hazardous materials to the public. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites.

There are numerous federal, state, and local regulations regarding use, storage, transportation, and disposal of hazardous materials and waste. In addition, the 2005 General Plan contains policies that aim to minimize adverse impacts to health and quality of life associated with

exposure to hazardous materials. Action 7.24 allows projects involving sensitive land uses only if a health risk analysis indicates that the health risk would not be significant. Action 7.27 requires proponents of projects on or immediately adjacent to lands in industrial, commercial or agricultural use to undertake soil and groundwater contamination assessment in accordance with ATSM standards, and requires remediation if necessary. Action 7.25 states that the updated development code should specify that mixed use projects may not include uses that pose significant health effects.

Scenario 1 - Intensification/Reuse Only

This land use scenario emphasizes intensification and reuse of properties within the urbanized areas of the City. By adding mixed use and residential development in areas where there are users of hazardous materials, the potential for exposure may increase due to: (1) potential soil/groundwater contamination due to past practices; and (2) the proximity of new residential development to ongoing activity involving the use of hazardous materials. Areas that would be most affected are the Upper North Avenue, North Avenue, Downtown (western part), and Arundell districts, and the Ventura Avenue corridor. Other areas of possible concern due to possible soil or groundwater contamination are the agricultural lands in the Saticoy, Thille, and Arundell areas that could be developed under this scenario.

Residential development within the Upper North Avenue, North Avenue, and Arundell districts would largely be limited to live/work or work/live housing and the number of new residences in these areas is not expected to be substantial. The Downtown district and the Ventura Avenue corridor are expected to accommodate larger numbers of housing units, which may be located adjacent to or near existing industrial facilities. The introduction of residential components in these areas of the City could potentially increase exposure to hazardous materials. However, the policies described above would require appropriate evaluation and, if necessary, remediation of significant health risks. Implementation of proposed 2005 General Plan policies and actions on all new development would reduce health and safety risks to a less than significant level.

Development on agricultural lands could potentially expose construction workers and area residents to agricultural chemicals that could be present in site soils. However, implementation of the requirements of Action 7.27 would reduce such impacts to a less than significant level.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts under this scenario would be similar to those of Scenario 1. In addition, each of the expansion areas included in this scenario is currently used for agriculture, which likely involves the use of various pesticides and herbicides. However, as noted above, 2005 General Plan Action 7.27 requires proponents of projects on or adjacent to agricultural lands to perform soil and groundwater assessments and, if necessary, remediation. Compliance with these requirements would reduce impacts to a less than significant level.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with this scenario would be similar to those of Scenario 2. Compliance with proposed 2005 General Plan policies and actions would reduce impacts to a less than significant level.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts associated with this scenario would be similar to those of Scenario 2. Compliance with proposed 2005 General Plan policies and actions would reduce impacts to a less than significant level.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Intensification/reuse impacts under this scenario would be similar to those of Scenario 1. In addition, the North Avenue expansion area is primarily used for agricultural purposes as is a small portion of the Western Cañada Larga expansion area. These agricultural activities likely involve the use of various pesticides and herbicides. As noted above, 2005 General Plan Action 7.27 requires proponents of projects on or adjacent to agricultural lands to perform soil and groundwater assessments and, if necessary, remediation. Compliance with these requirements would reduce impacts to a less than significant level.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts associated with this scenario would be similar to those of Scenario 2. Compliance with proposed 2005 General Plan policies and actions would reduce impacts to a less than significant level.

MITIGATION MEASURES

Compliance with federal, state, and local regulations, in combination with the proposed 2005 General Plan policies and actions, would reduce impacts to a less than significant level. No mitigation is required.

SIGNIFICANCE AFTER MITIGATION

Compliance with existing regulations and proposed General Plan policies and actions would reduce potential impacts associated with risk through the use, storage, or disposal of hazardous materials to a less than significant level for any of the six land use scenarios.

Impact HAZ-2 The transportation of hazardous materials could potentially create a public safety hazard for new development that could be accommodated along major transportation corridors under the General Plan Update. Provided that the City continues its participation in the SEMS Multihazard Functional Response Plan, impacts would be Class III, *less than significant*, for any of the six land use scenarios.

While incidents related to hazardous materials spills are infrequent, accidents along major transportation corridors are a possibility. Hazardous materials are transported along U.S. 101, SR 126, and/or SR 33, as well as the railroad lines throughout the City (see Figure 4.7-1). Although the odds of occurrence are less for a hazardous materials incident along a railroad, the severity is potentially greater because of the numerous rail tanker cars involved and the potential for chemicals and explosive substances being mixed together. When properly contained, these materials present no hazard to the community. However, in the event of an accident or derailment, such materials may be released, either in liquid or gas form.

The Ventura Fire Department has devised and maintains a comprehensive Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan that addresses the city's planned response to extraordinary emergency situations including incidents involving major hazardous material upset. The plan provides operational concepts, identifies sources of outside support that would be provided through mutual aid agreements, State and Federal agencies, and the private sector.

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes development within districts and corridors that are already urbanized, some of which are adjacent to major transportation corridors that may be used to transport hazardous materials. U.S. 101 bisects the Downtown district and is adjacent to the Pacific View Mall district, Victoria Avenue corridor, North Bank district, Montalvo district, and Johnson Drive corridor. SR 126 is adjacent to the Victoria Avenue and Wells Road corridors. SR 33 bisects the Downtown and Upper North Avenue districts and is adjacent to the Ventura Avenue corridor and North Avenue district. The railroad bisects the Downtown, North Bank, Montalvo, and Saticoy districts and is adjacent to the Arundell district. By increasing the density of development in these areas, more people would be at risk of exposure to hazardous materials in the event of an accident on these routes. However, provided that the City continues implementation of the SEMS Multihazard Functional Response Plan, impacts related to risk of upset along major transportation corridors would not be significant.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts would be similar to those of Scenario 1. New development within the potential expansion areas could also put more people at risk. U.S. 101 crosses the Olivas expansion area and SR 33 is adjacent to the North Avenue potential expansion areas. The railroad bisects the Serra area and forms the northeast boundary of the Olivas expansion area.

Although the line that crosses through the Serra area is not currently in use, the line adjacent to the Olivas area carries both passenger and freight traffic. As with Scenario 1, additional risks associated with intensification and reuse could potentially expose more people to hazardous materials in the event of a major upset along these transportation routes. However, provided that the City continues implementation of the SEMS Multihazard Functional Response Plan and maintains a regional hazmat response program that meets State and Federal requirements, impacts related to risk of upset along major transportation corridors would be mitigated.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Intensification/reuse impacts would be similar to those of Scenario 1. New development within the potential expansion areas could also put more people at risk. U.S. 101 crosses the Olivas expansion area and SR 33 is adjacent to the North Avenue potential expansion areas. The railroad forms the northeast boundary of the Olivas expansion area. As with Scenario 1, additional risks associated with intensification and reuse could potentially expose more people to hazardous materials in the event of a major upset along these transportation routes. However, provided that the City continues implementation of the SEMS Multihazard Functional Response Plan, impacts related to risk of upset along major transportation corridors would not be significant.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Intensification/reuse impacts would be similar to those of Scenario 1. New development within the potential expansion areas could also put more people at risk. U.S. 101 crosses the Olivas expansion area and SR 33 is adjacent to the North Avenue potential expansion areas. The railroad bisects the Serra area and forms the northeast boundary of the Olivas expansion area. Although the line that crosses through the Serra area is not currently in use, it potentially could be used at some point in the future. As with Scenario 1, additional risks associated with intensification and reuse could potentially expose more people to hazardous materials in the event of a major upset along these transportation routes. However, provided that the City continues implementation of the SEMS Multihazard Functional Response Plan, impacts related to risk of upset along major transportation corridors would not be significant.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Intensification/reuse impacts would be similar to those of Scenario 1. New development within the potential expansion areas could also put more people at risk. Both the North Avenue and Western Cañada Larga potential expansion areas are adjacent to SR 33, which is a major truck transportation corridor. As with Scenario 1, additional risks associated with intensification and reuse could potentially expose more people to hazardous materials in the event of a major upset along these transportation routes. However, provided that the City continues implementation of the SEMS Multihazard Functional Response Plan, impacts related to risk of upset along major transportation corridors would not be significant.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Intensification/reuse impacts would be similar to those of Scenario 1. New development within the potential expansion areas could also put more people at risk. The North Avenue expansion



area is adjacent to SR 33 and SR 126 forms the southern boundary of the Poinsettia expansion area. In addition to the potential impacts discussed under Scenario 1, new development in these areas would be subject to risk of hazardous materials exposure if an accident were to occur on these routes. Compliance with hazardous materials transport regulations and the SEMS Multihazard Functional Response Plan would reduce the risk to less than significant.

MITIGATION MEASURES

Compliance with existing hazardous materials transportation regulations as well as continuing participation and maintenance of the SEMS Multihazard Functional Response Plan would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.

SIGNIFICANCE AFTER MITIGATION

With implementation of the SEMS and 2005 General Plan policies and actions, impacts would be less than significant for any of the six land use scenarios.

<p>Impact HAZ-3 Future development on brownfields and other sites with potential soil or groundwater contamination could create a public safety hazard. However, compliance with City policies requiring soil and groundwater assessments on these sites would reduce impacts to Class III, <i>less than significant</i>, for any of the six land use scenarios.</p>

Any developed property has the potential for soil contamination due to operation of motor vehicles and use of solvents and other materials that could have been spilled over the years. Generally speaking, the risk of significant contamination requiring remedial action is low through most of the Planning Area. However, portions of West Ventura have been identified as brownfields with a high likelihood of significant contamination issues. Generally speaking, soil contamination does not pose an unmitigable obstacle to development or redevelopment insofar as proper treatment or removal of contaminated soils can usually mitigate potential health hazards. Testing of site soils, and removal of any contaminated soils, would be warranted prior to grading or development in these areas.

The 1.7-square mile Westside neighborhood is believed to contain approximately 30 brownfield sites, many of which have unknown levels of contamination. There are approximately 19 potential hazardous waste sites per square mile in the Westside, compared to just one per square mile in the rest of the City. The sites include an ammonia nitrate plant, a large salvage and metal recycling operation, an abandoned rocklite mine, and various heavy commercial and industrial operations, and oil industry facilities. Some of the brownfield parcels are adjacent to residential neighborhoods, a school, parks and open space, and the Ventura River.

The northern section of the study area has historically been dominated by oil production and the businesses that support this industry. Currently, this area consists of a mix of land use dominated to some degree by industrial uses. Figure 4.7-2 highlights the parcels most likely to

contain brownfield sites in this area (where previous businesses were clustered): the north side of Stanley Avenue, along Ventura Avenue near the intersection of Franklin Lane, and west of Ventura Avenue north of Barry Lane.

Businesses in the central section included a refinery in the northwest portion of this area, rock quarries at the end of Rocklite Road and at the west end of Stanley Avenue in the Ventura River bottom, and an oil tool/machine shop in the area of Kellogg Street that eventually converted to a steel company. These businesses are clustered along the south side of Stanley Avenue, both sides of Rocklite Road, between Olive Street and State Route 33 (north of West Lewis Street), and at various locations along Ventura Avenue.

The southern section included oilfield service companies (wireline, perforating and well workovers), chemical suppliers, bulk fuel storage and sales, commercial laundries, auto salvage yards, and metal fabrication. These businesses were centered on the north Main Street along Julian and Peking Streets, along West Park Row and Dubbers Street, along Olive Street immediately north and south of Main Street, and along Ventura Avenue north of Thompson Boulevard.

The EPA granted the City \$200,000 in 1999 for the pilot program that can be used for Phase I and Phase II site assessments, but may not be used for remediation. It is difficult to locate property owners interested in participating in the program, possibly due to concerns regarding liability for site remediation under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

CERCLA was amended in January of 2002 with passage of the Small Business Liability Relief and Brownfields Revitalization Act. This Act provides some relief for small businesses from liability under CERCLA. It authorizes \$200 million per fiscal year through 2006 to provide financial assistance for brownfield revitalization. While some exclusions exist (such as for facilities at which there has been a release of PCBs), there are essentially four distinct funding opportunities available to the City under this Act beginning in fall 2002: (1) up to \$350,000 for site characterization; (2) \$200,000 for remediation of a brownfield site; (3) \$200,000 for environmental employment and training for residents impacted by brownfields; and (4) \$1,000,000 in revolving loan funds for remediation.

Although the funding already granted to the City is restricted to sites not contaminated by petroleum, it can still be used for Phase I (and possibly part of Phase II) activities, as it may not be readily apparent that petroleum contamination exists at a particular site, and commingling of substances may allow for the funding to be utilized at certain sites. The 2002 legislation allows greater flexibility in the use of future funds. Other potential federal funding sources include:

- *The Department of Housing and Urban Development Empowerment Zone/Enterprise Community program*
- *The Department of Transportation Livable Communities program*
- *The Department of Commerce Economic Development Administration*
- *Various Department of the Interior programs*
- *The State Department of Toxic Substances Control Cleanup Loans and Environmental Assistance to Neighborhoods (CLEAN) Brownfield Loan Program*

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of already urbanized areas. As discussed above, some of these areas, particularly West Ventura, have been used for industrial operations in the past and contamination associated with those uses may pose a threat to future users of the site. Potential brownfield sites are concentrated in the area around Ventura Avenue. Specifically, parcels in the Downtown district and the Ventura Avenue corridor are within the Brownfield Assessment Demonstration Pilot Program and include parcels that are likely to contain brownfields. Development that involves intensification and reuse of land in this area would require testing and possibly soil remediation actions. Impacts in these areas are considered potentially significant. However, Action 7.27 requires soil and groundwater sampling and, if necessary, remediation under the appropriate oversight agency to reduce risk from possible contamination. In addition, under Action 7.26, the City would continue to seek funding for cleanup of potentially contaminated sites in the West Ventura area. Compliance with 2005 General Plan policies and actions would reduce impacts associated with brownfield redevelopment to a less than significant level. In the long term, remediation of brownfield sites would be expected to improve environmental conditions in the West Ventura area.

Scenarios 2 through 6

Impacts relating to intensification and reuse would be similar to those of Scenario 1. None of the expansion areas included in Scenarios 2-6 are identified as potential brownfield sites. As with Scenario 1, impacts associated with brownfield redevelopment could be reduced to a less than significant level with implementation of proposed 2005 General Plan policies and actions and would be beneficial in the long term.

MITIGATION MEASURES

Compliance with General Plan Action 7.27 would reduce impacts to a less than significant level. No mitigation measures are required.

SIGNIFICANCE AFTER MITIGATION

Implementation of proposed 2005 General Plan policies and actions would reduce impacts associated with brownfield redevelopment to a less than significant level for any of the six land use scenarios.

4.8 HYDROLOGY AND WATER QUALITY

This section addresses impacts to the City's drainage infrastructure as well as surface water quality impacts.

4.8.1 Setting

a. Watershed Hydrology. Drainage patterns within the Planning Area generally begin in the hills north of the City and terminate in the Ventura River, Santa Clara River or the Pacific Ocean. The Ventura County Watershed Protection District (VCWPD) has jurisdiction over and/or maintains about 20 natural and concrete-lined barrancas that serve as major drainage courses in the Planning Area. Watercourses under VCWPD control are listed below by major tributary:

Discharging to the Santa Clara River

- *Franklin Barranca is a concrete channel from SR 126 south to the Santa Clara River. Above SR 126, the barranca is a channelized earth ditch, with erosion stabilization.*
- *Brown Barranca is, for the most part, a stabilized earthen ditch. One segment, from Telegraph Road to SR 126, is partially unstabilized and subject to severe erosion. The sections from SR 126 to the Santa Clara River also have severe bank erosion.*
- *Sudden and Clark Barrancas are mostly concrete lined channels. Sudden Barranca has an unlined portion between Telegraph Road and SR 126.*
- *Harmon and Ondulando Barrancas are primarily natural channels. A portion of Ondulando is a box culvert and Harmon is natural to Telegraph Road then box culvert, dirt, natural, and rip-rap sides as it proceeds downstream.*
- *Moon Ditch is a concrete channel and culvert system.*

Discharging to the Pacific Ocean

- *Arundell Barranca is a stabilized natural channel above U.S. 101, with the exception of channelized portions south of Foothill Road to Telegraph Road and in the Hidden Valley subdivision above Foothill Road.*
- *Barlow and Reservoir Barrancas are concrete-lined south of Foothill Road.*
- *Prince and San Jon Barrancas are concrete-lined above Poli Street to the Pacific Ocean, with the exception of a small segment of San Jon Barranca from Main Street to Poli Street.*

Discharging to the Ventura River

- *Dent Drain is a pipe culvert system.*
- *School House Canyon is a natural channel.*
- *Cañada De San Joaquin is a natural channel east of Ventura Avenue, and is a concrete-lined channel for a short segment west of the Avenue.*
- *Los Encinas Barranca is a natural channel east of Ventura Avenue, and a concrete channel to the west.*
- *Cañada Larga Creek is a natural channel east of SR 33.*



VCWPD has permit authority for construction of drainage systems that connect to these barrancas and watercourses, and is responsible for providing adequate hydraulic capacity. VCWPD watercourses are designed to have capacity to safely carry the runoff from a 100-year storm (which has a 1% probability of occurring each year). The barrancas in the City are identified on Figure 4.8-1 (with the exception of Ondulando, Moon Ditch, and the creeks draining to the Ventura River).

The Ventura Vision states that the City should work with county, state, and federal agencies and the VCWPD to maintain the remaining unlined barrancas as natural flood channels and seasonal recreational trails. Concrete-lined barrancas should be restored to their natural conditions where feasible and safe. Where feasible, natural drainage and flood control systems (e.g., wildlife ponds and wetlands) should be utilized over cement retention basins and lined channels.

The City owns and/or maintains local drainage facilities in the City as well as portions of Brown and Clark Barrancas, including approximately 20 miles of major facilities with a diameter equal to or greater than 48 inches. City drainage facilities range from 6 to 96 inches in diameter. The remaining City drainage system connects to these major facilities. Most City facilities are designed to convey the runoff generated from a 10-year storm event within the storm drain, while city streets convey flows above the 10-year storm.

The 1971 Drainage Master Plan notes that many of the tributaries to the major existing storm drains lacked adequate inlet capacity and are undersized. A 1996 deficiency study identified public improvements needed in the Franklin and Brown Barrancas to support future development in the Wells and Saticoy neighborhoods.

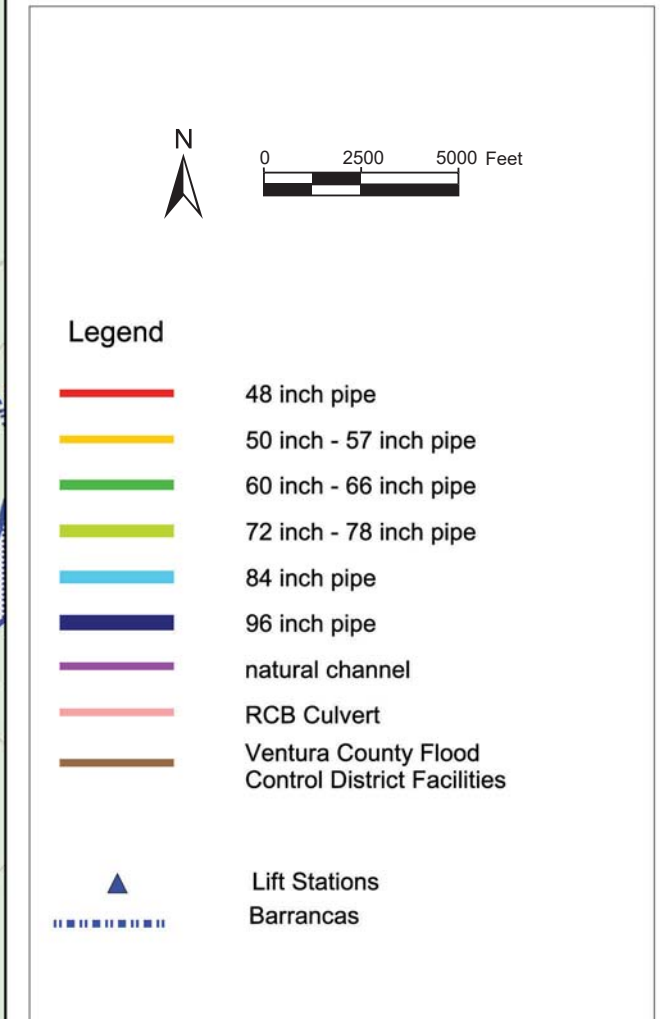
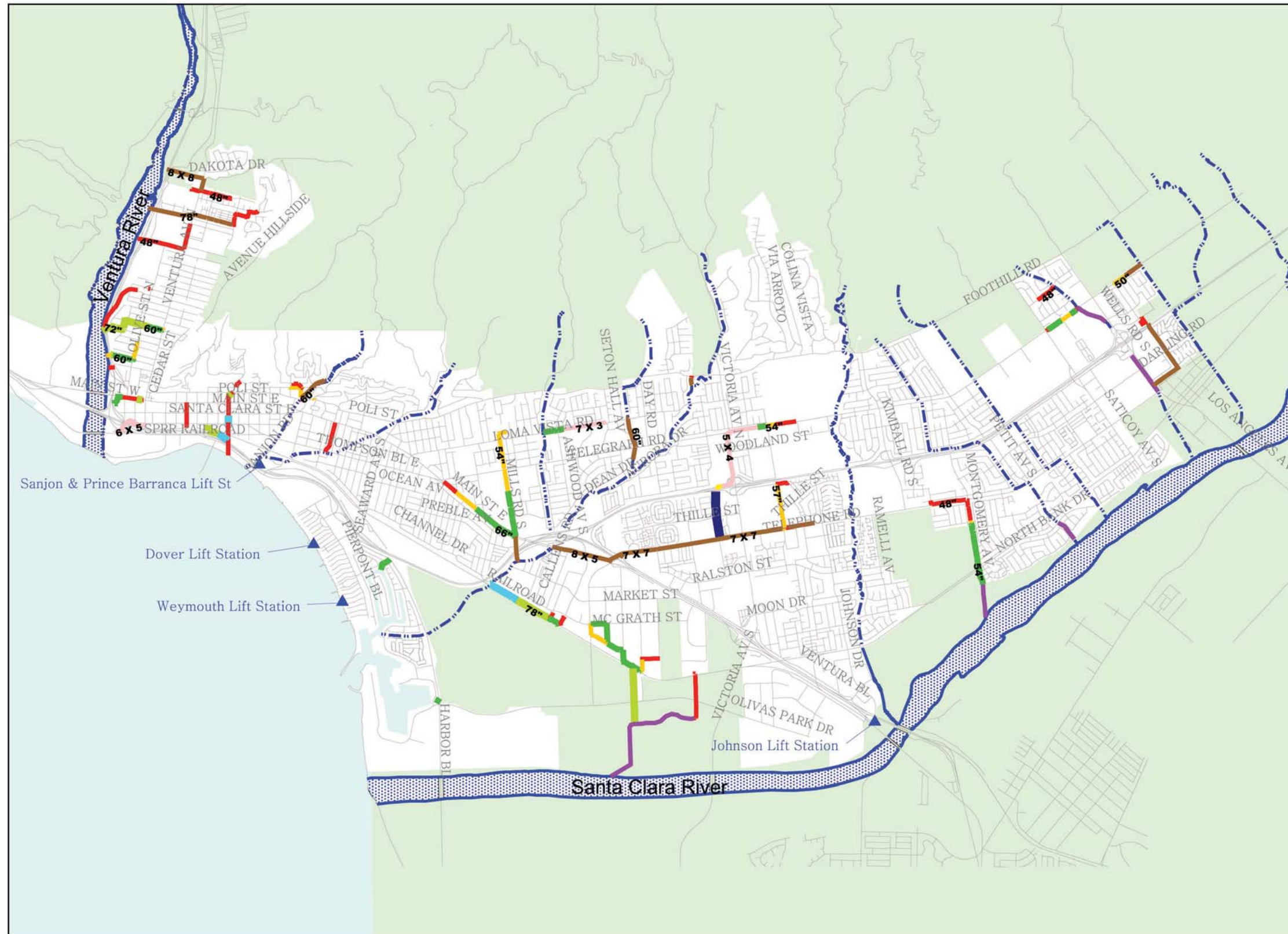
Figure 4.8-1 shows major City drainage facilities, and Figure 4.8-2 identifies deficiencies in major drainage facilities (greater than 48"). Correction of these deficiencies ranges in complexity from minor maintenance improvements to major capital improvements. Most of the City's trunk drainage system is adequately sized. The Ventura Avenue neighborhood has the majority (75%) of undersized or inadequate facilities in the City. The Downtown area also has a number of deficiencies that are currently being studied and addressed as part of the Downtown Specific Plan. Figure 4.8-3 compares the linear feet of major storm drains with the linear feet of deficiencies by neighborhood, as reported in the 2003 Master Drainage Needs Assessment Study. Neighborhoods not listed have no documented deficiencies.

As noted on Figure 4.8-2, approximately 50 deficiencies that pertain to drainage facilities 48-inches in diameter or larger are identified in the Draft Master Drainage Needs Assessment Study. These deficiencies include street and private property flooding, corrugated metal storm drain pipes that need replacement, undersized storm drains, and mud/debris problems in agricultural and hillside areas.

There are four lift station facilities in the storm drain system:

- *Dover Lift Station*
- *Weymouth Lift Station*



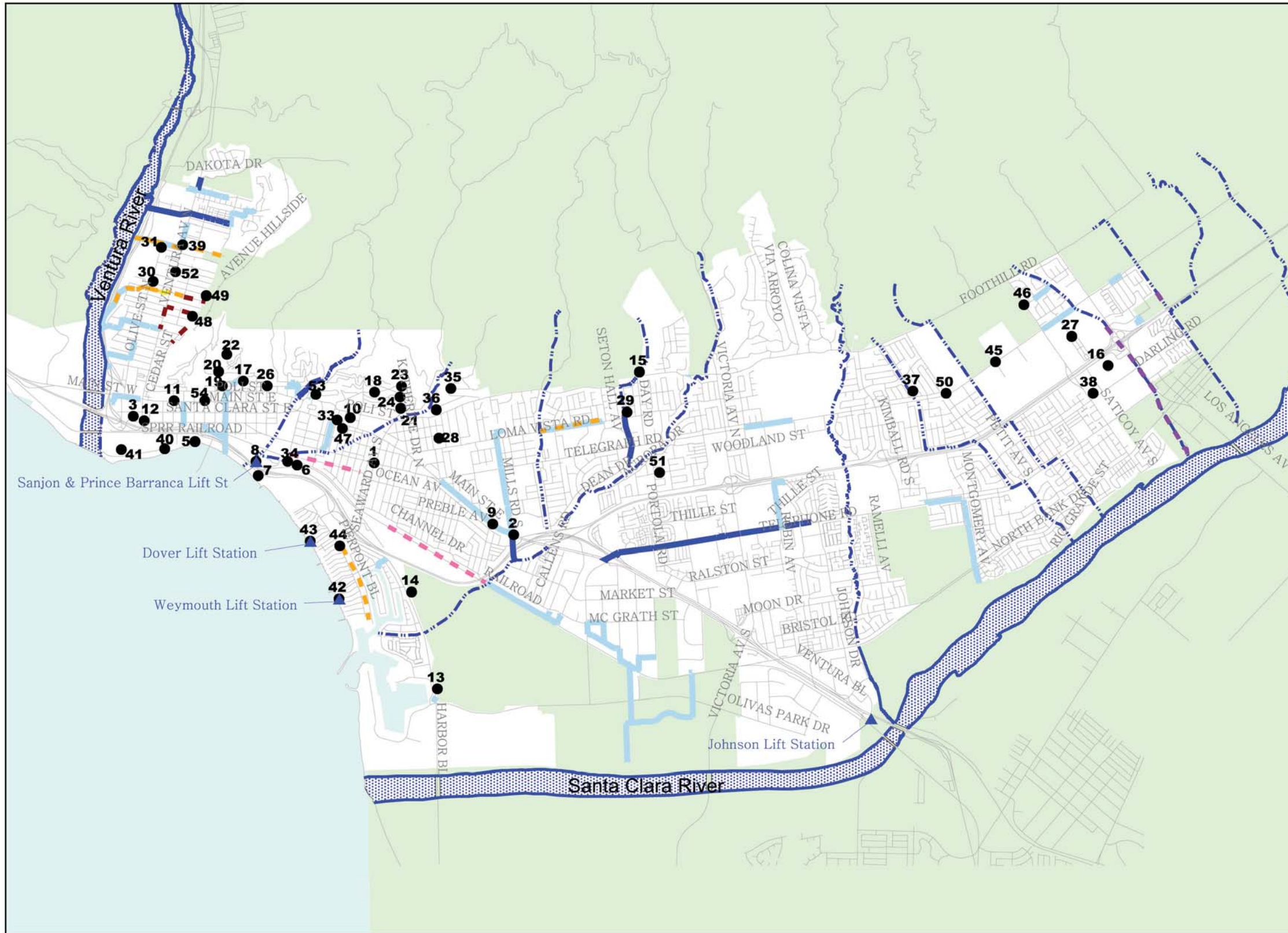


**Existing Major Drainage Facilities
 by Facility Size
 (48" Diameter and Larger)**

Source: City of San Buenaventura, Department of Public Works and Psomas, 2002.

This map is a product of the City of San Buenaventura, California and Psomas. It was created for illustration purposes only: its accuracy cannot be guaranteed.

Figure 4.8-1
 City of Ventura



N
 0 2500 5000 Feet

Legend

- - - Lack of or Inadequate Facility
- - - Undersized Drainage Facility
- - - Incomplete Facility

source: 1989 Comprehensive Plan EIR

- - - Capital Improvements in Wells and Saticoy Communities

source: 1996 Wells and Saticoy Communities Capital Improvement Deficiency Study Update

- Potential Project Locations

source: City Master Drainage Needs Assessment Study

- Major City Drains (>48")
- Ventura County Flood Control Facilities
- ▲ Lift Stations
- ▨ Barrancas

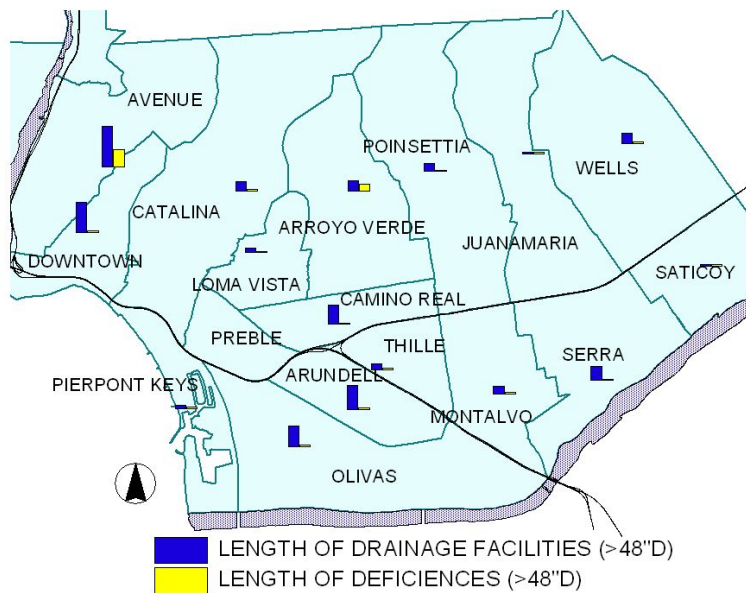
Source: City of San Buenaventura, Department of Public Works and Psomas, 2002.

This map is a product of the City of San Buenaventura, California and Psomas. It was created for illustration purposes only; its accuracy cannot be guaranteed.

Existing Major Drainage Facilities (48" Diameter and Larger) with Deficiencies

Figure 4.8-2
 City of Ventura

**Figure 4.8-3
Relative Trunk Deficiencies by Neighborhood**



- Johnson Lift Station
- San Jon & Prince Barranca Lift Station

The San Jon Lift Station contributes to flooding that sometimes occurs on Harbor Boulevard, primarily because tidal action blocks drainage from the outlet. Structural improvements have been completed on two of the four lift stations - Weymouth and Dover Lift Stations. Johnson Lift Station is newly online and sufficient. Deferred maintenance has become an issue in the City due to aging drainage facilities. Corrugated metal pipe drains in the older parts of the City are older than 50 years and need to be replaced.

b. Flood Hazards. A flood is a temporary rise in stream flow that results in water overtopping stream banks and inundating adjacent areas not normally covered with water. The floodplain is the relatively flat or lowland area adjoining a stream that is subject to periodic inundation by floodwater. Flooding is a naturally occurring event with some long-range beneficial effects, such as the replenishment of beach sand and nutrients to agricultural lands and the ocean. However, flooding creates a hazard when structures are placed in the floodplain. The Federal Emergency Management Agency (FEMA) describes floods in terms of their frequency of occurrence. For example, the 100-year flood is the flood magnitude that has a one-percent chance of being equaled or exceeded in any given year. This type of designation is based on probability. According to statistical averages, a 25-year flood should occur an average of once every 25 years, but two 25-year floods could conceivably occur in any one-year period. For planning purposes, the 100-year flood is most often used to delineate flood plain boundaries.



Flooding is basically a direct response to the amount, distribution and intensity of precipitation. Most storms are relatively small and do not create flooding. The magnitude and frequency of flood events can be influenced by many factors, including alterations to the characteristics of a drainage basin or a floodplain. Such changes include growth of brush and trees in the flood plain, denudation of vegetation (including by fire), construction of impervious surfaces, channelization, and installation bridges and other stream crossings.

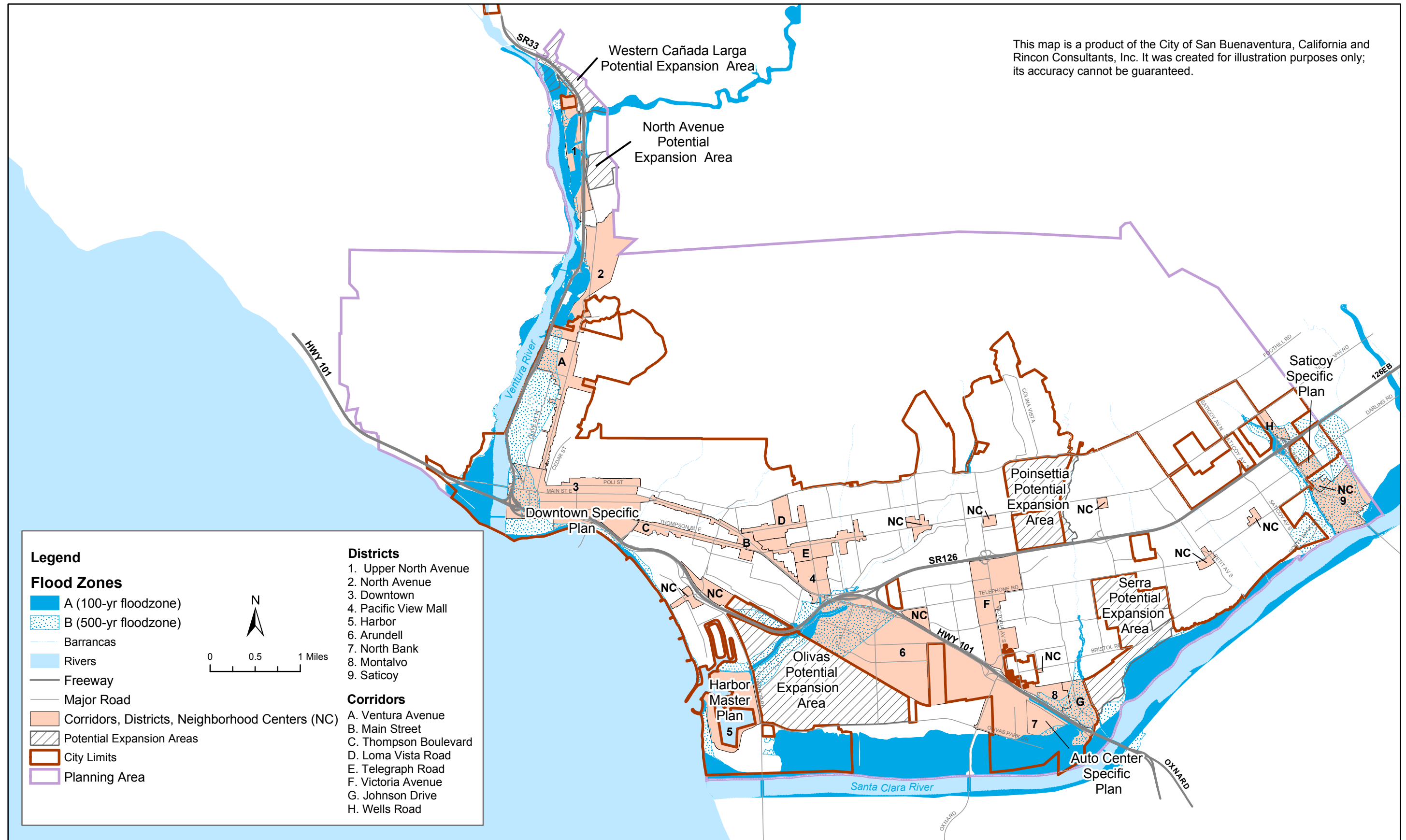
The extent of damage caused by any flood depends on many factors including: topography of the area flooded; depth, duration and velocity of the floodwaters; extent and type of development in the floodplain; and effectiveness of forecasting, warning and emergency operations.

The largest and most damaging recorded natural floods in the Ventura and Santa Clara River watersheds occurred in 1969, with 100-year peak discharges being exceeded in both river channels. Property damage was estimated at \$60 million and 13 people were killed. The City wastewater treatment facility was severely damaged, resulting in the discharge of raw sewage onto local beaches. The floods also caused sediment to flow into Ventura Harbor, which had to be dredged to restore use of the waterways. After the 1969 floods, the sediment from the harbor was moved to the Olivas Park golf course, which elevated the golf course enough to act as a dam, narrowing the extent of the Santa Clara River floodplain. Flood events in 1992, 1995 and 1998 along the Ventura River resulted in closure of SR 33 and rescue of persons from the river. The 1992 flood washed out an RV Park south of U.S. 101 and resulted in substantial loss of property. Flood damage also occurred during the severe winter storms of 2004-05.

Figure 4.8-4 shows areas in the City subject to inundation by the 100-year and 500-year floods. FEMA requires that owners of property located in the 100-year flood inundation area maintain flood protection insurance. The 100-year flood hazard area for the Ventura River is relatively small due to construction of a levee along the east bank of the river by the U.S. Army Corps of Engineers in 1948. A 100-year flood along the Santa Clara River would affect a fairly limited area of the City just north of the river near the Olivas Park and Buena Ventura golf courses. Other areas that could potentially experience flooding impacts as a result of a 100-year event include land adjacent to the Arundell, Harmon, and Brown Barrancas.

Dam Inundation. Table 4.8-1 lists the six dams that could flood portions of the Planning Area if they failed. All of these dams meet applicable safety requirements and, with the exception of Casitas Dam (which is regulated by the Bureau of Reclamation), are inspected by the Division of Dam Safety, California Department of Water Resources, twice per year to ensure they meet all safety requirements and that necessary maintenance is performed. The Bureau of Reclamation has stated that Casitas Dam is in satisfactory condition for normal operations and a safety evaluation is ongoing. Matilija Dam is in the process of being decommissioned. Figure 4.8-5 shows areas that would be inundated in the event of dam failure. The Casitas Dam inundation area includes most of the Ventura River Valley and portions of Downtown. The Castaic and Pyramid Dam inundation area lies north of Olivas Park Drive and south of U.S. 101 and SR 126.

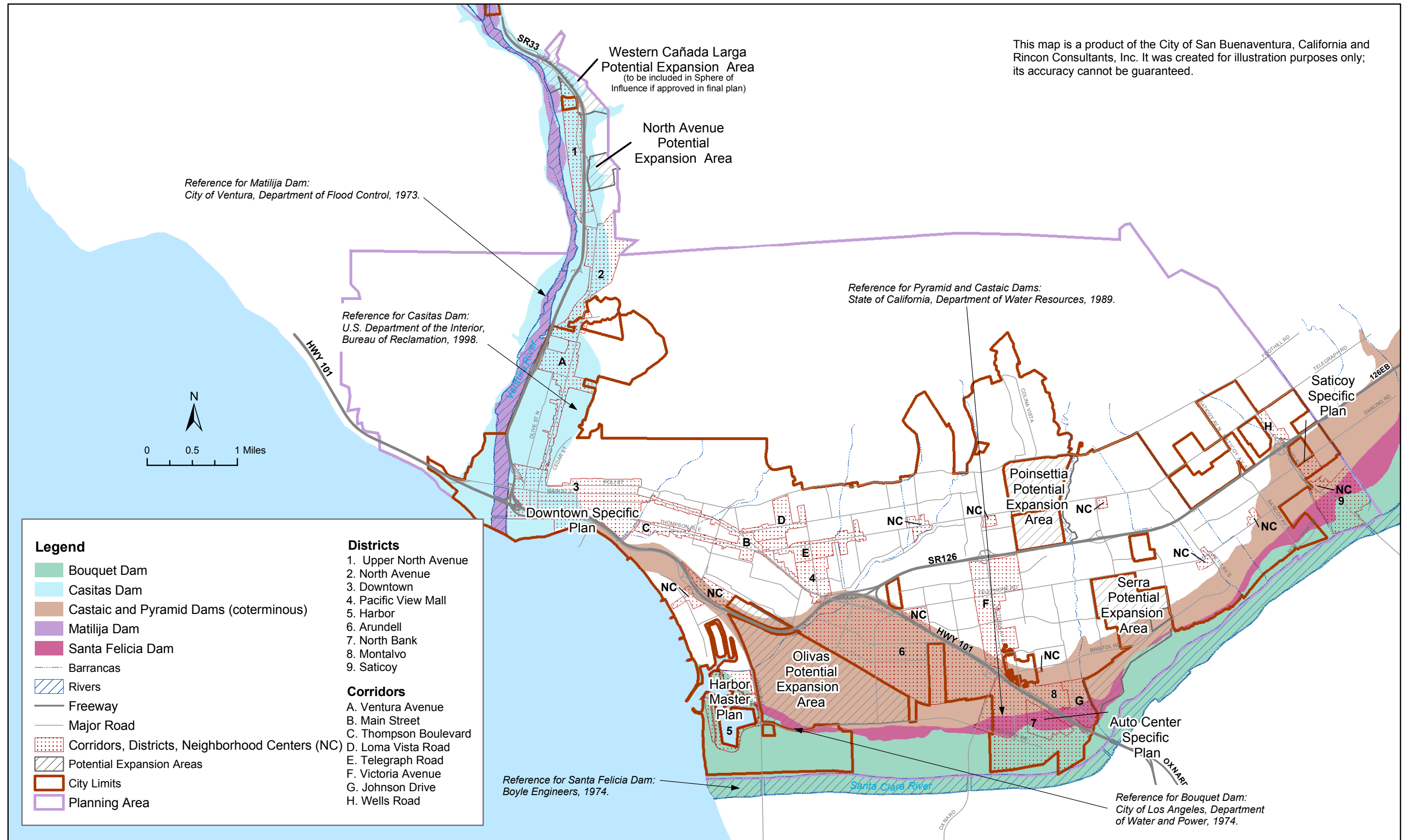
A proposal is currently under review to construct a new debris basin and dam in Lake Canyon that would alleviate flooding problems along the Arundell Barranca. Geotechnical design parameters are intended to ensure that the dam is not likely to fail, and the State Division of



Source: Federal Emergency Management Agency, Flood Insurance Rate Map, 1985, City of San Buenaventura and Rincon Consultants, Inc., 2005.

FEMA Flood Zones

Figure 4.8-4
 City of Ventura



Source: County of Ventura, Resource Management Agency, 2002, City of San Buenaventura and Rincon Consultants, Inc., 2005.

Dam Inundation Areas

Figure 4.8-5
 City of Ventura

**Table 4.8-1
Existing Dams with Potential to Affect the Planning Area**

Dam	Location	Construction Material	Capacity (Acre Feet)
Matilija	West fork of Matilija Creek above Matilija Hot Springs	Concrete	1,800
Casitas Dam	Coyote Creek west of Casitas Springs	Earth Fill	250,000
Bouquet Dam (two dams)	Adjacent to Bouquet Canyon Road about 17 miles north of the Santa Clarita Sheriff's Station (Valencia)	Earth Fill	36,505
Castaic Dam	Castaic Creek one mile northeast of town of Castaic	Earth Fill	325,000
Pyramid Dam	Piru Creek 15 miles north of Castaic	Earth and Rock Fill	179,000
Santa Felicia (Piru) Dam	Piru Creek 5 miles north of the town of Piru	Earth Fill	100,000

Source: McClelland Consultants (West), Inc. Environmental Services, 1989.

Safety of Dams will conduct a technical review of the final design. Division engineers and geologists will perform inspections throughout the construction period to verify design assumptions and ensure adherence to the plans and specifications.

In the event of a dam failure or other flood event, the County would follow an emergency response and evacuation plan set forth in the Multi-hazard Functional Plan managed by the Ventura County Sheriff's Office of Emergency Services. The County bilingual alert system includes mobile emergency vehicle sirens and loudspeakers, and door-to-door notification. The City flood emergency warning systems also includes public alerts by television service providers.

c. Surface Water Quality. As noted in Ventura Vision, siltation in the Keys is a problem. The Arundell Barranca carries sediment to the Pierpont Keys area. This results in the need to dredge the Keys approximately every seven to ten years. Ventura Vision recommends the City work with the Watershed Protection District to continue to mitigate silt and drainage problems in the Keys.

With regard to the increase in erosion potential, the 2000 Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan (SQUIMP) requires proposed developments to "control the post-development peak storm water runoff discharge rates to maintain or reduce pre-development downstream erosion and to protect stream habitat." This affects both large and small storm water flows. Storm water quality requirements, as well as downstream erosion impacts, rather than drainage facility capacity, however, may be the controlling factor for future developments in the City.

The City, County, Watershed Protection District, and nine other local cities are co-permittees on National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004002 issued by the



Regional Water Quality Control Board in 2000. NPDES is a Federal Environmental Protection Agency (EPA) program administered by the states to control water pollution by regulating point sources. In California, the State Water Quality Control Board is responsible for ensuring compliance with the provisions of the Federal Clean Water Act and the State Water Quality Control Act. The Los Angeles Regional Water Quality Control Board ensures local compliance with the countywide NPDES permit. The Ventura County SQUIMP is included as an attachment to the permit. The two primary municipal permit objectives are to:

1. *Effectively prohibit non-storm water discharges; and*
2. *Reduce the discharge of pollutants from storm water conveyance systems to the maximum extent practicable.*

The SQUIMP addresses storm water pollution from new development and redevelopment by the private sector, and contains a list of the minimum required Best Management Practices (BMPs) required for a designated project. A BMP is defined as any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution. Per the SQUIMP, BMPs can be used for minimizing the introduction of pollutants of concern that may result in significant impacts to the storm water conveyance system from site runoff. Treatment Control BMPs are required for eight categories of development. Additional BMPs may be required by ordinance or code adopted by the City and applied generally or on a case-by-case basis. The City is required to implement the requirements of the SQUIMP, and developers are required to comply with those provisions.

Table 4.8-2 lists the pollutants of concern for the two rivers that run through the City, per the 2003 California 303(d) List for Ventura and Santa Clara Rivers. Water quality is subject to seasonal variation. Sources of water quality degradation in the region include surface runoff from oil fields, agricultural areas, urban land uses and natural sedimentation. Pollutant loads are expected to correspond to tributary land uses. BMPs must be selected consistent with both anticipated pollutant loads and water quality objectives (pollutants of concern).

The primary sources of pollution to surface and groundwater resources include stormwater runoff from paved areas, which can contain hydrocarbons, sediments, pesticides, herbicides, toxic metals, and coliform bacteria. Seepage from sewage treatment lagoons can further contribute to degraded water quality in the form of elevated nitrate levels. Improperly placed septic tank leach fields can cause similar types of contamination. Illegal waste dumping can introduce contaminants such as gasoline, pesticides, herbicides and other harmful chemicals. Septic tanks are also a source of pollution to some wells in both alluvial and granitic rocks. Septic tanks discharging into alluvium have a high potential to pollute wells producing from the same deposit because of high permeability and low gradient. In the winter, the rains raise the water table in these areas, which can exacerbate possible contamination.

d. Regulatory Framework. Development in the Planning Area is subject to various local, state, and federal regulations and permits regarding the use of water resources. The Ventura County Watershed Protection District, the California Department of Water Resources, and the Los Angeles Regional Water Quality Control Board are the primary agencies responsible for the protection of watersheds, floodplains, and water quality. The Ventura County Department of Health is the primary agency responsible for establishing design



**Table 4.8-2
Water Quality Issues of Concern**

Name	Pollutant/Stressor	TMDL Priority	Estimated Size Affected
Ventura Harbor (Ventura Keys)	High Coliform Count	Medium	179 acres
Ventura River Estuary (Stables & horse property may be the sources) (Stables & horse property may be the sources)	Algae Eutrophic Fecal Coliform Total Coliform Trash	Low Low Low Low Medium	0.2 miles 0.2 miles 0.2 miles 0.2 miles 0.2 miles
Ventura River Bach 1 and 2 (Estuary to Weldon Canyon)	Algae	Medium	4.5 miles
Surfers Point at Seaside (area affected is the end of access path via a wooden gate)	Bacteria Indicators	Low	0.53 miles
Santa Clara River Estuary	ChemA High Coliform Count Toxaphene	Medium Medium Medium	49 acres 49 acres 49 acres
Santa Clara River Reach 3 (Freeman Diversion to A Street)	Ammonia Chloride	High High	31 miles 31 miles
San Buenaventura Beach (area affected is south of drain at Kalorama Street, and south of drain at Sanjon Road)	Bacteria Indicators	Low	0.3 miles
Promenade Park Beach (area affected is at Oak Street, Redwood Apartments, and south of drain at California Street)	Bacteria Indicators	Low	0.37 miles
Cañada Larga – Ventura River (horse stables, land use, cattle, and wildlife may be the sources)	Fecal Coliform	Low	8 miles
	Low Dissolved Oxygen	Low	8 miles
Brown Barranca/Long Canyon	Nitrate and Nitrite	High	2.6 miles

Source: Los Angeles Regional Water Quality Control Board, 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments.

standards and permitting of septic tanks and wells. The federal government administers the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharges into surface waters. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill materials into Waters of the United States or adjacent wetlands without a permit from the U.S. Army Corps of Engineers. As discussed above under the subheading, “Flood Hazards”, the Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year and 500-year flood zones.

The primary regulatory control relevant to the protection of water quality is the Federal National Pollution Discharge Elimination System (NPDES) permit administered by the State Water Resources Control Board. This board establishes requirements prescribing the quality of point sources of discharge and establishes water quality objectives. These objectives are



established based on the designated beneficial uses (e.g., water supply, recreation, and habitat) for a particular surface water or groundwater. The NPDES permits are issued to point source dischargers of pollutants to surface waters and are issued pursuant to Water Code Chapter 5.5 that implements the Federal Clean Water Act. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (State Water Resources Control Board, Title 23, Chapter 9, Section 2200). Discharge limits, under the NPDES permits, for minerals and pollutants are established and regulated by the California Regional Water Quality Control Board.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds. Impacts would be considered significant if development under the 2005 General Plan through the year 2025 would:

- *Potentially degrade surface or groundwater quality below standards established by the Regional Water Quality Control Board (these standards are usually in accordance with the California EPA's maximum contaminant levels (MCLs) for drinking water)*
- *Substantially interfere with groundwater recharge*
- *Substantially alter the existing drainage pattern of the area such that substantial erosion or siltation occurs*
- *Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner which results in flooding*
- *Substantially add additional sources of polluted runoff to a water body*
- *Place housing within a 100-year floodplain*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the six 2005 General Plan land use scenarios. A discussion of the impacts for each scenario follows.

<p>Impact HWQ-1 Most of the areas within the Planning Area that could accommodate new development are outside the 100-year flood zone. Limited portions of the Planning Area that could accommodate new development under any of the six land use scenarios are within the 100-year flood zones. However, compliance with the City Flood Plain Ordinance and proposed General Plan actions would reduce impacts to a Class III, <i>less than significant</i>, level for any of the six land use scenarios.</p>

The primary effect of flooding, where urban encroachment on flood plains has occurred, is the threat to life and property. Floods may also create health and safety hazards and disruption of vital public services. Economic costs may include a variety of flood relief expenses, as well as investment in flood control facilities to protect endangered development. The extent of damage caused by any flood depends on the topography of the area flooded; depth, duration, and velocity of floodwaters; the extent of development in the floodplain; and the effectiveness of



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
100-Year Flood Zone (Impact HWQ-1)	Portions of the North Avenue, Upper North Avenue, Arundell, and Auto Center districts are within the 100-year flood zone. Compliance with the existing Flood Plain Ordinance and proposed General Plan actions reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Portions of the Olivas expansion area (along Arundell Barranca) also fall within the 100-year flood zone. Compliance with the existing Flood Plain Ordinance and proposed General Plan actions reduce impacts to Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are outside the 100-year flood zone. Impacts are Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Portions of the Western Cañada Larga expansion area west of SR 33 also fall within the 100-year flood zone. Compliance with the existing Flood Plain Ordinance and proposed General Plan actions reduce impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are outside the 100-year flood zone. Impacts are Class III, less than significant.
Storm Water Runoff/ Hydrological Changes (Impact HWQ-2)	Increased stormwater generated by new development can be addressed through implementation of existing regulations. The General Plan does not address existing storm drain system deficiencies. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 1. Expansion area impacts address through existing regulations, but existing system deficiencies not addressed. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 1. Expansion area impacts address through existing regulations, but existing system deficiencies not addressed. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 1. Expansion area impacts address through existing regulations, but existing system deficiencies not addressed. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 1. Expansion area impacts address through existing regulations, but existing system deficiencies not addressed. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 1. Expansion area impacts address through existing regulations, but existing system deficiencies not addressed. Impacts are Class II, significant but mitigable.
Surface and Ground Water Quality (Impact HWQ-3)	Implementation of Ventura County SQUIMP requirements on all new development address water quality. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant. Development of expansion areas offers opportunities to improve surface water quality.	Impacts similar to Scenario 1 and Class III, less than significant. Development of expansion areas offers opportunities to improve surface water quality.	Impacts similar to Scenario 1 and Class III, less than significant. Development of expansion areas offers opportunities to improve surface water quality.	Impacts similar to Scenario 1 and Class III, less than significant. Development of expansion areas offers opportunities to improve surface water quality.	Impacts similar to Scenario 1 and Class III, less than significant. Development of expansion areas offers opportunities to improve surface water quality.



forecasting, warnings, and emergency operations. Encroachment onto floodplains, such as artificial fills and structures, reduces the capacity of the flood plain and increases the height of floodwater upstream of the obstructions. Impacts associated with each General Plan land use scenario are discussed below. The 2005 General Plan includes the following actions relating to flood hazards:

- Action 7.7** *Require project proponents to perform geotechnical evaluations and implement mitigation prior to development of any site:*
- *With slopes greater than 10 percent or that otherwise have potential for landsliding,*
 - *Along bluffs, dunes, beaches, or other coastal features*
 - *In an Alquist-Priolo earthquake fault zone or within 100 feet of an identified active or potentially active fault,*
 - *In areas mapped as having moderate or high risk of liquefaction, subsidence, or expansive soils,*
 - *In areas within 100-year flood zones, in conformance with all Federal Emergency Management Agency regulations.*
- Action 7.10** *Require proponents of any new developments within the 100-year floodplain to implement measures, as identified in the Flood Plain Ordinance, to protect structures from 100-year flood hazards (e.g., by raising the finished floor elevation outside the floodplain).*

Scenario 1 - Intensification/Reuse Only

Most of the infill/intensification areas under this scenario are outside the 100- flood zone. However, portions of the North Avenue, Upper North Avenue, Arundell, and Auto Center districts are within the 100-year flood zone. General Plan Action 7.10 require proponents of any new developments within the 100-year floodplain to implement measures, as identified in the Flood Plain Ordinance, to protect structures from 100-year flood hazards. As required by the Flood Plain Ordinance, any future development within the 100-year flood zone would require a hydrologic/hydraulic analysis to show that they are protected from flood flows and a Letter of Map Revision (LOMR) filed and approved by FEMA prior to development approval. Compliance with these requirements would reduce flooding impacts to a less than significant level.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts would be the same as those of Scenario 1. In addition, portions of the Olivas expansion area (along Arundell Barranca) fall within the 100-year flood zone. The Serra area is adjacent to, but outside, the 100-year flood zone associated with the Santa Clara River. If future developers elect to pursue development within the designated flood zone, further analysis would be needed in order to demonstrate that any future development is outside the flood plain and a Letter of Map Revision (LOMR) may need to be filed and approved by FEMA prior to development approval. However, these expansion areas should have adequate land to provide retention on-site to limit any increase in peak drainage discharge to the design capacity of the downstream facility and/or should have the financial capacity to provide mitigation by improving downstream infrastructure capacity. No portion of the North



Avenue expansion area is within the 100-year flood zone. Compliance with existing requirements and proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Intensification/reuse impacts would be the same as those of Scenario 1. As noted under Scenario 2, portions of the Olivas expansion area adjacent to Arundell Barranca are within the 100-year flood zone. However, this area should have adequate land to provide retention on-site to limit any increase in peak drainage discharge to the design capacity of the downstream facility and/or should have the financial capacity to provide mitigation by improving downstream infrastructure capacity. Compliance with existing requirements and proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Intensification/reuse impacts would be the same as those of Scenario 1. As noted under Scenario 2, portions of the Serra expansion area are adjacent to, but outside of the Santa Clara River 100-year flood zone. This area should have adequate land to provide retention on-site to limit any increase in peak drainage discharge to the design capacity of the downstream facility and/or should have the financial capacity to provide mitigation by improving downstream infrastructure capacity. Compliance with existing requirements and proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Intensification/reuse impacts would be the same as those of Scenario 1. In addition, much of the area west of SR 33 within the Western Cañada Larga expansion area is within the 100-year flood zone, as is a small area east of SR 33 adjacent to Cañada Larga Creek. Compliance with existing requirements and proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level, though available land to provide on-site retention is more limited than for the other scenarios that include expansion areas.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Intensification/reuse impacts would be the same as those of Scenario 1. No portion of the North Avenue or Poinsettia expansion areas is within the 100-year flood zone. Compliance with existing requirements and proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level.

MITIGATION MEASURES

As noted above, proposed 2005 General Plan actions require continued compliance with the City's Flood Plain Ordinance and other applicable requirements. Additional mitigation is not needed.



SIGNIFICANCE AFTER MITIGATION

Compliance with the City Flood Plain Ordinance and the proposed 2005 General Plan actions would reduce flooding impacts to a less than significant level for any of the six land use scenarios.

Impact HWQ-2 Development accommodated through the year 2025 under any of the land use scenarios under consideration for the 2005 General Plan would increase the amount of impervious surfaces within the Planning Area, potentially increasing surface runoff in areas where existing storm drain systems are deficient. This is considered a Class II, *significant but mitigable*, impact for all scenarios.

The 2005 General Plan includes the following actions aimed at minimizing impacts to the local storm drain system and surface and groundwater quality. As discussion of the impacts of each land use scenario follows.

- Action 1.16** *Comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures that limit impacts to aquatic ecosystems and that preserve and restore the beneficial uses of natural watercourses and wetlands in the city.*
- Action 5.2** *Use natural features such as bioswales, wildlife ponds, and wetlands for flood control and water quality treatment when feasible.*

Scenario 1 - Intensification/Reuse Only

This scenario would have the least impact on existing drainage facilities insofar as much of the development would not increase the amount of impervious surface over existing conditions. The larger vacant and agricultural parcels that could be converted under this scenario (primarily in the North Avenue, Saticoy, and Arundell districts) include sufficient acreage to provide onsite detention or retention facilities. Where infill of vacant parcels occurs, localized runoff could increase incrementally. However, such increases can be addressed on a case-by-case basis and individual developers will be required to implement solutions to address their projects' impacts. Even with limited acreage, on-site solutions could be employed to minimize runoff such as detention facilities constructed under parking lots and/or utilization of impervious paving methods. In the event that on-site solutions are unavailable, individual developers may contribute to the funding of regional-type solutions downstream, such as off-site detention basins and/or drainage facility capacity enhancement projects. It is anticipated that potential cumulative impacts to the local drainage system can be reduced to a less than significant level through implementation of applicable City and Watershed Protection District regulations on a case-by-case basis. Implementation of the applicable regulatory requirements, in combination with the proposed 2005 General Plan actions, would be expected to reduce potential impacts to groundwater recharge to a less than significant level and, in some instances, may improve recharge as compared to current conditions.



As discussed in the *Setting*, several areas of the Planning Area currently have drainage system deficiencies. The Ventura Avenue neighborhood has the majority (75%) of undersized or inadequate facilities in the City, though various system deficiencies have been identified in the Downtown area as well. The storm drain system in the Downtown area is being addressed in detail in conjunction with the Downtown Specific Plan. Deferred maintenance is also an issue throughout the older parts of the City due to aging drainage facilities. Corrugated metal pipe drains in older areas such as Downtown, the Ventura Avenue corridor, and Midtown are generally more than 50 years old and need replacement. Therefore, although the impacts of individual developments can be addressed on a case-by-case basis, the lack of a mechanism to address existing City storm drain deficiencies is considered a potentially significant impact under any land use scenario.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts would be similar to those of Scenario 1. The impacts of new development can be addressed on a case-by-case basis, but the lack of a mechanism to address existing storm drain system deficiencies is considered a potentially significant impact.

This scenario also includes the possible future development of the North Avenue, Olivas, and Serra expansion areas. The North Avenue expansion area discharges eventually to the Ventura River and detention/water quality basins could be incorporated in the development of this area. These basins would not only maintain current levels of runoff to the downstream facilities but also could also reduce silt and sediment transport and contribute to improving water quality in the Ventura River and eventually the ocean.

The Olivas expansion area drains to the Harbor and the development of this area offers significant potential for improving localized drainage facilities as well as water quality in the Harbor. Due to the significant size of the area, there is the potential for setting up a fee program or other funding mechanism to improve some local drainage deficiencies, such as the existing Harbor/Olivas storm drain. This area includes sufficient land to accommodate the construction of combination detention/desilting/water quality basins that would not offer the ability to contain peak discharges, improve runoff water quality, and reduce siltation problems in the Ventura Keys.

The Serra expansion area drains to the Santa Clara River and like the North Avenue area should incorporate detention/water quality basins within the proposed development to maintain current drainage discharge levels and also reduce sediment transport and improve water quality from existing and proposed urbanized areas and existing agricultural runoff to the river and eventually the ocean.

Future development within any of the expansion areas would be subject to local regulatory requirements, as described under Scenario 1. In its drainage requirements, the Watershed Protection District requires that “the outlet discharge should not cause any increase of flood flow for any frequency flow rate less than the peak design flow rate.” Therefore, peak flow runoff from proposed developments must not exceed the design flows of the existing system. Compliance with these requirements in any future expansion area development would address any potential increase in surface runoff or reduction in groundwater percolation.



Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Intensification/reuse impacts would be similar to those of Scenario 1. This scenario also includes the possible future development of the North Avenue and Olivas expansion areas, but with more intense development than in Scenario 2. Higher densities could equate to slightly higher runoff volumes if impervious surfaces are increased, but detention basins could be sized to mitigate these slightly higher runoff volumes in these two areas. Therefore, the only difference would be that the opportunities that go along with the development of the Serra expansion area discussed above would not occur.

As discussed under Scenario 2, compliance with Watershed Protection District requirements in any future expansion area development would address any potential increase in surface runoff or reduction in groundwater percolation.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Intensification/reuse impacts would be similar to those of Scenario 1. This scenario also includes the possible future development of the North Avenue and Serra expansion areas, but with more intense development than in Scenario 2. As discussed above, slightly higher runoff volumes could result from these higher densities, but detention basins could be sized to mitigate this. Without the development of the Olivas area, the opportunity to mitigate existing drainage deficiencies in the Harbor area or mitigate water quality and siltation in the Keys would not occur.

As discussed under Scenario 2, compliance with Watershed Protection District requirements in any future expansion area development would address any potential increase in surface runoff or reduction in groundwater percolation.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Intensification/reuse impacts would be similar to those of Scenario 1. This scenario also includes the possible future development of the North Avenue and Western Cañada Larga expansion areas with more intense development in the North Avenue area (higher densities plus additional commercial development) than under Scenarios 3 and 4. The Western Cañada Larga expansion area discharges to the Ventura River and detention/water quality basins should be incorporated in the development of this area. As discussed above, detention basins in the North Avenue area would need to be sized appropriately to handle any increased runoff volumes over and above the other scenarios.

As discussed under Scenario 2, compliance with Watershed Protection District requirements in any future expansion area development would address any potential increase in surface runoff or reduction in groundwater percolation.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Intensification/reuse impacts would be similar to those of Scenario 1. This scenario also includes the possible future development of the North Avenue and Poinsettia expansion areas, but with more intense development than in Scenario 2. The North Avenue area is expected to



be developed to the same intensity as in Scenarios 3 and 4 so impacts would be identical to those scenarios. The Poinsettia area drains to the County's reinforced box culvert in Telephone Road that has been shown to have capacity deficiencies and then eventually to the Harbor. Development of the Poinsettia area, which is currently in agriculture, would provide the opportunity to make improvements to this facility. In addition, as with the other expansion areas, combination detention/ siltation/ water quality basins could be constructed in this area. These basins would not only mitigate development impacts, but would also improve existing water quality and siltation issues in the Ventura Keys.

As discussed under Scenario 2, compliance with Watershed Protection District requirements in any future expansion area development would address any potential increase in surface runoff or reduction in groundwater percolation.

MITIGATION MEASURES

Although the 2005 General Plan includes several policies and actions that address storm runoff and water quality, the following additional actions are needed to address existing system deficiencies.

HWQ-2 Additional Drainage Actions. The following actions shall be added to the 2005 General Plan to address existing storm drain system deficiencies:

- Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City.
- Adopt assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist (e.g., Downtown district, Ventura Avenue corridor, and Harbor district).

The following actions are recommended to minimize the impact of future development on the local storm drain system and implement City goals regarding sustainable infrastructure:

- As feasible, require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff. Such methods may include, but are not limited to, (1) the use of pervious paving material within parking lots and other paved areas to facilitate rainwater percolation; and (2) construction of retention/ detention basins to limit runoff to pre-development levels and to encourage infiltration into the groundwater basin.
- Where deemed appropriate, require new developments adjacent to Ventura County Watershed Protection District channels to dedicate necessary right-of-way to meet future District needs.



SIGNIFICANCE AFTER MITIGATION

With implementation of the proposed 2005 General Plan policies and action items, and above mitigation measures, impacts to the area storm drain system would be reduced to a less than significant level. It is anticipated that implementation of storm drain system improvements in accordance with current requirements would not have significant secondary environmental effects and would generally reduce pollutants in storm runoff.

<p>Impact HWQ-3 Development accommodated under any of the General Plan land use scenarios would incrementally increase the generation of urban pollutants in surface runoff. Point and non-point sources of contamination could affect water quality in the Ventura and Santa Clara Rivers, the Pacific Ocean, and groundwater. However, implementation of existing regulatory requirements and proposed General Plan policies and actions would reduce impacts to a Class III, <i>less than significant</i>, level for all scenarios.</p>

Water quality impacts from new development are directly related to specific site drainage patterns and stormwater runoff. Development within the City and expansion areas would increase the amount of impermeable surface over current conditions. Most areas proposed for new development are largely comprised of impervious surfaces. Development of these areas would place impervious surfaces, such as commercial and residential structures, parking lots, walkways, roadways, and other paved areas within these areas. These surfaces would increase the amount of runoff following storm events. As rainwater passes overland, contaminants become suspended within the flow. In particular, stormwater runoff from landscaped areas, roadways and parking lots contains various pollutants associated with motor vehicles, including petroleum compounds, heavy metals, asbestos, and rubber, as well as, fertilizers and pesticides from landscaped areas. During storm events, these pollutants are transported into drainage systems by surface runoff. The pavement of individual sites reduces the amount of exposed, erodible dirt, resulting in a reduction in sediment loading. With no prior treatment of stormwater runoff, any pollutants retained from the impervious roadway surfaces would directly enter the surface water bodies in and near the City.

Construction activities could result in the pollution of natural watercourses or underground aquifers. The types of pollutant discharges that could occur as a result of construction include accidental spillage of fuel and lubricants, discharge of excess concrete, and an increase in sediment runoff.

It should be noted that agricultural uses within the expansion areas and within the City limits may involve the application of pesticides and other chemicals. Storm runoff from these agricultural fields recharges groundwater and also discharges into local water bodies. The replacement of agricultural land with urban uses could result in the reduction in discharge of agriculturally-related pollutants, including pesticide runoff, into nearby surface water-bodies and the placement of impervious surfaces at the sites would reduce the amount of sediment



conveyed to surface water through stormwater runoff.

Discharge of pollutants from any point source is prohibited unless it is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit issued by the Regional Water Quality Control Board. Point sources of pollutants of greatest concern include nutrients (ammonia and nitrate), heavy metals, toxic chemicals, chlorine, and salts.

Non-point sources of pollutants, which are also regulated under NPDES permits, include both construction-related runoff and operational runoff associated with urban uses. Surface runoff from individual sites is carried to City storm drains and/or natural drainages.

Regulations under the federal Clean Water Act require that a NPDES general construction storm water permit be obtained for projects that would disturb greater than one acre during construction. Acquisition of a NPDES permit is dependent on the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains specific actions, termed Best Management Practices (BMPs), to control the discharge of pollutants, including sediment, into the local surface water drainages. In the State of California, Regional Water Quality Control Boards administer the NPDES permit process.

As discussed in the *Setting*, the Ventura County SQUIMP applies to the operational runoff and requires new developments and redevelopment projects to implement various BMPs to minimize the amount of pollutants entering surface waters. All projects that fall into one of eight categories are identified in the Ventura Countywide Municipal Permit as requiring SQUIMPs. These categories include: (1) single family hillside residences; (2) 100,000 square foot commercial developments; (3) automotive repair shops; (4) retail gasoline outlets; (5) restaurants; (6) home subdivisions with 10 or more housing units; (7) location within or directly adjacent to or discharging directly to an environmentally sensitive area; and (8) parking lots with 5,000 square foot or more impervious parking or access surfaces with 25 or more parking spaces and potentially exposed to stormwater runoff.

Future developments with the Planning Area that fall into any of these categories would be subject to SQUIMP requirements for implementing stormwater BMPs. Per the SQUIMP, structural or treatment control BMPs must meet the following design standards:

- *Volume based post-construction structural or treatment control BMPs shall be designed to mitigate (infiltrate or treat) storm water runoff from the volume of annual runoff to achieve 80% volume capture (Ventura County Land Development Guidelines); or*
- *Flow-based post-construction structural or treatment control BMPs shall be sized to handle the flow generated from 10% of the 50-year design flow rate.*

Implementation of these standards on future development and redevelopment projects within the Planning Area would address impacts on a project-by-project basis, thus reducing surface water quality impacts to a less than significant level.



In addition these standards, the 2005 General Plan includes the actions described under Impact HWQ-2, as well as the following actions aimed at preservation of riparian habitat and improvement of water quality.

- Action 1.8** Buffer barrancas and creeks that retain natural soil slopes from development according to State and Federal guidelines.*
- Action 1.9** Prohibit placement of material in watercourses other than native plants and required flood control structures, and remove debris periodically.*
- Action 1.10** Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.*

The above actions as they relate to impacts to biological resources are discussed in detail in Section 4.4, *Biological Resources*.

Scenario 1 - Intensification/Reuse Only

This scenario would have relatively little impact on water quality because it would emphasize intensification and reuse of already urbanized areas. In many instances, replacement of older development with new development built in accordance with current runoff and water quality control standards may reduce contaminants entering surface water and groundwater. Several large agricultural parcels in the Saticoy area, the McGrath property, and other isolated agricultural lands could be developed under this scenario. Development of these properties would be expected to reduce erosion and sedimentation, but may incrementally reduce percolation and increase urban pollutants. Installation of water quality BMPs in conjunction with new development, as required by the Ventura County SQUIMP (as discussed above), would mitigate potential urban runoff pollutants with this scenario.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts would be similar to those described for Scenario 1 and could be reduced to a less than significant level with implementation of Ventura County SQUIMP requirements. This scenario would also accommodate the future development of the North Avenue, Olivas, and Serra expansion areas.

The North Avenue expansion area discharges eventually to the Ventura River and detention/water quality basins could be incorporated in the development of this area. These basins would reduce silt and sediment transport and contribute to improving water quality in the Ventura River and eventually the ocean.

The Olivas expansion area drains to the Harbor and the development of this area offers significant potential for improving localized drainage facilities as well as water quality in the Harbor. This area would offer the ability to construct combination detention/desilting/water quality basins that would improve runoff water quality and significantly reduce siltation problems in the Keys.



The Serra expansion area drains to the Santa Clara River and like the North Avenue area should incorporate detention/ water quality basins within the proposed development to reduce sediment transport and improve water quality from existing and proposed urbanized areas and existing agricultural runoff to the River and eventually the ocean.

Ventura County SQUIMP requirements and standards would apply to any future development within any of the expansion areas and General Plan Action 1.16 directs the City to comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures. Implementation of existing water quality regulations and proposed General Plan actions would reduce potential impacts to a less than significant level.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

This scenario is similar to Scenario 2 without the development of the Serra expansion area but with more intense development (higher densities) in the North Avenue and Olivas areas. A slightly higher level of water quality BMPs should go along with these higher densities. Otherwise, the only difference would be that the opportunities that go along with the development of the Serra expansion area discussed above would not occur.

As discussed under Scenario 2, any expansion area development would be required to comply with the Ventura County SQUIMP. Implementation of these existing regulations, in combination with proposed 2005 General Plan actions, would reduce potential impacts to a less than significant level.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

This scenario is similar to Scenario 2 without the development of the Olivas expansion area but with more intense development in the North Avenue and Serra areas. As discussed above, a slightly higher level of water quality BMPs should go along with these higher densities. Without the development of the Olivas area, the opportunity to mitigate water quality and siltation in the Keys would not occur.

As discussed under Scenario 2, any expansion area development would be required to comply with the Ventura County SQUIMP. Implementation of these existing regulations, in combination with proposed 2005 General Plan actions, would reduce potential impacts to a less than significant level.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

This scenario is similar to Scenario 2 without the development of the Olivas or Serra expansion areas but with the development of the Western Cañada Larga area and with more intense development in the North Avenue area (higher densities plus additional commercial development than with Scenarios 3 and 4). The Western Cañada Larga expansion area discharges to the Ventura River and detention/ water quality basins could be incorporated in the development of this area.

As discussed under Scenario 2, any expansion area development would be required to comply with the Ventura County SQUIMP. Implementation of these existing regulations, in



combination with proposed 2005 General Plan actions, would reduce potential impacts to a less than significant level.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

This scenario is similar to Scenario 2 except with only the development of the North Avenue and Poinsettia expansion areas. The North Avenue area is anticipated to be developed to the same intensity as in Scenario 3 and 4 so impacts would be identical to those scenarios. As with the other expansion areas, combination detention/siltation/water quality basins could be constructed in the Poinsettia area. Such facilities could improve existing water quality and siltation issues in the Keys.

As discussed under Scenario 2, any expansion area development would be required to comply with the Ventura County SQUIMP. Implementation of these existing regulations, in combination with proposed 2005 General Plan actions, would reduce potential impacts to a less than significant level.

MITIGATION MEASURES

Implementation of the requirements of the Ventura County SQUIMP, in combination with proposed 2005 General Plan policies and actions, would reduce water quality impacts to a less than significant level.

SIGNIFICANCE AFTER MITIGATION

The impacts of future development on water quality would be less than significant given compliance with State and local regulations and proposed 2005 General Plan actions.



4.9 MINERAL RESOURCES

This section addresses potential impacts to mineral resources. Both direct impacts to mineral resource production and indirect land use compatibility impacts are discussed.

4.9.1 Setting

Mineral resources are usually mineral derivatives but can include geothermal and natural gas deposits. Because mineral resources can take millions of years to replenish naturally after extraction, they are considered “nonrenewable” resources. The two principal mineral resources within the Planning Area are aggregate and petroleum resources, each of which is discussed below.

a. Aggregate. Aggregate resources comprise the basic ingredients for a large variety of rock products including fill, construction-grade concrete, and riprap. Aggregate resources include sand, gravel, and rock material.

The Planning Area is located in the Western Ventura production-consumption region (PCR), as designated by the California Geological Survey (CGS). Aggregate mining sites located within the vicinity of the Planning Area existed along the Santa Clara River, and consisted primarily of the extraction of Portland cement concrete (PCC)-grade aggregate (which has a high enough quality for use in Portland cement concrete). However, currently there are no active aggregate mining activities within this area; “red line” restrictions imposed by a joint resolution of the Ventura County Board of Supervisors has removed the portion of the Santa Clara River downstream of Highway 118 from consideration as an area for possible future mining activities (AMEC Earth and Environmental, January 2004).

b. Petroleum. Oil production has played an integral role in the development of the west Ventura area, where oil was discovered in 1885 during the drilling of a water well. By the late 1920s, a total of 113 wells were in place in west Ventura, producing approximately 57,000 barrels of oil and 213 million cubic feet of gas per day. By the 1930s, the population of the west Ventura area had doubled and the neighborhood became home to industries that supported oil production. By the 1980s, a drop in local oil production rates and a general decline in the oil production industry resulted in a substantial reduction in oil field related activity.

The only remaining petroleum fields in the Planning Area are in the foothills and the Ventura Avenue Corridor (see Figure 4.9-1). These areas are currently within the County’s jurisdiction.

c. Regulatory Framework. Surface mines are regulated by the state of California in accordance with the Surface Mining and Reclamation Act (SMARA), PRC § 2710 et seq., and through the County’s land use permitting processes. Adopted in 1975, SMARA has two basic objectives: (1) to safeguard access to mineral resources of regional and statewide significance in the face of competing land uses and urban expansion; and, (2) to ensure the proper reclamation of surface mining operation. Pursuant to SMARA, the California State Mining and Geology Board oversees the Mineral Resource Zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. Typically, the lead agency under SMARA is the city or county within which the



mining operation is located; however, the State Mining and Geology Board (SMGB) assumed “lead agency” status from the County on June 14, 2001, pursuant to SMARA §2774.4. The assumption of SMARA powers does not include the County’s authority to review and revise, issue, enforce, and revoke mining permits. The SMGB retains the authority to review and approve reclamation plans, review and approve financial assurances, conduct annual mine inspections, and enforce compliance with SMARA regulations.

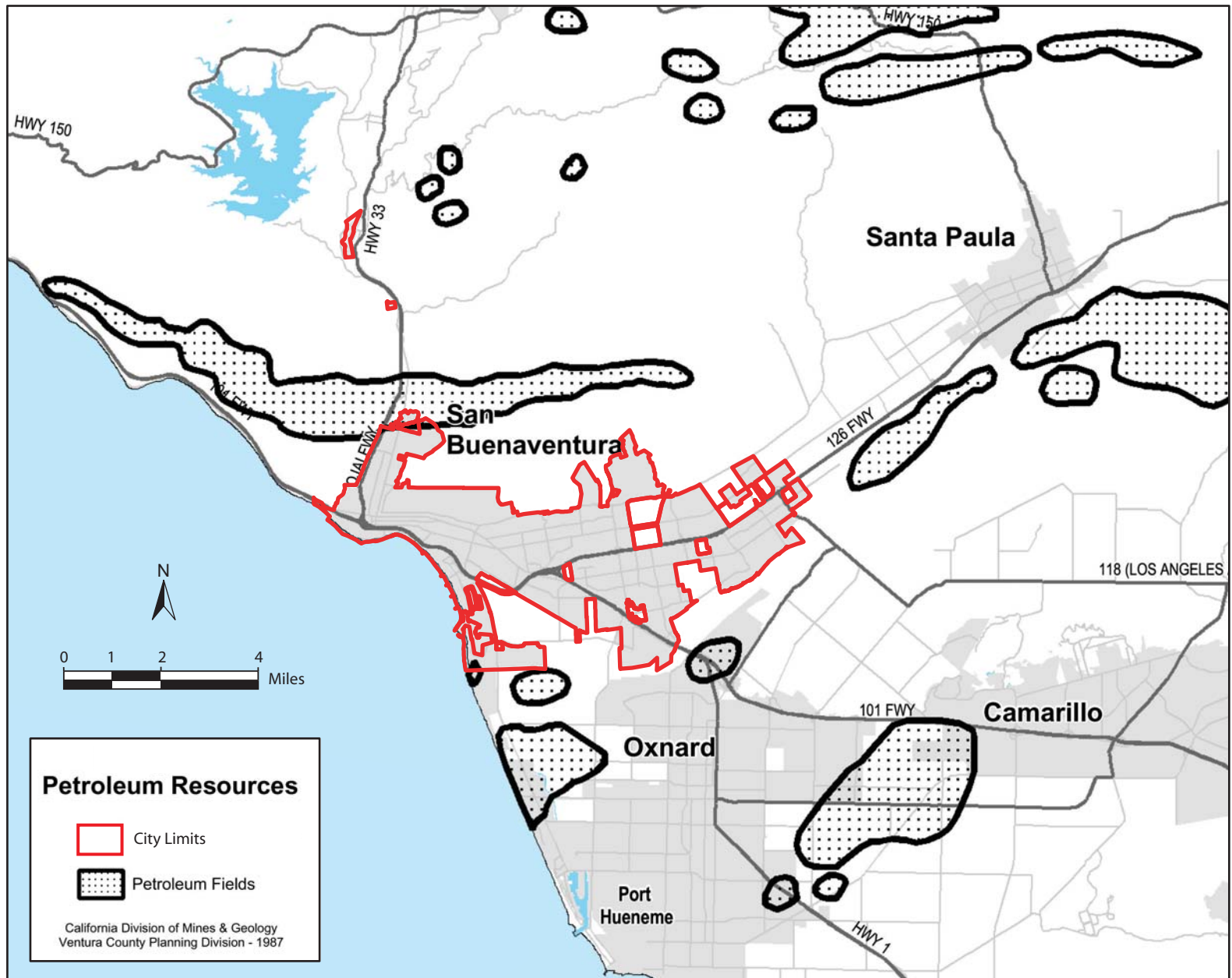
Mineral resource areas are shown on Figure 4.9-2. Areas designated as MRZ-3, or areas containing mineral deposits the significance of which cannot be determined, are located within the foothills located to the north of the City, the Serra PEA, and the Saticoy District. Areas designated as MRZ-3a, or areas with higher potential for aggregate resources than other deposits classified as MRZ-3, are located along the northern City limits and south of the Ventura Harbor. Finally, areas designated as MRZ-2, or areas designated by the state which have regional or statewide significance, are located along the Santa Clara River floodplain.

Mining operations in the County jurisdiction are regulated through the County’s permitting process. Unless a mine operates as a vested operation (having been initiated before the County requirement to obtain a permit to operate), a conditional use permit must be obtained before mining operations begin. SMARA encourages consideration of values relating to recreation, watershed, wildlife, range and forage, and aesthetics in the production and conservation of minerals [§2712(b)]; and requires elimination of hazards to the public health and safety [§2712(c)]. As discussed above, there are no active conditional use permits for aggregate mining activities within areas under consideration for the 2005 General Plan Update.

CCR Title 14, Division 2, Chapter 8, Subchapter 1 implements portions of SMARA, particularly in relation to reclamation plans, mineral resource management, and financial assurances. CCR §3502(b) specifies required components of the reclamation plan beyond PRC §2772. Section 3503 defines the minimum acceptable practices to be followed in surface mining operations related to erosion control, water quality and watershed control, protection of fish and wildlife habitat, disposal of mine waste rock and overburden, erosion and drainage, resoiling, and revegetation. Sections 3504(b) and 3702 both require that financial assurances be provided by mining/reclamation proponents to ensure that reclamation is “... performed in accordance with the approved reclamation plan ...” Sections 3703–3713 provide performance standards for wildlife habitat; backfilling, re-grading, slope stability, and re-contouring; re-vegetation; drainage, diversion structures, waterways, and erosion control; prime agricultural land reclamation; other agricultural land; building structure, and equipment removal; stream protection, including surface and groundwater; topsoil salvage, maintenance, and redistribution; tailing and mine waste management; and, closure of surface openings.

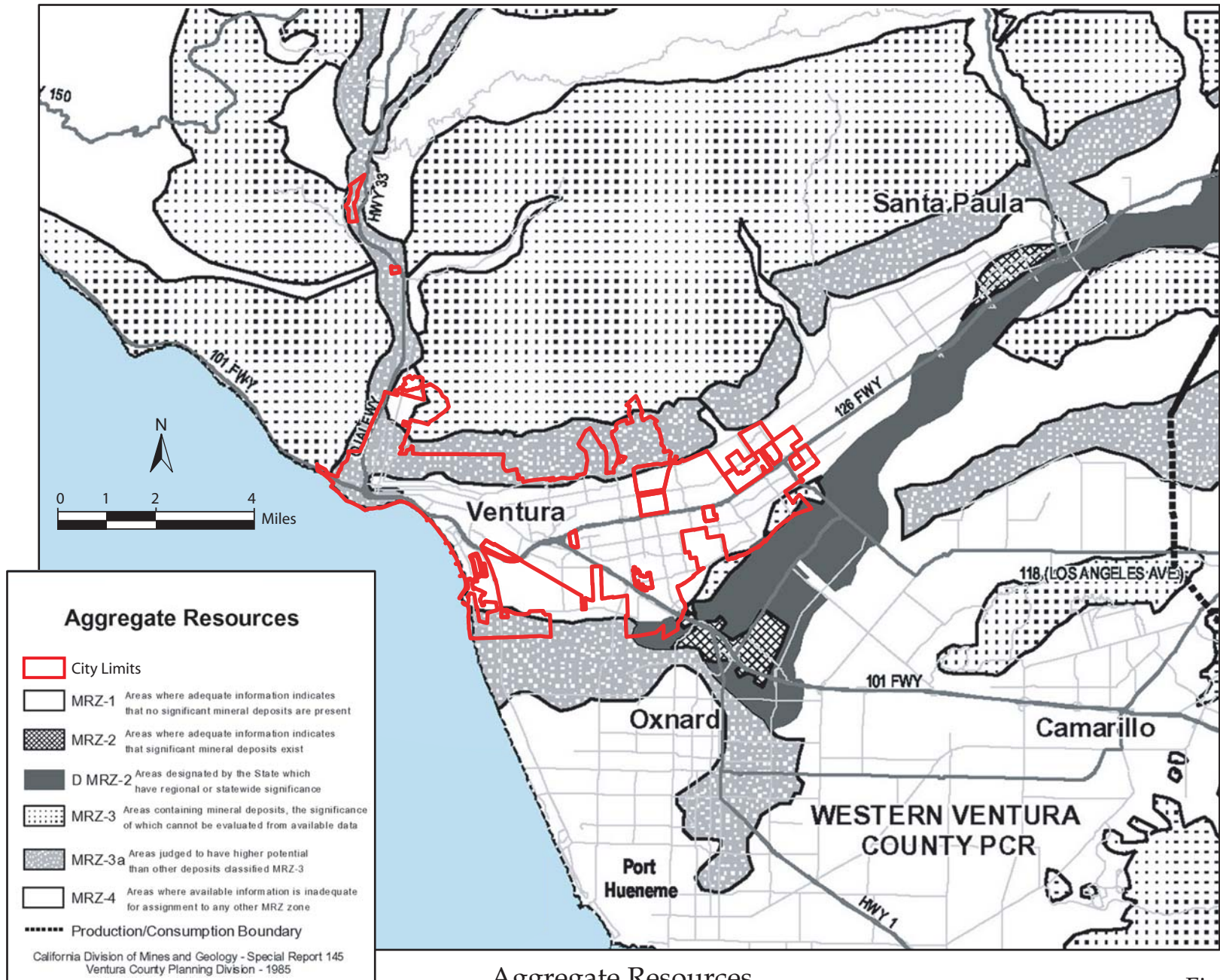
Sections 3800–3806.2 specify the process and types of financial assurances that must be provided for reclamation. CCR §3675 defines land uses that are compatible and incompatible with mining areas. Compatible land uses are defined as those that are “... inherently compatible with mining and/or that require a minimum public or private investment in structures, land improvements, and which may allow mining because of the relative economic value of the land and its improvements.” Examples of compatible land uses include very low-density residential, recreational, agricultural, and grazing uses. Incompatible uses are defined as “inherently incompatible with mining and/or require public or private investment in structures, land





Petroleum Resources

Figure 4.9-1
City of Ventura



Aggregate Resources

Figure 4.9-2
 City of Ventura

improvements, and landscaping and that may prevent mining because of the greater economic value of the land and its improvements.” These include high-density residential uses, public facilities, and other uses.

CCR §3676 specifies the content of mineral resource policies adopted by lead agencies pursuant to PRC §2762. Specifically, lead agencies’ mineral resource policies must contain at least the following:

- *A summary of mineral resource information in relation to state policies*
- *Statements of policy in accordance with any state-classified mineral resource area*
- *Implementation measures that identify mineral deposit areas and areas targeted for conservation and possible future extraction, and General Plan policies related to those areas*

No state conservation program equivalent to SMARA exists for petroleum resources.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds. Potential impacts were assessed by comparing the land uses for each of the General Plan scenarios to the locations of existing mineral resource extraction areas. Impacts would be considered significant if development under the 2005 General Plan through the year 2025 would result in either of the following:

- *The loss of availability of a known mineral resource that would be of value to the region and the residents of the state*
- *Land use conflicts between mining operations and other land uses*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of mineral resource impacts for each of the scenarios under consideration. A discussion of the impacts follows.

<p>Impact M-1 None of the 2005 General Plan land use scenarios would significantly reduce access to mineral resources. Impacts under Scenarios 1-6 are considered to be Class III, less than significant.</p>
--

The Planning Area currently does not have active aggregate mining operations. The Ventura County Board of Supervisors removed areas along the Santa Clara River that have been subject to aggregate mining operations from consideration for future mining activities.

Petroleum fields in the Planning Area are in the foothills and located in the North Avenue district. An existing, inoperative oil refinery is located west of the North Avenue expansion area on the west side of SR 33. All of the oil wells and facilities are currently located within the County’s jurisdiction.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Restriction in Access to Mineral Resources (Impact M-1)	No restriction in accessibility to petroleum or aggregate resources. Impacts are Class III, less than significant.	Impact similar to Scenario 1 as expansion areas would not create impacts. Impacts are Class III, less than significant.	Impact similar to Scenario 1 as expansion areas would not create impacts. Impacts are Class III, less than significant.	Impact similar to Scenario 1 as expansion areas would not create impacts. Impacts are Class III, less than significant.	Impact similar to Scenario 1 as expansion areas would not create impacts. Impacts are Class III, less than significant.	Impact similar to Scenario 1 as expansion areas would not create impacts. Impacts are Class III, less than significant.
Compatibility Conflicts with Mineral Resource Operations (Impact M-2)	Possible introduction of residential uses that pose compatibility conflicts with existing oil operations in the Ventura Avenue Corridor. With actions included in the 2005 General Plan, impacts are Class III, less than significant.	Impacts similar to Scenario 1 as the expansion areas would not pose compatibility conflicts. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 as the expansion areas would not pose compatibility conflicts. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 as the expansion areas would not pose compatibility conflicts. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 as the expansion areas would not pose compatibility conflicts. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 as the expansion areas would not pose compatibility conflicts. Impacts are Class III, less than significant.



Scenario 1 – Intensification/Reuse Only

This land use scenario focuses on intensification and reuse of properties within the existing Sphere of Influence (SOI) and does not include expansion areas. Development under Scenario 1 involves intensification of land uses and creation of a more densely settled, urban landscape. It is anticipated that areas designated as MRZ-3a within the foothills north of the City would be removed from the SOI under Scenario 1. As this area is currently designated as Hillside Planned Residential, aggregate mining activities are not currently allowed; therefore, removal of this area from the SOI would not provide new restrictions on access to aggregate resources that might be located within this area. Similarly, MRZ-3a areas south of the Ventura Harbor would continue to have a Parks and Recreation land use designation under Scenario 1 and, therefore, the 2005 General Plan would not impose new restrictions on access to aggregate resources that might be located within this area.

Future development within the North Avenue and Upper North Avenue districts could occur within the vicinity of existing oil wells within these areas. However, as discussed in the *Setting*, oil production in the North Ventura Avenue area has dropped dramatically since its peak production several decades ago and only a limited number of oil wells remain within these growth districts. It is anticipated that the limited remaining wells could continue to produce as long as they are financially viable and would be replaced by new industrial development only as they are tapped out. Therefore, impacts relating to the accessibility of mineral resources are not considered significant.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Impacts associated within intensification/reuse would be the same as those identified for Scenario 1. In addition, Scenario 2 would accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas. As discussed under Scenario 1, intensification and reuse of land would not reduce access to existing oil resources. The North Avenue, Olivas, and Serra expansion areas are currently in agriculture use and have no identified mineral resources onsite. The North Avenue expansion area is located approximately one mile north/northeast of existing oil wells in the North Avenue area, but would not obstruct access to the existing oil well sites. Therefore, impacts relating to the accessibility of mineral resources under Scenario 2 are considered to be less than significant.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Impacts associated within intensification/reuse would be the same as those identified for Scenario 1. In addition, Scenario 3 would accommodate the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenarios 1 and 2, future development within these areas would not restrict access to mineral resources. No significant impacts would occur.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Impacts associated within intensification/reuse would be the same as those identified for Scenario 1. In addition, Scenario 4 would accommodate the possible future development of the North Avenue and Serra expansion areas. As discussed under Scenarios 1 and 2, future



development within these areas would not restrict access to mineral resources. No significant impacts would occur.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts associated within intensification/reuse would be the same as those identified for Scenario 1. In addition, Scenario 5 would accommodate the possible future development of the North Avenue and Western Cañada Larga expansion areas. As discussed under Scenarios 1 and 2, future development within the growth districts and corridors and the North Avenue expansion area would not restrict access to mineral resources. The 110-acre Western Cañada Larga expansion area is currently used for grazing and no identified mineral resources are present within the area. Moreover, the Western Cañada Larga area is located more than a mile to the north of existing oil wells within the North Avenue area. At this distance, development would not restrict access to operating oil wells. No significant impacts would occur.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts associated within intensification/reuse would be the same as those identified for Scenario 1. In addition, Scenario 6 would accommodate the possible future development of the North Avenue and Poinsettia expansion areas. As discussed under Scenarios 1 and 2, future development within the growth districts and corridors and the North Avenue expansion area would not restrict access to mineral resources. The 418-acre Poinsettia expansion area is currently used for agriculture. No identified mineral resources are located on, or in the vicinity of, this site. No significant impacts would occur.

MITIGATION MEASURES

Scenarios 1-6 would not reduce access to mineral resources; therefore, mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Significant impacts are not anticipated for any of the six 2005 General Plan land use scenarios.

<p>Impact M-2 Scenarios 1-6 could introduce new development that is located adjacent to, and potentially incompatible with, existing oil production activity in the North Avenue and Upper North Avenue districts. However, policies and actions included in the 2005 General Plan would address potential incompatibilities. Impacts would be Class III, <i>significant but mitigable</i>, for any of the six land use scenarios.</p>

As there are no active aggregate mining operations within the areas under consideration for each scenario, land use incompatibilities could only occur adjacent to the limited number of oil facilities. Consequently, future development within the Planning Area would generally create minimal conflicts with such operations. However, any of the land use scenarios under



consideration could introduce potentially incompatible land uses adjacent to oil wells within the Upper North Avenue and North Avenue districts. Noise and health and safety issues associated with oil facilities could create conflicts for new residential or commercial uses that are introduced within the vicinity of such sites.

The 2005 General Plan includes the following policies and actions that are relevant to compatibility between residential uses and oil production:

Action 7.24 *Only approve projects involving sensitive land uses (such as residences, schools, daycare centers, playgrounds, medical facilities) within or adjacent to industrially designated areas if an analysis provided by the proponent demonstrates that the health risk will not be significant.*

Action 7.32 *Require acoustical analyses for new residential developments within the mapped 60 decibel (dBA) CNEL contour, or within any area designated for commercial or industrial use, and require mitigation necessary to ensure that:*

- *Exterior noise in exterior spaces of new residences and other noise sensitive uses that are used for recreation (such as patios and gardens) does not exceed 65 dBA CNEL, and*
- *Interior noise in habitable rooms of new residences does not exceed 45 dBA CNEL with all windows closed.*

An analysis of the impacts of each land use scenario follows.

Scenario 1 – Intensification/Reuse Only

Scenario 1 includes intensification and reuse of properties within the existing SOI and does not include any expansion areas. The Upper North Avenue and North Avenue districts include a limited number of oil wells. The Upper North Avenue district also includes the closed Petrochem refinery. These districts are primarily designated for industrial uses, which generally would not conflict with oil or aggregate operations. However, it is anticipated that limited live-work or work-live residential development could be components of future industrial development. Depending upon the proximity of residential components to mineral resource extraction activities, the introduction of residential uses could pose significant compatibility conflicts relating to noise and health and safety. However, as noted above, the 2005 General Plan includes specific actions requiring analysis, and mitigation as necessary, of noise and health/safety issues for any project involving a sensitive land use within industrially-designated areas. Implementation of these actions and application of appropriate mitigation measures on a case-by-case basis would reduce compatibility conflicts to a less than significant level.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Compatibility impacts associated within intensification/reuse would be the same as those identified for Scenario 1 and would be reduced to a less than significant level with implementation of actions included in the 2005 General Plan. In addition, this scenario would



accommodate the possible future development of the North Avenue, Olivas, and Serra expansion areas.

All three expansion areas are currently in agricultural use and none include or are adjacent to any mineral resource extraction activities. The North Avenue expansion area is located approximately one mile north of the oil wells located in the North Avenue district. Therefore, development within the North Avenue, Olivas, and Serra expansion areas would not create any compatibility conflicts with mineral resource extraction operations.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Compatibility impacts associated within intensification/reuse would be the same as those identified for Scenario 1 and would be reduced to a less than significant level with implementation of actions included in the 2005 General Plan. As discussed under Scenario 2, neither the North Avenue expansion area nor the Olivas expansion area poses any potential compatibility conflicts with mineral resource extraction operations.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Compatibility impacts associated within intensification/reuse would be the same as those identified for Scenario 1 and would be reduced to a less than significant level with implementation of actions included in the 2005 General Plan. As discussed under Scenario 2, neither the North Avenue expansion area nor the Olivas expansion area poses any potential compatibility conflicts with mineral resource extraction operations.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Compatibility impacts associated within intensification/reuse would be the same as those identified for Scenario 1 and would be reduced to a less than significant level with implementation of actions included in the 2005 General Plan. As discussed under Scenario 2, the North Avenue expansion area does not pose any potential compatibility conflicts with mineral resource extraction operations. No mineral resource extraction operations are located on or adjacent to the Western Cañada Larga expansion area. Therefore, development within that area would not pose the potential for significant compatibility impacts with mineral resource extraction activities.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Compatibility impacts associated within intensification/reuse would be the same as those identified for Scenario 1 and would be reduced to a less than significant level with implementation of actions included in the 2005 General Plan. As discussed under Scenario 2, the North Avenue expansion area does not pose any potential compatibility conflicts with mineral resource extraction operations. No mineral resource extraction operations are located on or adjacent to the Poinsettia expansion area. Therefore, development within that area would not pose the potential for significant compatibility impacts with mineral resource extraction activities.

MITIGATION MEASURES

Actions included in the 2005 General Plan would reduce compatibility conflicts between residential uses and mineral extraction activity to a less than significant level. Mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Future project- and site-specific environmental review and mitigation for individual development projects that present potential incompatibility issues, as required by 2005 General Plan policies and actions, would reduce potential compatibility impacts between residential uses and mineral resource extraction activities to a less than significant level for any of the six land use scenarios.



4.10 NOISE

This section analyzes the impacts associated with exposure to noise. Impacts relating to noise from traffic, railroad activity, industrial and agricultural uses, and recreational uses are addressed.

4.10.1 Setting

a. Regulatory Setting. Guidelines for noise compatible land use, based upon the California Office of Planning and Research (OPR) Noise Element Guidelines, are shown on Figure 4.10-1. The objective of noise compatibility guidelines is to provide the community with a means of judging the noise environment that it deems to be generally acceptable.

Denotation of a land use as “clearly acceptable” implies that the highest noise level in that band is the maximum desirable for existing or conventional construction that does not incorporate any special acoustical treatment. In general, evaluation of land use that fall into the “normally acceptable,” “conditionally acceptable,” or “normally unacceptable” noise environments should analyze other potential factors that would affect the noise environment. These include consideration of the type of noise source, the sensitivity of the noise receptor, the noise reduction likely to be provided by structures, and the degree to which the noise source may interfere with speech, sleep, or to other activities characteristic of the land use.

Ventura Noise Ordinance. The City of Ventura Noise Ordinance (Municipal Code § 10.650) prohibits unnecessary, excessive, or annoying noise in the City. The Ordinance does not control traffic noise, but applies to all noise sources located on private property including traffic noise. As part of this ordinance, properties within the City are assigned a noise zone based on their corresponding land use. “Noise-sensitive” properties are designated as Noise Zone I; residential properties are designated Noise Zone II; commercial properties are included in Noise Zone III, and industrial/agricultural districts are designated as Noise Zone IV. The Ordinance also limits the amount of noise generated by uses during normal operation that may affect the surrounding areas. Table 4.10-1 shows the allowable noise levels and corresponding times of day for each of the identified noise zones.

Table 4.10-1
Exterior Noise Levels


Time Period	ZONE I	ZONE II	ZONE III	ZONE IV
7 A.M. to 10 P.M.	50 dBA	50 dBA	60 dBA	70 dBA
10 P.M. to 7 A.M.	45 dBA	45 dBA	55 dBA	70 dBA


Source: City of Ventura Municipal Code § 10.650.130B.


The noise standards shown in Table 4.10-1 apply to any noise-generating activity that exceeds the applicable level for a cumulative period of more than 30 minutes in any hour. For noise levels that last less than 30 minutes, the following standards apply: maximum noise levels equal to the value of the noise standard plus 5 dBA for a cumulative period of no more than 15 minutes in any hour, 10 dBA for a cumulative period of no more than 5 minutes in any hour, 15




LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE						
	Ldn or CNEL, dBA						
	55	60	65	70	75	80	85
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES							
RESIDENTIAL - MULTI-FAMILY							
TRANSIENT LODGING - MOTELS, HOTELS							
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES							
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES							
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS							
PLAYGROUNDS, NEIGHBORHOOD PARKS							
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES							
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL							
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE							

 **NORMALLY ACCEPTABLE**
 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

 **NORMALLY UNACCEPTABLE**
 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design

 **CONDITIONALLY ACCEPTABLE**
 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

 **CLEARLY UNACCEPTABLE**
 New construction or development should generally not be undertaken.

Source: Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Office of Planning and Research, 1998.

Noise Compatibility Matrix

Figure 4.10-1
 City of Ventura

dBA for a cumulative period of no more than 1 minute in any hour, or 20 dBA for any period of time. If the ambient sound level exceeds the allowable exterior standard, the ambient levels become the standard.

The following noise standards for interior noise levels apply for all multifamily residential units within Zones I or II. Daytime (7 a.m.–10 p.m.) noise levels shall not exceed 45 dBA and nighttime (10pm-7am) shall not exceed 40 dBA (Section 10.650.130 C.1).

Section 10.650.150 of the Ordinance exempts construction activities from the above standards, provided that they are conducted between 7 A.M. and 8 P.M. Construction activity is permitted between the hours of 8 pm and 7 am, provided that the noise levels do not exceed the standards specified in Table 4.10-1.

b. Overview of Sound Measurement. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, Leq is summed over a one-hour period.

The sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Decibels cannot be added arithmetically, but rather are added on a logarithmic basis. Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dB. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while those along arterial streets are in the 50-60+ dBA ranges. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than that can interrupt conversations.

Noise levels typically attenuate at a rate of 6 dBA per doubling of distance from point sources such as industrial machinery. For example, a person standing 25 feet from an industrial machine may experience noise levels of 75 dBA, while a person standing 50 feet from the same noise source would experience noise levels of 69 dBA, and a person standing 100 feet from the source would experience noise levels of 63 dBA. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance.

The actual time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. The Day-Night average level (L_{DN}) recognizes this characteristic by weighting the hourly Leqs over a 24-hour

period. The weighting involves the addition of 10 dBA to actual nighttime (10 PM to 7 AM) noise levels, accounting for the greater amount of disturbance associated with noise during that time period. The Community Noise Equivalent Level (CNEL) is also commonly used to specify noise standards. The CNEL is identical to the L_{DN} except that it also adds 5 dB to sound levels occurring from 7 p.m. to 10 pm. The two measures of noise exposure, L_{dn} and CNEL, are basically equivalent; there is generally less than 1 dBA difference between their values.

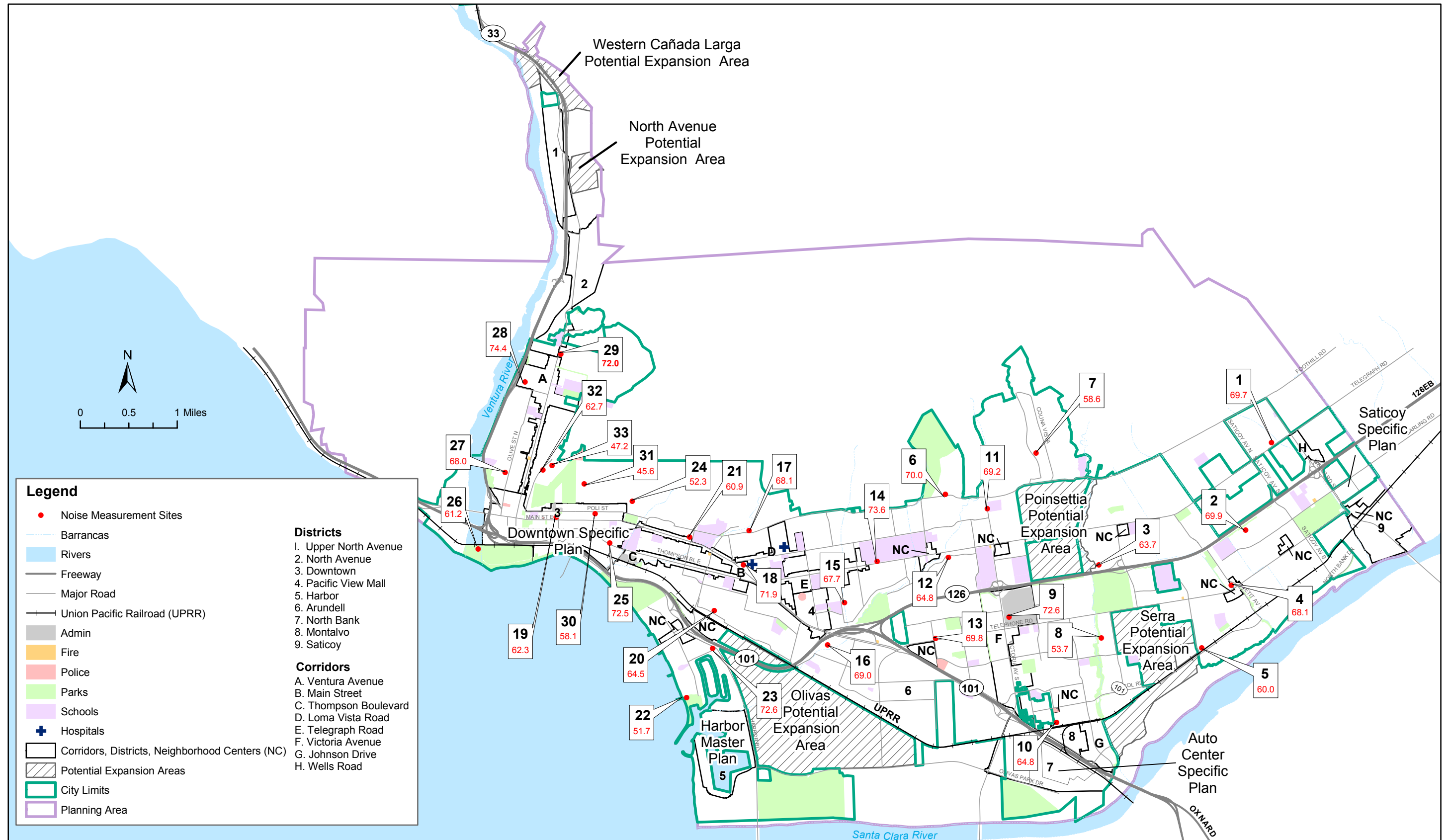
c. Existing Noise Environment. The City of Ventura is affected by several different sources of noise, including automobile traffic, agricultural or industrial activity, the Ventura County Fairgrounds, and periodic nuisances such as construction, loud parties, and other events. The major sources of noise in Ventura include the following:

- *Highway Traffic on Interstate 101, State Routes 33 and 126*
- *Traffic Along Major Arterials*
- *Union Pacific Railroad*
- *Ventura County Fairgrounds*
- *Ventura Shooting Range*
- *Ventura Raceway at Seaside Park*

Various locations within Ventura were surveyed from October 2001 to April 2002 to establish existing levels of noise. These measurement sites were selected to determine the impact from major sources of noise within the City. A total of 34 measurements were taken, which provide a basis for understanding the overall existing noise environment of the city. Table 4.10-2 summarizes the noise monitoring results at each of the 34 locations. The L_{eq} values for each location are shown on Figure 4.10-2. It should be noted that the sound level at any location fluctuates during the day. Therefore, the results of the measurements are not necessarily indicative of long-term average daily noise exposures at the measurement positions.

Roadway Noise. Vehicle traffic on local freeways and major roads is by far the greatest generator of noise throughout the planning area. Major road noise sources include three freeways (U.S. 101, SR 126, and SR 33) and several major arterial streets with high levels of traffic (Victoria Avenue, Main Street, Telephone Road, Telegraph Road). Four measurement locations (Sites 2, 3, 16, and 23) were subject primarily to noise originating from freeway traffic. The L_{eq} value for these sites ranged from 63.7 to 72.6 dBA. Site 3 had a significantly lower L_{eq} than the other three, most likely because of the existence of a sound barrier protecting that location from freeway noise. Four measurement sites (Sites 4, 9, 13, and 19) correspond to principal arterials. Noise levels (L_{eq}) for these roadways ranged from 62.3 to 72.6 dBA.

A study completed in 2000 assessed noise levels in Ventura County and provided recommendations for noise barrier locations along Highways 101, 33, and 126. Based upon these measurements, using either 66 or 67 dBA Peak Hour L_{eq} as the threshold (depending on activity land use category), and considerations such as the potential effectiveness of a noise barrier in the proposed project areas, specific areas were recommended for further consideration of noise barriers. Those areas with the highest Peak Hour dBA (exceeding 70 dBA) where noise barriers were recommended for further consideration are summarized in Table 4.10-3.



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Noise Measurement Sites
 and Leq Values

Figure 4.10-2
 City of Ventura

**Table 4.10-2
Noise Survey Results**

Site #	Measured Noise Level (dBA)				Measurement Location
	Leq	Lmax	L(10)	L(90)	
1	69.7	83.4	73.2	55.8	Telegraph Rd/Nevada - 35 ft from Telegraph centerline
2	69.9	85.1	73.2	62.4	SR 126/Henderson and Jasper - 45 ft from elevated freeway, 20 feet from centerline of Henderson
3	63.7	78.1	66.5	57.7	SR 126/Hayes and Eisenhower - 100 ft from freeway
4	68.1	84.4	72.4	56.6	Telephone/Petit - 30 ft from centerline of Telephone Road
5	60	83.7	62.2	47.5	Channel Drive/Borchard - 25 ft from centerline of Channel Drive (includes train pass-by, 75 feet to train tracks)
6	70	83.5	74.7	50.8	Foothill/Skyline - 35 ft from Foothill centerline
7	58.6	76.9	61.6	41.3	Via Arroyo/Vio Posito - 15 ft from Via Arroyo centerline
8	53.7	76	53.7	41.5	Antelope Avenue - 25 ft from Antelope Ave centerline
9	72.6	86.8	75.6	64.5	Victoria/Thille - 60 ft from Victoria centerline
10	64.8	82.8	68.5	51.6	Peacock/Nightingale - 25 ft from Nightingale centerline
11	69.2	87.1	72.5	56.9	Victoria Ave/Loma Vista - 40 ft from Victoria centerline
12	64.8	82.8	68.5	51.6	Aurora/Bryn Mawr - 15 ft from Aurora centerline
13	69.8	88.4	74.2	54.9	Telephone/Chalmette - 30 ft from Telephone Road centerline
14	73.6	86.1	77.6	59.1	Telegraph Road/Ventura College - 40 ft from Telegraph Road centerline
15	67.7	90.7	68.5	55.1	College Drive - 20 ft from College Drive centerline
16	69	84.6	71.6	64	Highway 101/Main St and Arundell - 60 ft from freeway, 16 ft from Arundell centerline
17	68.1	88	72.2	50.2	Poli Street/Brent Street - 40 ft from Poli centerline
18	71.9	92.3	73.8	59.1	Loma Vista/Brent Street - 25 ft from Loma Vista centerline
19	62.3	80.3	65.5	54.9	California Street/Main Street - 22 ft from California St centerline
20	64.5	89.1	64.7	52.1	Channel Drive/Jones Street - 22 ft from Channel Drive centerline
21	60.9	75.5	65.1	50.8	Catalina Street/Evans Street - 25 ft from Catalina centerline
22	51.7	65.3	54	47.2	Marina Park/Pierpont
23	72.6	84	75.7	67.3	Harbor Blvd/Peninsula - 80 ft from freeway, 36 feet to Harbor centerline
24	52.3	81.2	53.3	44.1	Church Street/Aliso - 20 ft from Church St centerline
25	72.5	89.6	76.2	61.5	Thompson Blvd./Hemlock Street - 30 ft from Thompson centerline



**Table 4.10-2
 Noise Survey Results**

Site #	Measured Noise Level (dBA)				Measurement Location
	Leq	Lmax	L(10)	L(90)	
26	61.2	79.4	61.8	57.1	Seaside Park - approximately 1,000 from freeway and train tracks
27	68	82.1	71.8	56.8	Olive Street/Prospect Drive - 11 feet from Olive centerline
28	74.4	85.3	77.8	66.5	Stanley Avenue/Olive Street - 20 ft from Stanley Ave centerline
29	72	89.5	75.2	58.2	Ventura Ave/Seneca Street - 30 ft from Ventura Ave centerline
30	58.1	76.3	62.1	46.4	Kalorama Street/Poli Street - 20 feet from Kalorama centerline
31	45.6	57	*	*	Tioga/Caliente - east of Grant Park (firing range audible)
32	62.7	77.7	*	*	Cedar Street/E. Simpson Street - west of Grant Park (firing range inaudible)
33	47.2	63.1	*	*	Cedar Street/Cedar Place - west of Grant Park (firing range inaudible)
34	62.8	80.1	65.2	56.6	South Figueroa near Seaside Park - between apartments and parking lot (auto racing at Fairgrounds in progress)

*Data unavailable

Source: Rincon Consultants, October 2001 – April 2002. Each measurement was 20 minutes in duration.

L_{eq} = energy equivalent sound level. This value is representative of the long-term annoyance potential as well as other effects of the noise.

L_{max} = the maximum sound level during the measurement period.

L_{10} = the near maximum sound level. This value is exceeded 10% of the time during the measurement period.

L_{90} = the near minimum sound level. This value is exceeded 90% of the time during the measurement period.

**Table 4.10-3
 Highway Traffic Noise Barrier Study Findings (dBA)**

Highway	Project Location	10 Min. Leq	Peak Hour Noise Level (dBA)	Barrier Noise Level Reduction (dBA)
101	Northbound: 0.25 mile west of Lemon Grove Ave. to Main Street	68	71	5
126	Eastbound: 0.48 mile east of Kimball Rd. to Wells Rd.	72	74	7
101/126	Northbound: Telephone Rd. to SR 126, westbound	71	73	5
126	Westbound: Victoria Ave. to Hill Rd.	70	72	6

Source: Illingworth & Rodkin, Inc., Acoustics/Air Quality, Noise Readings, Planning and Cost Estimates for the Development of Noise Barriers in Ventura County, 2000.



Railroad Operations. The Union Pacific Railroad (UPRR) operates one rail line through the City. The UPRR corridor runs parallel to Highway 101 crossing over the highway in the northern portion of the City. The eastern spur of the railroad line that runs from Ventura east towards Fillmore where the tracks diverge near Highway 101 is no longer actively used for freight or passenger transport. Train pass-bys can be disturbing to nearby receivers, particularly at night, as evidenced by the maximum sound level (Lmax) of 83.7 dBA measured at Site 5. Trains also generate ground-borne vibration and noise, which varies depending on the type of train, weight of load haulage, track conditions, and other factors.

Rail transit service is provided by Metrolink and AMTRAK. Metrolink provides rail service between Ventura and Union Station in Los Angeles on the Ventura County line. Presently, two trains in both the daytime and evening operate the entire length of the route between Ventura and Union Station. Rail service is also provided by AMTRAK via the Pacific Surfliner, which runs between San Luispo to the north and San Diego to the south. Four trains operate daily, with one additional train on the weekends and one additional train during the weekdays.

Commercial, Industrial and Agricultural Operations. Commercial and industrial activity can produce noise from heavy traffic, deliveries, and machinery. While industrial activity primarily occurs along Ventura Avenue and parts of the Arundell District, commercial activity occurs throughout the City, particularly along major roadways. Measurements near commercial and industrial activity include Sites 25, 27, 28, 29, and 30. Noise levels at these sites ranged from 58 to 74 dBA, although higher noise levels were mainly a result of heavy traffic.

Agricultural operations produce noise associated with equipment such as diesel engines, aerial application aircrafts (crop dusters), bird frightening devices, and tractors. Many of these noise sources are related to seasonal operations.

Recreational Activity. Certain recreational activities that occur within the City may be considered substantial noise generators. Noise-generating events occur periodically, but may produce high levels of noise that are audible at nearby locations. Three main sources of recreational nuisance noise include the Ventura Shooting Range, the Ventura Raceway at Seaside Park, and the Ventura County Fairgrounds.

The outdoor Ventura Shooting Range in the northern part of Grant Park has been the source of occasional noise complaints in the Downtown and West Ventura areas. In response, the City Parks Department completed a study in 1998 that measured noise levels generated by various ammunition types. Table 4.10-4 describes the highest sound levels measured at four sites.

Measurements recorded during the community noise survey in West Ventura (Sites 31, 32, and 33) while the shooting range was open indicated firing range could be heard only from Site 33. This may be due to installation of sound barriers on the north side of the range since the 1998 study; however, the 1998 measurements were obtained at locations slightly farther north, where the range may still be audible. The range will be closed to the public in January 2006, but will continue to be used by the Ventura Police Department.

The Ventura Raceway at Seaside Park hosts auto races on Saturday evenings. A measurement taken near the end of S. Figueroa Street (Site 34) during a race registered maximum noise levels of

**Table 4.10-4
 Noise from the Ventura Shooting Range**

Site	Wind Speed	Ammunition Type	dBA
348 Carr Drive	0-3	.45 caliber pistol (one pistol), 5 rounds/5 seconds	72
254 Carr Drive	2-4	.45 and .40 caliber pistols (one of each), 5 rounds/10 seconds	74
258/265 Barnett Street	4-6	.45 caliber pistol (one pistol), 5 rounds/5 seconds	71
173 Barnett Street	0-2	.45 and .40 caliber pistol (one of each), 5 rounds/5 seconds	71

Source: City of Ventura, Pistol Range Sound Test, 1998.

80.1 dBA. The Ventura County Fairgrounds holds events, such as music concerts, fireworks, and other events that create noise audible to residential areas.

d. Noise Sensitive Uses. Noise-sensitive locations include areas where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control may be necessary. Examples include schools, hospitals, and residential areas. Recreational areas may be considered noise-sensitive where quiet and solitude may be an important aspect of the specific recreational experience (such as a garden or campground). In most instances, recreational areas are tolerant of higher noise levels.

A number of residential areas in Ventura are located adjacent to freeways or along major arterials. The community noise survey included measurements at eight residential sites (1, 6, 7, 10, 12, 17, 20, and 24). Residential areas experienced sound levels ranging from 52.3 to 70.0 dBA. The highest measured residential noise levels were along Telegraph Road, though levels exceeding 60 dBA were also measured along Poli Street, Channel Drive, Aurora Drive, and Nightingale Street.

Many schools in the Planning Area are located adjacent to major roads, with resultant elevated noise levels. In particular, Buena High School and Mound Elementary School are located directly adjacent to SR 126, while Sheridan Way Elementary is located adjacent to SR 33. Several other area schools are located on major arterials with relatively high noise levels. The community noise survey included measurements at four schools (sites 11, 14, 15, and 21), with sound level measurements ranging from 60.9 to 73.6 dBA.

The two hospitals in Ventura (Community Memorial and the County Medical Center) are both located on Loma Vista Road, a relatively highly traveled arterial. However, with the exception of the road frontage, the hospital sites are relatively quiet due to shielding by onsite structures, and interior noise levels are not known to exceed acceptable levels at either facility. The community noise survey included a measurement at Community Memorial Hospital (site 18).



4.10.2 Impact Analysis

a. Methodology and Thresholds of Significance. The analysis of noise impacts focuses upon the project's impact to surrounding noise-sensitive land uses and the impact of existing noise sources upon residents of the Planning Area.

The roadway noise contours were calculated using the Federal Highway Administration's Highway Traffic Noise Prediction Model, U.S. Department of Transportation (1998). Model input data included existing and projected average daily traffic levels, day/evening/night percentages of automobiles, medium and heavy trucks, vehicle speeds; evening peak hour traffic levels, and roadway widths. A general estimation of freeway height with respect to adjacent land (elevated, level or depressed) is also considered. The average daily traffic assumptions and distances to the roadway 60, 65, 70, and 75 dBA CNEL contours are provided in the Appendix.

For the purpose of this analysis, a significant impact would occur if growth accommodated under the 2005 General Plan would result in any of the following conditions:

- *Exposure of persons to or generation of noise levels in excess of standards established in the General plan or noise ordinance*
- *Exposure of persons to or generation of excessive ground-borne noise levels*
- *A substantial permanent increase in ambient noise levels above levels existing without the project*
- *A substantial temporary or periodic increase in ambient noise levels above levels existing without the project*

For purposes of defining a "substantial" increase in traffic noise, the Federal Interagency Committee on Noise (FICON) recommendations were used. These are as follows:

Significance of Changes in Operational Roadway Noise Exposure

Ambient Noise Level (CNEL)	Significant Impact
< 60 dB	+ 5.0 dB or more
60 – 65 dB	+ 3.0 dB or more
> 65 dB	+ 1.5 dB or more

Temporary or periodic noise increases associated with General Plan implementation would primarily result from future construction activity. A temporary increase in noise is considered "substantial" if it would be in conflict with the City Noise Ordinance, which allows noise-generating construction activity between the hours of 7 AM and 8 PM.



b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of noise impacts for each of the scenarios under consideration. A discussion of project impacts follows.

Impact N-1	Growth accommodated through 2025 under any of the six land use scenarios would incrementally increase noise along area roadways and potentially expose new noise sensitive uses to noise exceeding City standards. Implementation of proposed General Plan policies would address potential exposure to excessive noise for new development. Noise levels would generally increase for existing uses adjacent to transportation corridors. Impacts on most roadways would not be significant, but a potentially significant noise increase could occur along North Ventura Avenue under any scenario and along Johnson Drive under Scenario 6. Impacts are therefore considered Class II, <i>significant but mitigable</i>, for all six scenarios.
-------------------	---

Noise contours for major transportation sources in Ventura have been generated for current and future conditions. The noise contours represent bands of equal noise exposure. They are used to provide a general visualization of sound levels, not absolute lines of demarcation. For example, a 65 dBA CNEL level describes an area as having a time-average constant sound level of roughly 65 dBA even though the area would experience individual sound events with higher and lower sound levels. Noise contours present a worst-case scenario in which no structures, sound walls, or other barriers intervene between the source and receiver; actual noise levels may be considerably lower than indicated. Figure 4.10-3 shows noise contours that were developed using existing daily traffic data.

In order to generate noise contours for 2025 conditions, data from the traffic analysis described in Section 4.12, *Transportation and Circulation*, was used to represent the most intensification, and therefore the most conservative estimate of future noise levels. The future noise contour map is shown on Figure 4.10-4. The map shows several possible roadway extensions that could be constructed if either the Olivas expansion area or Serra expansion area is developed at some point in the future. Contours generated from estimated traffic levels on these roadways would only apply if the roadway were constructed.

As seen on the existing noise contour map, areas near freeways and major arterials are routinely exposed to noise levels that exceed 60 dBA CNEL. In 2025, expected increases in traffic levels would result in a greater overall area (about half of the entire city) within the 60 dBA contour, as compared to existing conditions. In particular, the increased traffic levels on SR 126 expected in 2025 would extend the 60 dBA contour to include almost the entire area between Telegraph Road and Telephone Road. Traffic increases on Wells Road, Olivas Park Drive, and Foothill Road also result in extending the boundaries of the 60 dBA contour along those roads. It should be noted that these contours do not account for the presence of sound walls and other barriers, which are present in many locations. The purpose of the contour map

Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Traffic Noise Impacts on Existing and Proposed Noise-sensitive Development (Impact N-1)	Projected traffic growth would increase noise along all major transportation corridors. Compliance with Action 7.32 reduces impacts to future development to less than significant. Impacts to existing development generally are not significant, but could be significant along N. Ventura Avenue. Impacts are considered Class II, significant but mitigable.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are exposed to noise from various road sources (SR 33, U.S. 101, Olivas Park Drive, Telephone Road). Action 7.32 addresses possible impacts to new development. Impacts to sensitive uses along North Ventura Avenue are Class II, significant but mitigable.	Impacts similar to Scenario 2 except no development would occur in the Serra expansion area and traffic noise would be incrementally greater in and adjacent to the Olivas expansion area. Action 7.32 addresses possible impacts to new development. Impacts to sensitive uses along North Ventura Avenue are Class II, significant but mitigable.	Impacts similar to Scenario 2 except no development would occur in the Olivas expansion area and traffic noise would be incrementally greater in and adjacent to the Serra expansion area. Action 7.32 addresses possible impacts to new development. Impacts to sensitive uses along North Ventura Avenue are Class II, significant but mitigable.	Intensification/reuse impacts would be similar to Scenario 1. Action 7.32 addresses possible impacts to new development. Traffic generation along North Ventura Avenue would be greater than under the other scenarios. Impacts to sensitive uses along North Ventura Avenue are Class II, significant but mitigable.	Impacts similar to Scenario 2 except noise increases would be greater along portions of Victoria Avenue and Johnson Drive. Action 7.32 addresses possible impacts to new development. Impacts to sensitive uses along North Ventura Avenue and Johnson Drive are Class II, significant but mitigable.
Construction Noise Impacts on Noise-sensitive Uses (Impact N-2)	Construction of individual projects in the Planning Area could intermittently generate high noise levels. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.	Impacts similar to Scenario 1. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.	Impacts similar to Scenario 1. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.	Impacts similar to Scenario 1. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.	Impacts similar to Scenario 1. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.	Impacts similar to Scenario 1. Compliance with Noise Ordinance restrictions on construction timing reduce this impact to Class III, less than significant.
Industrial Noise (Impact N-3)	Mixed use development near Industrial and commercial uses could expose noise	Intensification/reuse impacts similar to Scenario 1. Conversion of agricultural lands in	Impacts similar to Scenario 2 except the elimination of potential conflicts in the Serra area would	Impacts similar to Scenario 2 except the elimination of potential conflicts in the Olivas area would	Intensification/reuse impacts similar to Scenario 1. Residences in the western portion of the	Intensification/reuse impacts similar to Scenario 1. Conversion of agricultural lands in

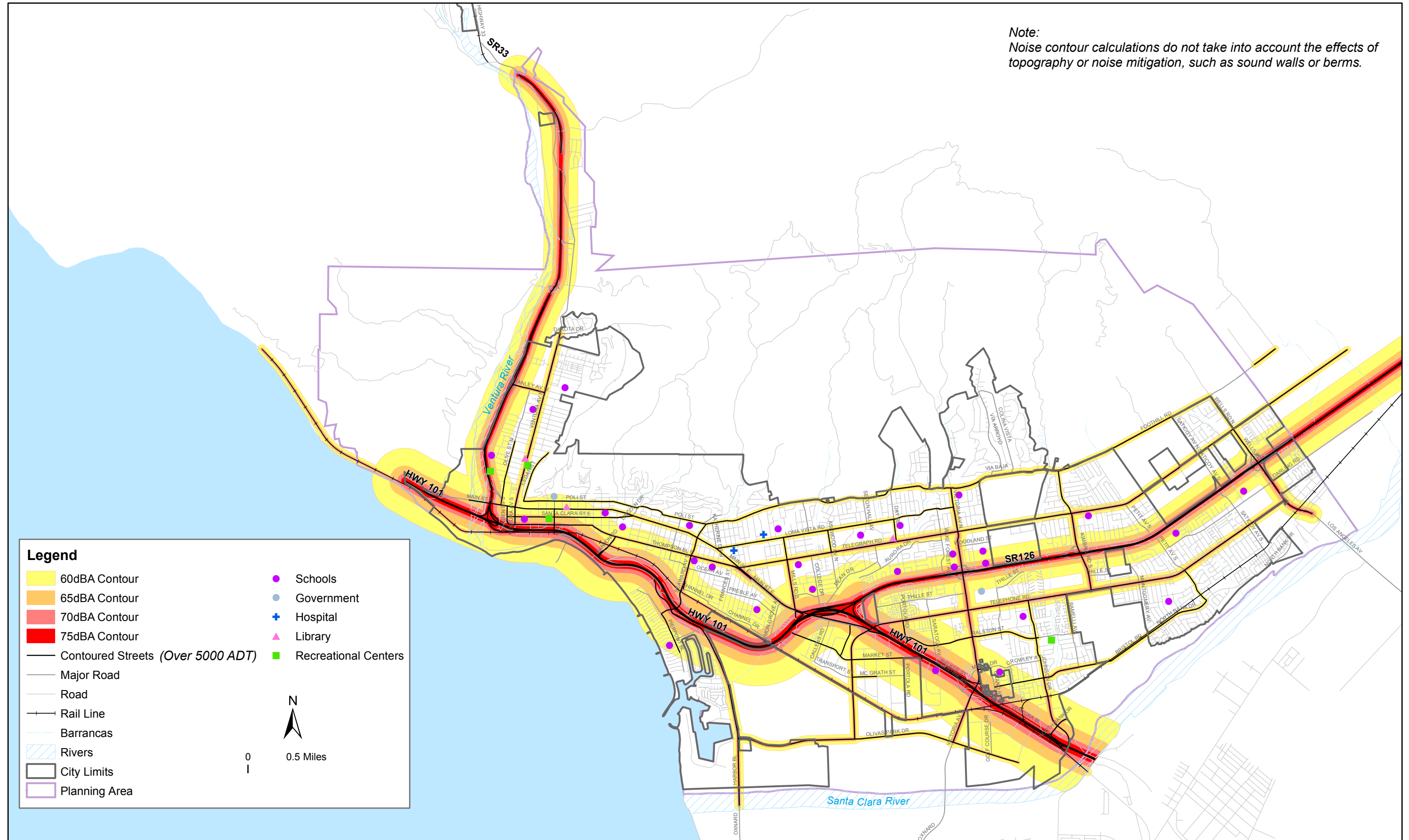


Section 4.10 Noise

Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
	sensitive uses to excessive noise. Impacts are Class II, significant but mitigable.	expansion areas reduces the potential for noise conflicts. Impacts are Class II, significant but mitigable.	not occur. Impacts are Class II, significant but mitigable.	not occur. Impacts are Class II, significant but mitigable.	Western Cañada Larga expansion areas could be exposed to industrial noise. Impacts are Class II, significant but mitigable.	expansion areas reduces the potential for noise conflicts. Impacts are Class II, significant but mitigable.
Rail Noise (Impact N-4)	Development of noise-sensitive land uses near the UPRR corridor may result in noise impacts. Compliance with Action 7.32 reduces noise impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. The UPRR railroad may affect sensitive uses in the Olivas expansion area. Compliance with Action 7.32 reduces impacts to Class III, less than significant.	Impacts similar to Scenario 2. Compliance with Action 7.32 reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas would not be exposed to railroad noise. Compliance with Action 7.32 reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas would not be exposed to railroad noise. Compliance with Action 7.32 reduces impacts to Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas would not be exposed to railroad noise. Compliance with Action 7.32 reduces impacts to Class III, less than significant.
Noise-generating Recreational Uses (Impact N-5)	Continued operation of the Ventura Shooting Range and the Ventura Raceway may be audible at some residential locations. However, because noise levels are within thresholds, impacts are considered Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are not subject to recreational noise sources. Impacts are Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are not subject to recreational noise sources. Impacts are Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are not subject to recreational noise sources. Impacts are Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are not subject to recreational noise sources. Impacts are Class III, less than significant.	Intensification/reuse impacts similar to Scenario 1. Expansion areas are not subject to recreational noise sources. Impacts are Class III, less than significant.





Source: City of San Buenaventura and Rincon Consultants, Inc., 2002.
 Noise contours are based on existing traffic volumes estimated by Austin Faust Associates (2005).

Existing Noise Contours (CNEL)

Figure 4.10-3
 City of Ventura

Section 4.10 Noise



Source: City of Ventura and Rincon Consultants, Inc., 2005.
Noise contours are based upon 2025 traffic volumes estimated by Austin-Foust Associates (2005).

Future Noise Contours (CNEL)

Figure 4.10-4

City of Ventura

is to identify areas where noise is a potential concern. In many instances, actual sound levels may be lower than shown on Figure 4.10-4 and mitigation may not be required in all cases.

The 2005 General Plan would accommodate development of new residential uses (and other sensitive receptors) in areas exceeding the 60 dBA CNEL noise standard. In addition, projected traffic growth would increase noise levels along area roadways.

General Plan Action 7.32 requires an acoustical analysis and mitigation prior to development of any residential development within the 60 dBA CNEL contour, as shown on Figure 4.10-4, and incorporation of appropriate mitigation to reduce exterior noise at residences to 65 dBA CNEL or lower and reduce interior noise levels at residences to 45 dBA CNEL or lower. In addition, Action 7.33 calls for the construction of sound walls along U.S. 101, SR 126, and SR 33 in areas where existing residences are exposed to exterior noise exceeding 65 dBA CNEL, as funding becomes available.

Scenario 1 - Intensification/Reuse Only

As discussed in Section 4.12, *Transportation and Circulation*, overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 18.7% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. A large portion of the Planning Area is already within the 60 dBA CNEL contour, and in the 2025 scenario, a larger portion of the Planning Area would potentially be exposed to noise levels of 60 dBA CNEL or higher. Noise levels are and would remain highest along portions of U.S. 101, SR 126, and SR 33 that lack sound walls.

For areas where noise levels already exceed the City's 65 dBA CNEL exterior standard for residential uses, growth accommodated under Scenario 1 would further this exceedance. However, the increase in noise associated with traffic increases of 25% or less would be less than 1 dBA, an increase that would not be audible to most listeners and is less than the FICON standards described above (3 dBA increase if ambient noise is 60-65 dBA CNEL and 1.5 dBA increase if ambient noise exceeds 65 dBA CNEL). The possible extensions of roadways such as Floral Drive, Cedar Street, and North Bank Drive would create a new noise source for adjacent residences; however, the relatively low traffic volumes anticipated for these road extensions would not be expected to generate noise exceeding City standards. Thus, although traffic growth would increase overall noise exposure in the community, increased exposure to noise generally is not considered a significant impact of growth accommodated under this scenario. The possible exception is North Ventura Avenue, which could potentially experience noise level increases of over 1.5 dBA. Such increases would affect relatively few sensitive receivers; nevertheless, this is considered a potentially significant impact.

Much of the future development that could be accommodated within districts, corridors, and neighborhood centers would be located along main travel corridors with relatively high noise levels. With the exception of portions of the Arundell district, all residential development within districts and corridors would potentially be exposed to noise exceeding 60 dBA CNEL. Noise levels in portions of the Downtown, North Avenue, Upper North Avenue, Arundell, North Bank, and Montalvo districts are projected to exceed 65 dBA CNEL. Noise levels along portions of the Main Street, Thompson Boulevard, Telegraph Road, Victoria Avenue, Johnson

Drive, and Wells Road corridors may also exceed 65 dBA CNEL. Redesignation of industrial properties adjacent to SR 33 in West Ventura for residential use could also expose residences to noise over 65 dBA CNEL. Exposure to excessive noise levels in these areas would be addressed through Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Depending upon the project and location, mitigation could consist of site design to shield exterior areas, construction of sound walls or other barriers, and/or incorporation of building features (double paned windows, solid core doors, special building materials) that reduce interior noise. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Traffic noise impacts to existing uses would be similar to those described under Scenario 1. Overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 22.5% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. Certain areas of the City - notably, areas adjacent to U.S 101, SR 126, and SR 33 that lack sound walls - will continue to be exposed to noise exceeding 65 dBA CNEL. However, the increase in noise associated with future traffic increases is generally expected to be less than 1 dBA, which is less than the FICON standards described above. Noise sensitive uses are not located adjacent to most of the roads projected to experience higher increases in traffic and associated noise, such as Olivas Park Drive, Wells Road, Stanley Avenue, Mills Road south of Telegraph Road, and Victoria Avenue south of U.S. 101. Thus, although noise levels may audibly increase on these roads, such increases would not substantially affect noise sensitive uses.

An approximately 50% increase in traffic is projected on the segment of Kimball Road between SR 126 and Telephone Road as the extension of Kimball Road that would accompany Serra area development attracts traffic to that roadway. This could generate noise level increases of over 1.5 dBA; however, the only noise-sensitive uses along that road segment (single family residences along the east side of Kimball Road) are protected by a sound wall. A relatively high increase in traffic - approximately 44% - is also projected along Harbor Boulevard south of Seaward Avenue (which is fronted by residential uses). However, the noise level increase associated with such an increase is estimated at 1.2 dBA, which is less than the 1.5 dBA threshold that would apply along that roadway.

Although traffic growth would increase overall noise exposure in the community, increased exposure to noise generally is not considered a significant impact of growth accommodated under this scenario. As with Scenario 1, the potential exception is North Ventura Avenue. Noise level increases of more than 1.5 dBA could occur along that roadway, which is a potentially significant impact. Implementation of 2005 General Plan Action 7.33 could potentially address exposure of existing residences to freeway noise through construction of sound walls along U.S. 101, SR 126, and SR 33 where residences are exposed to noise exceeding 65 dBA CNEL.

Similar to Scenario 1, much of the future development that could be accommodated within districts, corridors, and neighborhood centers under this scenario would be located along main travel corridors with relatively high noise levels. In addition, as shown on Figure 4.10-4, portions of the North Avenue, Olivas, and Serra expansion areas would also be exposed to noise in excess of 60 dBA CNEL. The westernmost portion of the North Avenue expansion area and the northernmost portion of the Olivas expansion area would potentially be exposed to noise in excess of 65 dBA CNEL. Exposure to excessive noise levels would be addressed through the General Plan Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts to existing uses related to traffic growth would be similar to those described under Scenario 1. Overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 21.9% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. Certain areas of the City – notably, areas adjacent to U.S 101, SR 126, and SR 33 that lack sound walls – will continue to be exposed to noise exceeding 65 dBA CNEL. However, the increase in noise associated with future traffic increases is generally expected to be less than 1 dBA, which is less than the FICON standards described above. As with Scenario 2, a relatively high increase in traffic – approximately 52% - is projected along Harbor Boulevard south of Seaward Avenue (which is fronted by residential uses). However, the noise level increase associated with such an increase is estimated at 1.3 dBA, which is less than the 1.5 dBA threshold that would apply along that roadway.

Traffic growth would increase overall noise exposure in the community, but increased exposure to noise generally is not considered a significant impact of growth accommodated under this scenario. As with Scenarios 1 and 2, the potential exception is North Ventura Avenue. Noise level increases of more than 1.5 dBA could occur along that roadway, which is a potentially significant impact. Implementation of General Plan Action 7.33 could address exposure of existing residences to freeway noise through construction of sound walls along U.S. 101, SR 126, and SR 33 where residences are exposed to noise exceeding 65 dBA CNEL.

Similar to Scenario 1, much of the future development that could be accommodated within districts, corridors, and neighborhood centers under this scenario would be located along main travel corridors with relatively high noise levels. In addition, as shown on Figure 4.10-4, portions of the North Avenue and Olivas expansion areas would also be exposed to noise in excess of 60 dBA CNEL. The westernmost portion of the North Avenue expansion area and the northernmost portion of the Olivas expansion area would potentially be exposed to noise in excess of 65 dBA CNEL. Exposure to excessive noise levels would be addressed through the General Plan Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts to existing uses related to traffic growth would be similar to those described under Scenario 1. Overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 21.7% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. Certain areas of the City – notably, areas adjacent to U.S 101, SR 126, and SR 33 that lack sound walls – will continue to be exposed to noise exceeding 65 dBA CNEL. However, the increase in noise associated with future traffic increases is generally expected to be less than 1 dBA, which is less than the FICON standards described above. Noise sensitive uses are not located adjacent to most of the roads projected to experience higher increases in traffic and associated noise, such as Olivas Park Drive, Wells Road, Stanley Avenue, and Victoria Avenue south of U.S. 101. Noise levels may audibly increase on these roads, but such increases would not substantially affect noise sensitive uses. Similar to Scenario 2, Kimball Road between SR 126 and Telephone Road would experience an approximately 50% increase in traffic under this scenario. This could generate noise level increases of over 1.5 dBA; however, the only noise-sensitive uses along that road segment (single family residences along the east side of Kimball Road) are protected by a sound wall.

Traffic growth would increase overall noise exposure in the community, but increased exposure to noise generally is not considered a significant impact of growth accommodated under this scenario. As with Scenarios 1-3, the potential exception is North Ventura Avenue. Noise level increases of more than 1.5 dBA could occur along that roadway, which is a potentially significant impact. Implementation of 2005 General Plan Action 7.33 could address exposure of existing residences to freeway noise through construction of sound walls along U.S. 101, SR 126, and SR 33 where residences are exposed to noise exceeding 65 dBA CNEL.

Similar to Scenario 1, much of the future development that could be accommodated within districts, corridors, and neighborhood centers under this scenario would be located along main travel corridors with relatively high noise levels. In addition, as shown on Figure 4.10-4, portions of the North Avenue and Serra expansion areas would be exposed to noise in excess of 60 dBA CNEL. The westernmost portion of the North Avenue expansion area would potentially be exposed to noise in excess of 65 dBA CNEL. Exposure to excessive noise levels would be addressed through the 2005 General Plan Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts to existing uses related to traffic growth would be similar to those described under Scenario 1. Overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 20.6% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. Certain areas of the City – notably, areas adjacent to U.S 101, SR 126, and SR 33 that lack sound walls – will continue to be exposed to noise exceeding 65 dBA CNEL. However, the increase in noise associated with future traffic increases is generally expected to

be less than 1 dBA, which is less than the FICON standards described above. Noise sensitive uses are not located adjacent to most of the roads projected to experience higher increases in traffic and associated noise, such as Olivas Park Drive, Wells Road, Stanley Avenue, and Victoria Avenue south of U.S. 101. Although noise levels may audibly increase on these roads, such increases would not substantially affect noise sensitive uses. Traffic levels are projected to more than double along Ventura Avenue north of Shell Road under this scenario, from about 6,000 ADT to 15,000 ADT. This would increase noise along that road segment by more than 3 dBA, which is a potentially audible increase. Although the number of sensitive uses along that roadway is limited, residential development fronting Ventura Avenue would potentially be exposed to noise exceeding the 1.5 dBA threshold. Implementation of General Plan Action 7.33 could reduce overall noise exposure of existing residences in the North Avenue area through construction of a sound wall along SR 33; however, because there is no assurance that funding would be available for a sound wall, impacts associated with this scenario are considered significant.

Similar to Scenario 1, much of the future development that could be accommodated within districts, corridors, and neighborhood centers under this scenario would be located along main travel corridors with relatively high noise levels. In addition, as shown on Figure 4.10-4, most of the North Avenue and Western Cañada Larga expansion areas would be exposed to noise in excess of 60 dBA CNEL and portions of both expansion areas would potentially be exposed to noise in excess of 65 dBA CNEL. Exposure to excessive noise levels would be addressed through the 2005 General Plan Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts to existing uses related to traffic growth would be similar to those described under Scenario 1. Overall citywide growth in average daily traffic (ADT) through 2025 is estimated at 21.7% under this scenario. Traffic growth would be somewhat higher or lower on certain roadways, but most of the roadways in the Planning Area are projected to experience traffic growth of 25% or less. Certain areas of the City – notably, areas adjacent to U.S 101, SR 126, and SR 33 that lack sound walls – will continue to be exposed to noise exceeding 65 dBA CNEL. However, the increase in noise associated with future traffic increases is generally expected to be less than 1 dBA, which is less than the FICON standards described above. Noise sensitive uses are not located adjacent to most of the roads projected to experience higher increases in traffic and associated noise, such as Olivas Park Drive, Wells Road, Stanley Avenue, and Victoria Avenue south of U.S. 101. Although noise levels may audibly increase on these roads, such increases would not substantially affect noise sensitive uses. Victoria Avenue would experience a substantially greater increase in traffic and related noise under this scenario than the other scenarios, with overall projected traffic increases of more than 40% on some segments. This would increase noise exposure as compared to the other scenarios; however, the increase would still be about 1 dBA, which is less than the 1.5 dBA threshold.

Impacts associated with traffic noise increases generally would not be significant under this scenario. As with the other scenarios, one potential exception is North Ventura Avenue. Noise

level increases of more than 1.5 dBA could occur along that roadway, which is a potentially significant impact. In addition, it is assumed that Johnson Drive would be extended across SR 126 to Foothill Road under this scenario. This road extension would be expected to substantially increase traffic levels along the length of Johnson Drive as that roadway would provide a direct link between SR 126 and U.S. 101. The new segment north of Telephone Road would handle a projected 32,000 ADT in 2025, while the traffic level is projected to more than double (from 10,000 ADT existing to 26,000 ADT in 2025) under this scenario. It is anticipated that sound walls would be constructed along new segments, but noise levels would increase by more than 3 dBA along the existing segments of Johnson Drive, portions of which are fronted by single and multiple family residences. This is a significant impact. It should be noted that the extended Johnson Drive anticipated under this scenario would be expected to divert traffic from portions of Foothill Road and Kimball Road, thus reducing noise levels along those roadways.

Similar to Scenario 1, much of the future development that could be accommodated within districts, corridors, and neighborhood centers under this scenario would be located along main travel corridors with relatively high noise levels. In addition, as shown on Figure 4.10-4, portions of the North Avenue and Poinsettia expansion areas would be exposed to noise in excess of 60 dBA CNEL. The westernmost portion of the North Avenue expansion area would potentially be exposed to noise in excess of 65 dBA CNEL. The southernmost portion of the Poinsettia expansion area adjacent to SR 126 would also be exposed to noise exceeding 65 dBA CNEL. Exposure to excessive noise levels would be addressed through 2005 General Plan Action 7.32, which requires acoustical analysis for projects within areas exposed to noise levels exceeding 60 dBA CNEL and implementation of appropriate mitigation to reduce exterior noise levels to below 65 dBA CNEL and interior levels to below 45 dBA CNEL. Compliance with this action would reduce noise impacts for future developments to a less than significant level.

MITIGATION MEASURES

Compliance with existing regulations and proposed 2005 General Plan policies and actions would reduce potential noise impacts in most locations to a less than significant level. Construction of a sound wall along SR 33 as indicated under General Plan Action 7.33 could address noise exposure along North Ventura Avenue by reducing noise from the nearby SR 33. However, because funding and construction of a sound wall cannot be assured and such mitigation is not available for the potential significant impact along Johnson Drive under Scenario 6, the following measure is recommended.

N-1 Rubberized Asphalt. The following action shall be added to the 2005 General Plan to reduce general traffic noise:

- As feasible, use rubberized asphalt or other sound reducing material for paving and re-paving of City streets.

Studies have indicated that rubberized asphalt can reduce overall roadway noise by 3-5 dBA as compared to conventional asphalt.

SIGNIFICANCE AFTER MITIGATION

Roadway noise levels would generally rise as traffic levels increase under any of the General Plan land use scenarios. However, implementation of proposed policies and actions, in combination with the additional action recommended above, would reduce impacts associated with projected development to a less than significant level for any of the six land use scenarios. It is presumed that use of rubberized asphalt or other noise attenuation methods would be feasible for Ventura Avenue (which could experience a significant noise increase under any scenario) and Johnson Drive (which could experience a significant noise increase under Scenario 6).

Impact N-2	Construction of individual projects throughout the Planning Area could intermittently generate high noise levels under any of the land use scenarios. This may affect sensitive receptors near construction sites. However, compliance with Noise Ordinance restrictions on construction timing would reduce this impact to a Class III, <i>less than significant</i> level.
-------------------	---

Construction noise from individual projects through 2025 could have noise impacts on adjacent noise-sensitive land uses. Since there are no specific plans or time scales for individual development projects, it is not possible to determine exact noise levels, locations, or time period for construction.

As shown in Table 4.10-5, the noise level associated with heavy equipment typically ranges from about 78 to 88 dBA at 50 feet from the source. Such noise levels can be disturbing, particularly to noise-sensitive uses such as residences, schools, and hospitals. The grading/excavation phase of project construction tends to create the highest construction noise levels because of the operation of heavy equipment.

Noise levels similar to those shown in Table 4.10-5 would be expected to occur with individual development projects under any of the land use scenarios. Impacts related to intensification/reuse would be essentially the same under any of the six scenarios and could occur throughout the Planning Area. Noise levels due to construction activity in expansion areas would also be similar. Development of the Serra and Poinsettia expansion areas would have the highest likelihood of creating noise disturbance because of their proximity to noise-sensitive uses (residences for Serra, residences and schools for Poinsettia).

Section 10.650.150 of the Ventura Noise Ordinance exempts construction activities from the standards shown in Table 4.10-1 in the *Setting*, provided that they are conducted between 7 A.M. and 8 P.M. Assuming compliance with these timing restrictions, noise associated with construction of individual projects would not be significant.

MITIGATION MEASURES

Compliance with the Ventura Noise Ordinance would reduce temporary impacts associated with construction noise to less than significant.



**Table 4.10-5
 Typical Noise Levels at Construction Sites**

Construction Phase	Average Noise Level at 50 Feet	
	Minimum Required Equipment On-Site	All Pertinent Equipment On-Site
Clearing	84 dBA	84 dBA
Excavation	78 dBA	88 dBA
Foundation/Conditioning	88 dBA	88 dBA
Laying Subbase, Paving	78 dBA	79 dBA
Finishing and Cleanup	84 dBA	84 dBA

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, 1971.

SIGNIFICANCE AFTER MITIGATION

Any of the scenarios would accommodate construction activity that would potentially create temporary noise disturbance to uses adjacent to individual construction sites. However, assuming compliance with the City Noise Ordinance, impacts would be less than significant for any of the six scenarios.

Impact N-3 **The placement of residential and other noise-sensitive uses in proximity to industrial and commercial uses could potentially expose such uses to high noise levels. The City Noise Ordinance restrictions do not apply to noise-sensitive uses within commercial or industrial zones. Therefore, impacts would be Class II, significant but mitigable, for any of the six land use scenarios.**

Commercial and industrial activity can produce noise from heavy traffic, deliveries, and machinery. While industrial activity primarily occurs along Ventura Avenue and parts of the Arundell District, commercial activity occurs throughout the City, particularly along major roadways. Agricultural operations produce noise associated with equipment such as aerial application aircrafts (crop dusters), diesel engines, and tractors. Many of these noise sources are related to seasonal operations. Development of residential uses adjacent to or near industrial, commercial, or agricultural uses could result in potential impacts due to noise from these operations.

The City of Ventura Noise Ordinance (Municipal Code § 10.650) prohibits unnecessary, excessive, or annoying noise in the City. As part of this ordinance, properties within the City are assigned a noise zone based on their corresponding land use. Properties zoned for residential and other noise-sensitive uses have an exterior noise limit of 50 dBA, commercially zoned properties have an exterior noise limit of 60 dBA, and industrially/agriculturally zoned properties have an exterior noise limit of 70 dBA.



Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of properties within the existing developed City. Mixed use development accommodated under this scenario could involve the development of residential uses in proximity to industrial and commercial uses, particularly along the Ventura Avenue, Thompson Boulevard, and Main Street corridor, within the Downtown District, and near the Pacific View Mall District. As noted above, the City Noise Ordinance has exterior noise limits of 50 dBA for residential zones, but allows noise of up to 60 dBA and 70 dBA for industrial zones. As such, residential projects or residential components of mixed use projects within commercial or industrial zones could be exposed to exterior noise exceeding residential limits. This is a potentially significant impact.

Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra

Intensification/reuse impacts would be similar to those described for Scenario 1 and are considered potentially significant. In addition, this scenario includes three expansion areas: North Avenue, Olivas, and Serra. Development of these expansion areas with urban uses would reduce conflicts associated with the agricultural/residential interface, though development of the Olivas expansion area could add noise sensitive uses adjacent to remaining agricultural activity to the east and south. None of the expansion areas are anticipated to include industrial uses; however, each of the areas, if developed in the future, is expected to include a mix of residential and commercial uses. The placement of residential uses adjacent to commercial uses could potentially create noise conflicts relating to commercial operations (loading docks, parking lots, evening activity). However, provided that the City Noise Ordinance continues to be enforced, noise impacts would not be significant.

Scenario 3 - Intensification/Reuse + North Avenue + Olivas

Impacts associated with this scenario would be similar to those described for Scenario 2 except that agricultural operations in the Serra area would remain. Noise impacts are considered potentially significant.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts associated with this scenario would be similar to those described for Scenario 2 except that agricultural operations in the Olivas area would remain. Noise impacts are considered potentially significant.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Intensification/reuse impacts would be similar to those described for Scenario 1 and are considered potentially significant. Under Scenario 5, mixed residential and commercial development could occur within North Avenue and Western Cañada Larga expansion areas. While this may result in reduced potential conflict between the agricultural/residential interface, impacts may still occur if residential development is proposed near industrial or commercial operations. In the portion of the Western Cañada Larga expansion area west of SR 33, residential development could potentially be affected by industrial activity within the adjacent Upper North Avenue district.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Intensification/reuse impacts would be similar to those described for Scenario 1 and are considered potentially significant. Development of the North Avenue and Poinsettia expansion areas with urban uses would reduce conflicts associated with the agricultural/residential interface. Neither of the expansion areas are anticipated to include industrial uses; however, each of the areas, if developed in the future, is expected to include a mix of residential and commercial uses. The placement of residential uses adjacent to commercial uses could potentially create noise conflicts relating to commercial operations (loading docks, parking lots, evening activity).

MITIGATION MEASURES

The following measure is required for any of the six land use scenarios.

N-3 Noise Ordinance Update. The following action shall be added to the 2005 General Plan:

- Update the Noise Ordinance in conjunction with the new development code to provide noise standards for residential projects and residential components of mixed use projects within commercial and industrial zones.

SIGNIFICANCE AFTER MITIGATION

Update of the Noise Ordinance and enforcement of new standards for residential projects within commercial and industrial zones would reduce impacts to a less than significant level.

<p>Impact N-4 Noise-sensitive land uses near the UPRR corridor may be exposed to noise exceeding City noise standards. However, proposed General Plan actions require acoustical analysis for any development in an area with a built within the 60 dBA CNEL contour. Therefore, impacts due to railroad noise are considered Class III, less than significant, for all six scenarios.</p>

The use of the corridor for rail traffic causes high noise levels intermittently as trains pass through the City. Freight trains can be louder than passenger trains because they typically use more engines and contain more rail cars. Residences and other sensitive land uses already located along the rail line would experience high noise levels from train traffic. Noise contours for the Union Pacific Railroad are shown on Figure 4.10-4. Generally, areas within about 240 feet of the railroad tracks are within the 60 dBA CNEL contour.

The 2005 General Plan contains a policy that would reduce excessive noise exposure to existing and proposed residential uses. Action 7.32 requires an acoustical analysis and mitigation prior to development of any residential development within the 60 dBA contour, as shown on Figure 4.10-4.

Scenario 1 - Intensification/Reuse Only

Scenario 1 emphasizes intensification and reuse of properties within the existing developed City and does not include expansion areas. The UPRR railroad corridor generally follows the same area as the 60 dBA contour generated from U.S. 101 traffic. Any proposed residential development within the 60 dBA railroad corridor, where the alignment follows U.S. 101 would be subject to noise from the railroad. Districts and corridors that are potentially subject to railroad noise include Downtown, Thompson Boulevard, Arundell, North Bank, Montalvo, and Johnson Drive. Noise from individual trains may be disturbed to noise-sensitive receivers. However, compliance with the requirements for acoustical analysis and mitigation in Action 7.32 would reduce noise impacts to a less than significant level.

Scenarios 2 and 3

Intensification/reuse impacts would be similar to those described for Scenario 1. Potential development in either the North Avenue or Serra expansion areas would not be affected by railroad noise. However, either of these scenarios would accommodate development in the Olivas expansion area. The UPRR railroad is adjacent to the eastern boundary of the Olivas expansion area, and noise-sensitive development proposed within the 60 dBA contour of the railroad may incur impacts due to railroad noise. However, compliance with Action 7.32 would reduce noise impacts to a less than significant level.

Scenarios 4, 5, and 6

Intensification/reuse impacts would be similar to those described for Scenario 1. The North Avenue, Western Cañada Larga, and Poinsettia expansion areas are not subject to railroad noise. Compliance with Action 7.32 would reduce noise impacts to a less than significant level.

MITIGATION MEASURES

None required assuming implementation of 2005 General Plan Action 7.32.

SIGNIFICANCE AFTER MITIGATION

Implementation of 2005 General Plan Action 7.32 would reduce impacts to a less than significant level for any of the six scenarios.

Impact N-5	Operation of recreational uses, including the Ventura County Fairgrounds, Ventura Shooting Range, and the Ventura Raceway could continue to create noise disturbance for existing and planned noise-sensitive uses. City policies pursue termination, relocation, or restriction of these noise-generating activities. Impacts due to recreational uses are considered Class III, <i>less than significant</i>.
-------------------	--

The Ventura Raceway at Seaside Park hosts auto races on Saturday evenings. Engine sounds can be heard through much of Downtown, Midtown, and West Ventura, and residents have expressed



a high level of annoyance. A measurement taken near the end of S. Figueroa Street (Site 34) during a race registered maximum noise levels of 80.1 dBA. Noise levels associated with racing do not exceed community standards based on the CNEL, but are a source of noise disturbance to some residents in nearby neighborhoods.

The outdoor Ventura Shooting Range in the northern part of Grant Park has been the source of occasional noise complaints. As discussed in the Setting, noise from the Ventura Shooting Range resulted in noise levels that varied from 71-74 dBA during the Pistol Range Sound Test in 1998. Noise readings from the community noise survey, however, resulted in noise levels ranging from 45.6 dBA to 62.7 dBA at nearby locations. The lower noise levels are likely the result of noise walls that were built since the Pistol Sound Test was conducted. Nevertheless, the Shooting Range is a source of disturbance to some residents in the Westside and Downtown areas.

The 2005 General Plan includes actions to address noise from the Fairgrounds. Action 7.34 requests that the 31st Agricultural District limit sound levels associated with concerts to 70 dBA at the eastern edge of the Ventura County Fairgrounds. Action 7.35 requests that auto racing be discontinued at the Fairgrounds.

Scenario 1 - Intensification/Reuse Only

Portions of the Downtown District and the Ventura Avenue corridor are within areas where noise emanating from the Ventura Shooting Range, located in Grant Park is audible. Southwestern areas within the Downtown District are exposed to noise from the Ventura County Fairgrounds and the Ventura Raceway at Seaside Park. Therefore, new residential development that could be accommodated in the Ventura Avenue corridor and the Downtown district may be subject to noise associated with these activities.

The maximum noise levels for the Shooting Range and the Ventura Raceway described in the Setting may cause periodic disturbance to sensitive receivers. However, such noise events occur only periodically and do not exceed community standards based upon the CNEL (a time-weighted 24-hour average sound level). Therefore, impacts associated with the Shooting Range and the Ventura Raceway are not considered significant. Nevertheless, as discussed above, the 2005 General Plan includes actions requesting the termination of auto racing at the Fairgrounds and requesting sound limitations on Fairgrounds concerts. As discussed in the *Setting*, the Shooting Range will be closed to the public in January 2006. Although the Shooting Range will continue to be used by the Ventura Police Department, it is anticipated that the frequency of noise events will decline after that time.

Scenarios 2 through 6

Intensification/reuse impacts would be similar to those of Scenario 1 and are not considered significant. None of the expansion areas are subject to noise impacts from either the Ventura Shooting Range or the Fairgrounds.

MITIGATION MEASURES

Impacts are not significant for any scenario. Therefore, mitigation is not required.



Implementation of proposed 2005 General Plan policies may eliminate and/or reduce noise associated with activities at the Ventura Fairgrounds.

SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant for any of the six land use scenarios. Implementation of proposed actions could reduce potential noise disturbance associated with activities at the Ventura Fairgrounds.



4.11 PUBLIC SERVICES

This section assesses potential impacts to public services, including fire and police protection, public schools, libraries, parks, and solid waste collection and disposal. Impacts to water and wastewater infrastructure are discussed in Section 4.13, *Utilities and Service Systems*.

4.11.1 Setting

a. Fire Protection and Emergency Medical Service.

Personnel, Facilities, and Equipment. The City of Ventura Fire Department (VFD) provides fire protection services to areas within the City's corporate boundary. The VFD responds to fire, rescue, medical, and hazardous materials emergencies. The VFD operates six fire stations in Ventura, with administrative offices at 1425 Dowell Drive. Figure 4.11-1 shows the locations of fire stations serving the City.

The VFD is comprised of three Divisions – Operations, Administration, and Inspection Services. The Operations Division is responsible for activities and emergency responses of the Department's firefighting force. Station 5, the most centrally located (near the intersection of U.S. 101 and SR 126), has a truck company and engine company. In addition, there is one battalion chief on duty at a time (assigned as the shift manager). The shift manager's quarters are adjacent to Station 2. The VFD plans to relocate Fire Station #4 from its current location at 8303 Telephone Road to the Community Park property located at the corner of Telephone Road and Kimball Road.

Fire Administration is made up of the Fire Chief and his support staff. Their offices are located in the Police/Fire Headquarters, located at 1425 Dowell Drive, Ventura, CA 93003. Their primary responsibility is to oversee all aspects of the delivery of services and ensure the smooth function of the Fire Department.

Inspection Services consists of the Construction Services and Preservation Services Divisions. The Inspection Services Division oversees all phases of new building construction, performs a variety of inspections, and provides code enforcement. Construction Services provides building permit plan check, permit issuance, and inspection services for new buildings, additions, and tenant improvements. Preservation Services is responsible for: code enforcement to support the enforcement of policies and programs within the Public Works, Community Development, Fire and Administrative Services Departments; fire prevention services to provide fire alarm and fire sprinkler plan review, permitting, and inspection; annual State Fire Marshal inspections of high-rise, institutional, and educational occupancies; facilitation of a complete weed abatement program; and, coordinating the City's hazardous materials enforcement program. The City's Building Official/Fire Marshal is the manager of the Inspection Services Division and reports directly to the Fire Chief. The Inspection Services Division is staffed with non-sworn, civilian personnel. When needed, Ventura residents obtain fire permits and hazardous materials permits through the Fire Department.

The VFD maintains a hazardous materials response team (haz-mat team), which is handled as a collateral assignment by one of VFD's engine companies. The haz-mat team is specially trained



to respond to hazardous materials incidents with the requisite equipment, monitoring devices, and personal protection.

The VFD is staffed by 105.5 full-time employees, including 73 sworn firefighters, 3 support staff, and 29.5 employees in the Inspection Services Division. Of the 29.5 Inspection Services employees, 12 are primarily responsible for enforcing the Fire Code. The remaining 17.5 are primarily responsible for enforcing the Building Code.

The VFD has not officially adopted a standard for firefighter staffing levels; however, for jurisdictions that are comparable in size and population to the City of Ventura, staffing levels are typically about 0.98 fire fighters per 1,000 residents (Chief Mike Lavery, January 2005). The VFD is currently operating at approximately 0.69 firefighters per 1,000 residents.¹ Currently, staffing levels are stretched to provide fire protection services for today's population. Growth within the City will require additional personnel in order to meet future fire service demands (Chief Mike Lavery, January 2005).

Emergency Response. Response times vary (at least in part) according to fire personnel staffing levels, the placement of fire stations in relation to service areas, and the density/layout of land uses and development within a service area. The VFD has a response time goal of four minutes (for at least 90% of its responses); however, response times in certain areas of the City currently exceed four minutes. The Ventura Harbor area and surrounding neighborhoods, the Montalvo area, Johnson Drive/101, and the Auto Center currently do not meet VFD standards. For example, response times from Station #2 can be 10 minutes or more, especially for emergencies located at the end of Spinnaker Drive. In addition, response times from Fire Station #1 typically exceed four minutes for areas located north/northeast of the North Ventura Avenue and Seneca Drive intersection (Chief Mike Lavery, January 2005). The VFD has tentative plans to build a new fire station to serve the Ventura Harbor area. If annexation or significant development occurs North of Seneca Drive, evaluation of those development impacts on fire services will need to be undertaken.

Potential wild fire hazard areas present additional challenges to the VFD. Grass and brush, with scattered oak at lower elevations, are located on the Ventura hillsides and extend down into barrancas within the City. The general lack of rain from May to November causes this vegetation to become very dry, creating high fire hazards in the hillsides (see Figure 4.11-2). The California Department of Forestry has indicated this rating should be considered an average for the area, rather than a delineation of exact conditions. Variations in slope, weather, fuel load, aspect, elevation, and air movement may influence hazard conditions in a specific location. Risk to any individual structure also depends on factors such as access, water supply, clearance, and structural characteristics.

A number of residential areas in Ventura are located in, and adjacent to, the hazardous wildfire area. These include the residential developments located on and adjacent to hillsides in the Poinsettia, Arroyo Verde, Catalina, Downtown, and Ventura Avenue communities. Historical fires in the hills directly north of the City include: the 1956 Sexton Canyon Fire and the 1970

¹ Unlike the VFD, most fire protection districts do not include a building division that is responsible for enforcing the Uniform Building Code (which is typically found in public works or planning departments). As such, the 0.69 firefighters/1,000 residents ratio only includes the 73 sworn firefighters and is based on the 2004 City population of 104,952 residents.



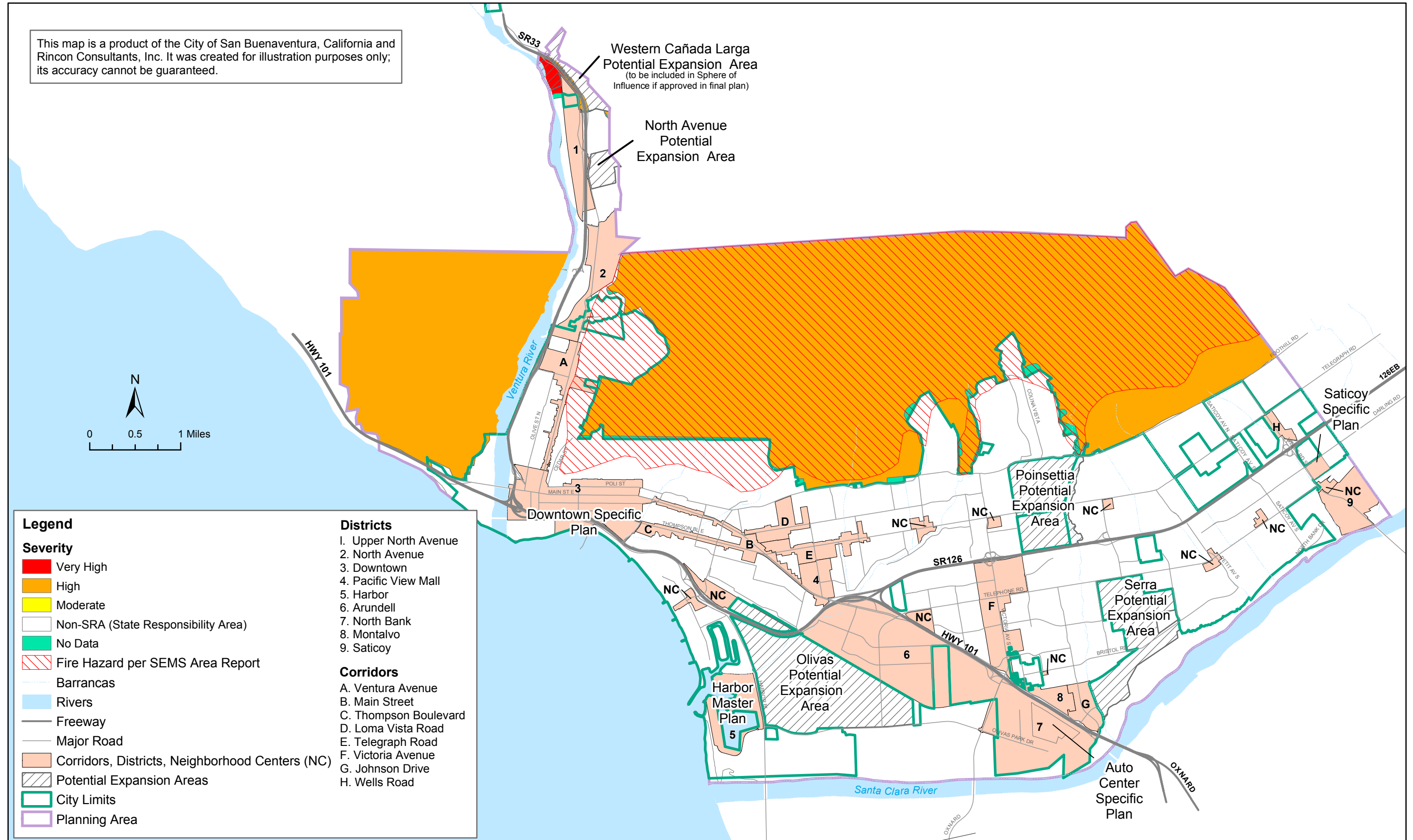


Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Police and Fire Stations

Figure 4.11-1
 City of Ventura

This map is a product of the City of San Buenaventura, California and Rincon Consultants, Inc. It was created for illustration purposes only; its accuracy cannot be guaranteed.



Legend

Severity

- Very High
- High
- Moderate
- Non-SRA (State Responsibility Area)
- No Data
- Fire Hazard per SEMS Area Report
- Barrancas
- Rivers
- Freeway
- Major Road
- Corridors, Districts, Neighborhood Centers (NC)
- Potential Expansion Areas
- City Limits
- Planning Area

Districts

1. Upper North Avenue
2. North Avenue
3. Downtown
4. Pacific View Mall
5. Harbor
6. Arundell
7. North Bank
8. Montalvo
9. Saticoy

Corridors

- A. Ventura Avenue
- B. Main Street
- C. Thompson Boulevard
- D. Loma Vista Road
- E. Telegraph Road
- F. Victoria Avenue
- G. Johnson Drive
- H. Wells Road

Source: City of San Buenaventura, 2005, California Department of Forestry and Fire Protection, 1985, and Rincon Consultants, Inc., 2005.

Wildfire Risk Areas

Figure 4.11-2
 City of Ventura

Foothill Fire, which burned homes in Ventura; the 1992 Seneca Fire that originated near a west Ventura apartment complex and reached the edge of Hall Canyon, burning 529 acres; and the 1996 Poli Fire that originated near Grant Park and burned 362 acres. If a fire requires more than City resources to suppress, mutual aid agreements in effect with neighboring cities, counties, and State and Federal agencies call for additional assistance from the nearest facilities of these entities. For additional emergency response assistance, the VFD has Automatic Aid Agreements with the Ventura County Fire Protection District (VCFPD) and the Oxnard Fire Department. The VCFPD has two fire stations close to the City limits and other stations located throughout the County. The Automatic Aid Agreement, which specifies that whichever station or engine (City or County) is closest to the emergency is the first to respond, is intended to ensure that Ventura residents receive the most immediate response possible in emergency situations.

The VFD participates in the County Emergency Services Special Operations component, which is responsible for countywide response to emergencies requiring technically skilled operations. Some of the specialized emergency services provided include swift water rescue and confined space rescue (as might arise from collapsed buildings, caves, trench cave-ins, etc.).

The VFD follows several safety standards and safety programs. The City Standardized Emergency Management System Multi-hazard Functional Response Plan outlines City procedure in the event of a major catastrophe, while the Hazardous Materials Response Plan sets forth the protocol for handling hazardous waste spills. The Department's Weed Abatement Program aims to reduce the risk of wildfire in vegetated hillsides and canyon areas, especially the areas north of Poli Street / Foothill Road and east of Ventura Avenue.

b. Police Protection. The City of Ventura Police Department (VPD) provides law enforcement services in the incorporated City. VPD headquarters is located at 1425 Dowell Drive. The Department also has storefronts Downtown, on the West Side, at the Ventura Mall, and in Montalvo. Although these storefronts are not staffed with dedicated police department personnel, they provide an important Community Resource through the use of community volunteers. Figure 4.11-1 shows existing police facilities in the City.

The VPD is currently budgeted for 127 sworn officers and when fully staffed, this results in an allocated level of service of about 1.21 sworn officers per 1,000 residents based on the current population of about 105,000. The Department also employs 52 civilians as support personnel. Although the existing police station is large enough to accommodate the current police force, existing facilities are operating at maximum capacity. Therefore, any significant increase in staffing levels would eventually require facility expansion (Quinn Fenwick, March 2005).

The City has not adopted a specific standard for staffing levels; however, Table 4.11-1 compares police staffing levels in Ventura to those of the cities of Santa Barbara and Oxnard for comparative purposes. As indicated, the City's ratio of police officers to population is lower than that of Santa Barbara and Oxnard.

VPD is separated into two divisions: Operations and Services. The Operations Division is comprised of patrol officers, specialty assignment officers, and Police Service Officers (PSOs), as well as a traffic division, gang enforcement unit, and school liaison office. The Services Division



**Table 4.11-1
Police Officers to Population Ratios (2004)**

City	Number of Officers per 1,000 residents
Ventura	1.21
Santa Barbara	1.55
Oxnard	1.40

Sources: Population--California Department of Finance, City/County Population and Housing Estimates, 1/1/2004. Police officers for Ventura--Wayne Lewis, VPD Business Services Officer (March 1, 2005). Police officers for Santa Barbara--Officer Charles McChesney (February 3, 2005). Police officers for Oxnard--Lynn Hutton, Human Resources Manager (February 3, 2005).

consists of a Detective Bureau, an Information and Technology Bureau, and a Professional Standards Bureau.

The Department is equipped with 32 patrol cars, several unmarked sedans, six motorcycles, and four K-9 units. Most police cars are outfitted with mobile data computers, cell phones, and other technological tools to assist in responding to calls for service. Response time to Class I calls (crimes in progress or alarm soundings) averages less than 6 minutes. Response times for all other calls average less than 20 minutes.

The City is divided into four geographic beats, which are created based on the number of crimes reported and calls for service within the City of Ventura. Beat 1 includes the Ventura Avenue area extending down to California Street. Beat 2 generally includes the area between California Street and Mills Road. Beat 3 generally includes the area between Mills Road and Victoria Avenue. Finally, Beat 4 generally includes the area between Victoria Avenue and the eastern city limits.

Crime Rates. Crime statistics are reported to the Federal Bureau of Investigation on a regular basis so that comparisons can be made between cities with similar characteristics. Table 4.11-2 compares Ventura's crime rate from FBI files to that of other regional cities of similar size as well as to state and national averages.

In 2003, Ventura had a crime rate of 40.3 crimes per 1,000 persons. The crime rate for the City is roughly equivalent to the City of Santa Barbara, state, and national rates, but higher than that of the City of Oxnard.

c. Public Schools. The Ventura Unified School District (VUSD) provides public educational services throughout the Ventura planning area. Figure 4.11-3 shows the locations of school facilities in the Planning Area that are operated by the VUSD. Additional educational facilities include private schools and institutions of higher learning.



**Table 4.11-2
 Crime Rates for Various Jurisdictions**

Jurisdiction	Number of Crimes per 1,000 residents
City of Ventura	40.3
City of Santa Barbara	41.2
City of Oxnard	30.7
State of California	40.0
United States	40.7

Source: FBI, Uniform Crime Reports, 2003. Crimes reported are limited to violent crimes (murder, rape, robbery, and aggravated assault) and property crimes (burglary, larceny, theft, and motor vehicle theft). White collar crimes such as forgery and identity theft are not included in the FBI Uniform Crime Reports, but are a source of crime in the City of Ventura.

VUSD boundaries extend from the Santa Clara River west to include the entire City of Ventura, north along Highway 33 to include most of the Oak View community, and west to the Santa Barbara County line. District schools are organized as kindergarten through fifth grade elementary schools, sixth through eighth grade middle schools, and ninth through twelfth grade high schools. The VUSD manages 16 elementary schools in the City (and one elementary school in Oak View), four middle schools, three high schools, one continuation high school, Opportunity and Independent Study programs, and an adult education program.

The District has divided the City into four geographic attendance areas to direct a student’s progression from elementary to high school: West Side, Midtown, Montalvo, and East End. All elementary schools except one serve a specific attendance area of one or more neighborhoods; the exception is Mound School, which is a District-wide math magnet school.

Current enrollment at VUSD elementary schools is 7,729 students. The total maximum capacity of the 17 elementary schools is 8,277 students. Thus, currently Ventura’s elementary schools are operating at approximately 93% capacity. Table 4.11-3 shows the enrollment statistics for each of the VUSD elementary schools.

Elementary schools in the Planning Area range in size from fewer than 300 to more approximately 600 students, and populations of elementary-aged students in neighborhoods vary. Two elementary schools – Mound and Portola – are operating above planned enrollment capacity and several schools are operating at close to full capacity. The VUSD has purchased property for a proposed West End Elementary school site at 4584 North Ventura.

The District operates four middle schools in the City. Current enrollment for the four middle schools was 4,201 students, or 86% of the total capacity of 4,858 students. Table 4.11-4 shows enrollment figures for each VUSD middle school. One of the goals in the VUSD master plan is the construction of a new middle school in the Wells Road area.



**Table 4.11-3
 Current VUSD Elementary School Enrollment**

School	Student Enrollment	Student Capacity	Utilization
B. Reynolds	447	539	83%
Citrus Glen	546	567	96%
Elmhurst	582	590	99%
E.P. Foster	507	514	99%
Juanamaria	477	514	93%
Lincoln	265	276	96%
Loma Vista	369	404	91%
Montalvo	428	448	96%
Mound	574	585	102%
Pierpont	263	267	99%
Poinsettia	509	522	98%
Portola	534	550	103%
Saticoy	423	466	91%
Junipero Serra	538	592	91%
Sheridan Way	522	572	91%
Sunset	301	394	76%
Will Rogers	444	477	93%
Total	7,729	8,277	93%

Source: VUSD, "Room Use Analysis" Statistics (2005).

**Table 4.11-4
 Current VUSD Middle School Enrollment**

School	Student Enrollment	Student Capacity	Utilization
Anacapa	1,079	1,090	99%
Balboa	1,380	1,582	87%
Cabrillo	1,026	1,246	82%
De Anza	716	940	76%
Total	4,201	4,858	86%

Source: VUSD, "Room Use Analysis" Statistics (2005).



Unlike the elementary schools, the West Ventura middle school (De Anza) currently has sufficient space, but there is a need for a fifth middle school to serve other portions of the City. At the time it was built, Balboa was near the eastern edge of the City. However, the construction of new housing east of the school has led to high enrollment and a very large attendance area. Some students living close to Balboa are bused to Anacapa, which in turn results in some students living close to Anacapa being bused to Cabrillo. A cap of 1,000 students for a middle school has been recommended and endorsed by the Long Range Plan Committee, with a preferred size of 850-900 students. According to the District, a new middle school in eastern Ventura would balance enrollment geographically and eliminate some lengthy bus rides for students.

The VUSD manages three non-continuation high schools in Ventura. Enrollment for the 2004 school year was 5,267 students for the three high schools, or 94% of total capacity (5,586 students). Table 4.11-5 shows enrollment figures for each VUSD high school. Foothill Technology High School, which opened in 2001 to emphasize development of technology and health related skills, has eased crowding at Buena and Ventura High Schools.

**Table 4.11-5
 Current VUSD High School Enrollment**

School	Student Enrollment	Student Capacity	Utilization
Buena	2,245	2,275	99%
Foothill Technology	924	884	96% ^a
Ventura	2,098	2,427	86% ^a
Total	5,267	5,586	94%

Source: VUSD, "Room Use Analysis" Statistics (2005).
^aMaximum potential capacity at 110% of target.

The VUSD offers several special programs. Pacific Continuation High School occupies a former elementary school in central Ventura at 501 College Drive. Pacific Continuation had a 2004 school year enrollment of 218 students, or 77% of its 282 student capacity. Secondary alternative schools at Buena and Ventura High Schools, as well as the Opportunity Program and the Independent Study Program at the Pacific Continuation High School, enable students to make up units, get extra help, and transfer back to the mainstream schools. The current enrollment at the Adult Education Facility at the intersection of Valentine Road and Sperry Avenue is 3,160 students (Jorge Gutierrez, March 2005).

d. Community Libraries. The Ventura County Library Services Agency is currently organized as a special district county library. Revenue from the property tax supplies the majority of the income for the County Library. In addition, a portion of the City's general fund is contributed to the County Library Services Agency and is used to finance improvements to library facilities and services.

Three public libraries are located in Ventura and are a part of the Ventura County library



system: E.P. Foster, H.P. Wright, and Avenue Libraries. The characteristics of the three libraries are summarized in Table 4.11-6.

**Table 4.11-6
 Public Library Statistics**

Library	Cardholders	Book Circulation	Hours Open Weekly	Facility Size (square feet)
E.P. Foster	29,110	169,598	54	33,000
H.P. Wright	28,317	201,227	39	12,000
Avenue	5,102	17,634	25	3,000

Source: Starrett Kreissman, Director, Ventura County Library System, personal communication, 1/21/05.

Located Downtown, E.P. Foster Library is open 54 hours per week. As of January 2005, the E.P. Foster Library had an estimated 29,110 cardholders. Based upon the most current circulation figures available, E.P. Foster Library has an annual circulation of 169,598 books. H.P. Wright Library on the Ventura College campus (a City-owned facility operated by the County on Ventura County Community College District leased land) is open 39 hours per week. H.P. Wright currently has an estimated 28,317 cardholders and an annual circulation of 201,227 books. Located on the West Side of Ventura, the Avenue Library is open 25 hours per week. The Avenue Library currently has an estimated 5,102 cardholders and had an annual circulation of 17,634 books.

e. Recreation. The Ventura recreation system includes 27 City parks, a linear park system, beaches, special recreation facilities and programs, community-wide activities, and senior services. Park and recreational facilities in the City are shown on Figure 4.11-4.

Park Standards. State and national organizations and government agencies have established a range of definitions and standards for provision of park and recreation areas and facilities based on type, size or area, access and site development. State and federal financial assistance is often predicated on the development of specific local criteria. Such standards represent a long-range measure for provision of a complete park and recreation system. The use of standards as reference measures does not imply that park acreage must necessarily be met entirely by City-owned facilities. In addition to recreation areas under City jurisdiction, substantial acreage within or adjacent to the Planning Area is held by public schools or county and state parks.

Park standards in the current Comprehensive Plan are principally derived from the National Parks and Recreation Association, statewide or other local jurisdictions. These standards are used as measures to determine the overall sufficiency of existing facilities in the City of Ventura, and as guidelines to plan for the needs of the future population. Table 4.11-7 shows that the City has adopted higher standards than those set forth by the National Recreation and Park Association.



Note: Alignments for future linear parks are conceptual. Final alignments will be determined during project review. Linear parks through agricultural or open lands would need to be acquired or obtained through dedication.



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

Parks and Recreational Facilities

Figure 4.11-4
 City of Ventura

**Table 4.11-7
 Park Standards per 1,000 Population**

Park Type	Standard (acres per 1,000 population)	
	City of Ventura	National Park and Recreation Association
Neighborhood	2	1.5
Service Area	3	2
Citywide	5	5
Total	10	8.5

Sources: City of Ventura, Comprehensive Plan, 1989 and www.nrpa.org.

City Parks. The City of Ventura public park system includes neighborhood parks, service area parks, citywide parks, and a linear park system. Existing City park facilities are listed in Tables 4.11-8 and 4.11-9. With the new Ventura Community Park, the City operates about 856 acres of park facilities, or about 8 acres per 100,000 residents. A discussion of the various types of facilities follows.

Neighborhood Parks. A neighborhood park is a small park (preferably a minimum of five acres), which serves a specific neighborhood within a planning community. The City’s neighborhood park standard is 2 acres of parkland for every 1,000 people. Provision of neighborhood parks close to the user population is an ongoing City objective. These types of facilities are currently available to residents in many City neighborhoods, though neighborhood parks are lacking in portions of West Ventura, Midtown, the Ventura College area, and the Wells/Saticoy area. As shown in Table 4.11-8, there are 18 neighborhood park sites in the City, totaling about 73 acres.

Service Area Parks. Service area parks are intended to provide opportunities and facilities of a special nature to a broad segment of the population. Service area parks preferably have a minimum size of 35-40 acres, although unique features or developments may be more important to a service area park than size alone. The City’s standard for service area parks is 3 acres per 1,000 population. Amenities within may include athletic fields, courts, recreation buildings, preschool and youth play apparatus, group and individual picnic areas, and landscaped areas for informal activities and passive use. Six existing sites totaling about 95 acres currently serve service area park functions.

The City’s service area park acreage will be substantially increased by the full construction of the new Ventura Community Park. In March 1998, the City selected Thille Ranch, a 100-acre site at the intersection of Telephone Road and Kimball Road, for the development of a community park. Plans for the park include a community center, gymnasium, aquatics center, police storefront, and fire station. The park will also include areas for passive and active recreation, as well as permanent, indoor/outdoor sports fields and courts. These facilities will be able to accommodate informal community use, in addition to organized league practice and



**Table 4.11-8
City Park Facilities**

Park	Park Size (in acres)				
	Neighborhood Park Use	Service Area Park Use	Citywide Park Use	Special Use	Total
Albinger Archaeological Museum				0.93	0.93
Arroyo Verde Park	2.00	23.00	104.27		129.27
Barranca Vista Park	8.74				8.74
Blanche Reynolds Park	3.35				3.35
Buenaventura Golf Course				98.90	98.90
Camino Real Park	8.21	30.00			38.21
Cemetery Memorial Park	7.09				7.09
Chumash Park	6.08				6.08
Community Park ¹		50.0	50.0		100.0
Downtown Mini-Park	0.37				0.37
Eastwood Park				0.73	0.73
Fill Park ²	5.0				5.0
Fritz Huntsinger Youth Sports Complex	4.32	14.00			18.32
Grant Park			107.29		107.29
Harry A. Lyon Park		10.66			10.66
Hobert Park	7.05				7.05
Juanamaria Park	5.00				5.00
Junipero Serra Park	2.72				2.72
Marina Park	4.00	11.26			15.26
Marion Cannon Park	5.00				5.00
Mission Park	1.47				1.47
Montalvo Park ²	5.0				5.0
Ocean Avenue Park	1.32				1.32
Olivas Adobe Historical Park				22.50	22.50
Olivas Park Golf Course				184.29	184.29
Ortega Adobe Historic Residence				0.28	0.28
Plaza Park	3.67				3.67
Promenade Park	1.00				1.00
Seaside Wilderness Park				20-24 ^{3,4}	20-24
Surfers Point at Seaside Park				3.42 ³	3.42
Ventura Community Park ³		50.00	50.00		
Westpark	1.50	5.82			7.32
Total	82.89	144.74	261.56	331.05-335.05	820.24-824.24

Sources: City of Ventura, Parks and Recreation Element and Workbook, 1989 and Community Services Department, 2002
Note that several parks are listed in more than one category, as they serve a variety of functions. This table reflects an estimate of the acreage of such facilities that is dedicated to each specific function..

¹ The Community Park is not operational yet, but upon completion, will serve both Service Area and Citywide park functions. Half of the 100-acre site was assumed to serve each function.

²The anticipated completion date of the Fill and Montalvo Parks is projected to be in 2005-2006.

³ Acreage dependent upon mean high tide line of the Pacific Ocean.

⁴ Acreage is variable because 65% of the area is located in the Ventura River bed.



**Table 4.11-9
City-Owned Linear Parks**

Park Name	Acres	Facilities Provided
Antelope Linear Park	0.70	Bike Path, Greenbelt
Arundell Linear Park	1.05	Bike Path, Greenbelt
Aurora Drive Linear Park	1.40	Bike Path, Greenbelt
Belaire Linear Park	1.50	Open Space, Walking Paths, Greenbelt, Tot Lot
Bristol Bay Linear Park	4.00	Bike Path, Greenbelt, Fence
Brock Linear Park	2.50	Bike Path, Greenbelt, Picnic Tables
Cherrie Linear Park	0.81	Phase 1 under construction
Chumash Linear Park	1.50	Bike Path, Greenbelt
County Square Linear Park	5.40	Bike Path, Greenbelt
Kindercare Linear Park	0.20	Bike Path, Greenbelt
LDS Linear Park	0.20	Bike Path, Greenbelt
Webster Linear Park	3.38	Bike Path, Greenbelt
Cyprus Point Linear Park	4.25	Bike Path, Greenbelt
Rancho Ventura Linear Park	2.00	Bike Path, Greenbelt
Riverview Linear Park	2.40	Bike Path, Greenbelt, Bike Racks, Fence, Benches, Drinking Fountains, Litter Containers
North Bank Greens Linear Park	0.55	Bike Path, Greenbelt, Fence
North Bank Linear Park	--	Bike Path, Bike Rack, Tables, Fence, Litter Containers
Stonehedge Linear Park	2.00	Bike Path, Greenbelt, Fence
Strathmore Linear Park	2.00	Bike Path, Greenbelt, Tot Lot, Picnic Tables, Benches, Basketball Court, Fence
Todd Ranch	1.00	Bike Path, Fence
Henderson Linear Park	2.50	Bike Path, Greenbelt, Litter Containers, Benches
Woodside Linear Park	4.00	Bike Path, Greenbelt, Fence
Weston Linear Park	2.56	Bike Path, Greenbelt, Litter Containers, Lights, Fence
Saticoy Linear Park	--	Bike Path
Total	45.90	

Source: City of Ventura, Linear Parks Inventory, 2001.

tournament games.

Citywide Parks. A citywide park is an area or facility that offers recreational opportunities of such a variety that it attracts a wide range of local age groups and interests from inside and outside the City. Citywide parks are usually at least 100 acres in size, and the City standard is 5 acres per 1,000 residents. Citywide parks often feature large open space areas or unique natural or cultural areas, as well as group picnic areas, interpretive centers, riding, bicycling and hiking trails, formal sports facilities, and other unique features. Citywide parks



allow for the preservation of quality leisure spaces, and efforts are made to include large scenic open spaces, where possible. Two existing sites in Ventura – Arroyo Verde Park and Grant Park - serve as citywide parks. The Ventura Community Park will also serve citywide park functions.

Special Use Facilities. The City has not adopted specific standards for special use facilities, but operates eight such facilities totaling just over 330 acres. These facilities provide unique amenities that permit a single or specialized recreational activity. Special use facilities include two golf courses, the Seaside Wilderness Park, the Olivas Adobe Historical Park, and the Albinger Archaeological Museum.

Linear Parks. The City has not adopted specific standards for linear parks; however, such facilities can serve many of the functions of both neighborhood and service area parks. Since 1974, with the adoption of a Linear Park System depicted on Land Use and Circulation Plan maps, it has been the City's intent to create a linear park around the perimeter of the City that preserves public access and vistas. This network of greenways and barrancas in the City provides natural recreational opportunities for Ventura pedestrians. Linear parks are also a valuable component of the alternative transportation system as they include trails and bikeways for commuting and recreation. As shown in Table 4.11-9, the 24 linear park facilities total about 46 acres. The linear park system includes such features as bike paths, greenbelts, picnic tables, and tot lots.

Resources available for constructing the linear park and trail system are acquired through conditions placed on developers who plan to build in areas within the linear park network.

Beaches & Other Non-City Special Use Recreational Facilities. In addition to City-owned parks, a number of other recreational facilities are available within the planning area. Foremost among these are the seven miles of beach that line the western boundary of the City. Although not owned by the City, the waterfront open space provides valuable recreational opportunities for Ventura residents. Other non-City facilities include the County Fairgrounds and the Saticoy Regional Golf Course. In addition, the Ventura Unified School District and Ventura College have joint-use agreements with the City so that residents have access to their sports fields, pools, and gymnasiums after school hours. Table 4.11-10 lists non-City recreational facilities that are available to community residents.

Special use facilities, parks within the Planning Area belonging to other jurisdictions, and state beach property outside the City limits help make up for the shortage of park area in Ventura. While these facilities meet some citywide needs, they are not considered as contributors to citywide park acreage.

Park Funding. The development of parks is funded through various fee programs on new development in the City. Quimby fees are charged on all single family and condominium developments. Service Area Park Fees are charged on all new development in the City (including rental housing and non-residential development) for the development of new community facilities (such as the new community park). SIDS fees are charged on new development in the Wells/Saticoy area for the development of new facilities to offset the current deficiency of parks in that part of the Planning Area.



**Table 4.11-10
 Non-City Special Use Parks and Recreational Facilities**

Facility Name	Acres	Ownership
Channel Islands National Park Headquarters	2.75	Federal
Emma Wood State Beach	35.87	State
Marina Beach/Cove	12.87	Ventura Port
McGrath State Beach	170.00	State
San Buenaventura State Beach Park	116.21	State
Saticoy Regional Golf Course	48.62	County
Ventura County Fairgrounds	51.96	State
Ventura College (ball fields, pool, gymnasium, track, media center)	5.00	Community College District
VUSD fields (various schools)*	156.80	Ventura Unified School District
TOTAL	600.08	

Sources: City of Ventura, Parks and Recreation Element and Workbook, 1989 and Community Services Department, 2002, Ventura College, 2002, VUSD, 2002.

** Acreage based on estimate of turf area at all VUSD sites.*

f. Solid Waste/Recycling. The Environmental Services Office (ESO) in the City Public Works Department manages collection and disposal of solid waste. The Office also develops methods of waste diversion. The City has a franchise agreement with Harrison Industries for residential and commercial solid waste removal. This arrangement includes curbside collection, with three residential disposal options (trash, recyclables, and yard waste), plus the “Unicycling Recycling Program” for businesses that allow bagged trash and recyclables to share a single container. An additional no-fee salvager permitting system allows other companies to collect recyclable materials from Ventura businesses.

After collection, waste is sorted at the Gold Coast Material Recovery Facility and Transfer Station. What cannot be recycled is sent to landfills. In 2003, the City of Ventura produced approximately 143,584 tons of waste that was sent to landfills and diverted approximately 224,579 tons. The majority of Ventura’s non-recycled waste (88.1%) goes to Toland Road Landfill, while approximately 10.5% is sent to the Simi Valley Landfill. The remaining approximately 1.4% is shipped to either the Azusa Land Reclamation Company, Inc., Chiquita Canyon Sanitary Landfill, and Nu-Way Live Oak Landfill (Joe Yahner, January 2005). The Toland Road Landfill, which is operated by the Ventura Regional Sanitation District, has a permitted throughput of 1,500 tons of waste per day. Current throughput ranges from about 1,200-1,400 tons per day. The landfill’s total permitted capacity is 30 million cubic yards of waste, and it is projected to reach capacity in 2027. The Simi Valley Landfill, which is operated by Waste Management of California, has a permitted throughput of 3,000 tons of waste per day, and a current maximum daily throughput of about 2,750 tons per day. The total permitted capacity is 43.5 million cubic yards, and the landfill is projected to reach capacity in 2022. Table 4.11-11 compares maximum daily capacity and current throughput at the Toland Road and Simi Valley landfills.



**Table 4.11-11
 Maximum Daily Capacity and Current Daily Throughput at Area Landfills**

Landfill	Permitted Daily Capacity (tons)	Maximum Daily Throughput (tons)	Available Daily Capacity (tons)
Toland Road	1,500	1,400	100
Simi Valley	3,000	2,750	250
Total	4,500	4,150	350

The current daily waste that reaches the Toland Landfill ranges from 1,200 to 1,400 tons/day, Monday through Saturday (Gary Haden, personal communications, 1/24/04); therefore, 1,400 tons/day was assumed as a worst case scenario. The Simi Valley Landfill currently accepts an average of approximately: 2,750 tons/day, Monday through Friday; 1,200 tons/day on Saturday; and, 20 tons on one Sunday per month (Scott Tignac, personal communications, 1/24/04); therefore, 2,750 tons/day was used to assess project impacts under a worst case scenario.

State law requires cities to divert at least 50% of the solid waste they generate from landfills through source reduction, reuse of materials, and recycling. The ESO has initiated a series of projects that have resulted in a comprehensive waste reduction and recycling program. Each year, the amount of waste diverted from local landfills has increased. In 2003, the City of Ventura achieved a 61% diversion rate.

ESO provides several household hazardous waste disposal and recycling options for residents and small businesses. In the 2003-2004 period, Gold Coast Recycling and ESO programs collected a total of 250,721 pounds of household hazardous waste and used oil. Gold Coast Recycling collected approximately 71,778 tons of household hazardous wastes, while paint stores collected approximately 45,900 tons of paint and ESO Household Hazardous Waste Events collected approximately 98,333 tons of household hazardous wastes. Finally, oil centers collected approximately 34,710 tons of used oil. Household hazardous waste collection programs are funded by California Assembly Bill 939 (AB 939) funds that are paid by customers to E.J. Harrison and then distributed to the City (Joe Yahner, January 2005).

ESO is currently constructing a new household hazardous waste facility that is anticipated to be in operation by May 2005. Currently, ESO provides four household hazardous waste collection events per year. Upon completion of the new facility, ESO household hazardous waste collection events are anticipated to increase to 11 events per year (Joe Yahner, January 2005).

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds have been used to determine the impacts to fire protection services, police protection services, public schools, libraries, recreation, and solid waste disposal.

The 2005 General Plan would result in potentially significant impacts relating to public services if development accommodated under any of the General Plan land use scenarios would:



- *Involve substantial adverse physical impacts associated with provision of new or physically altered governmental facilities*
- *Create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.*
- *Directly remove or otherwise adversely affect the operation of an existing or planned park or recreational facility*
- *Increase the use of existing parks and recreational facilities such that substantial physical deterioration would occur or be accelerated. The potential for physical deterioration of existing parks may be considered substantial if the amount of new parkland in the City is insufficient to meet the projected demand associated with projected population growth (based on the current City standard, park demand is 10 acres per 1,000 new residents).*
- *Require the construction or expansion of parks or other recreational facilities that might have adverse effects on the environment*
- *Generate an increase in solid waste that exceeds the capacity of the current and planned solid waste disposal facilities serving the City. Impacts are also considered significant if the amount of solid waste generated by new development that is diverted from landfills is projected to be less than the State-mandated 50% diversion rate.*

With respect to school enrollment, impacts associated with new development would be considered significant if it is anticipated that individual developers would not pay State-mandated school impact fees (pursuant to Section 65995(h) of the California Government Code [Senate Bill 50, chaptered August 27, 1998], the payment of statutory fees “...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization”)

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the EIR scenarios. A detailed discussion of each environmental impact follows.

Impact PS-1	Development under any of the 2005 General Plan land use scenarios would increase the City’s population and density of development, and introduce new development into high fire hazard areas. This would increase demand for fire protection services and potentially create the need for new fire protection facilities. With proposed General Plan policies, impacts for Scenario 1 are Class III, less than significant. Impacts for Scenarios 2-6 are considered Class II, significant but mitigable.
--------------------	--

The 2005 General Plan includes the following policies that address fire protection service:

Policy 7C *Optimize firefighting and emergency response capabilities.*



Summary Comparison of Impacts for EIR Scenarios

Impact	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Fire Protection (Impact PS-1)	30 new firefighters needed to alleviate current deficiencies; one to two new fire stations and 9 to 18 new firefighters needed to serve the Ventura Harbor and Ventura Avenue areas; limited new development introduced adjacent to high fire hazard areas. With proposed General Plan policies and actions, impacts are Class III, less than significant.	30 new firefighters needed to alleviate current deficiencies; nine new firefighters and a new fire station needed in Ventura Harbor area to serve Harbor and Olivas areas; nine new firefighters and a new fire station needed in North Avenue area to serve North Avenue expansion area; relocation of Station 4 would provide adequate service in Serra expansion area. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 2 and Class II, significant but mitigable.	Same new facilities needed as under Scenario 2; relocation of Station 4 would provide adequate service in Serra expansion area. Impacts are Class II, significant but mitigable.	Same new facilities needed as under Scenario 2; new station in North Avenue area would provide adequate service to the Western Cañada Larga expansion areas. Impacts are Class II, significant but mitigable.	Same new facilities needed as under Scenario 2. In addition, Station 3 may need to be relocated east of Victoria Avenue to serve the Poinsettia expansion area. Impacts are Class II, significant but mitigable.
Police Protection (Impact PS-2)	An additional 26 police officers needed to maintain current officers-residents ratio in 2025. New or expanded police facilities needed since the current headquarters is at capacity; Downtown storefront station also needed. Impacts are Class II, significant but mitigable.	An additional 34 police officers needed to maintain current officers-residents ratio in 2025. New or expanded police facilities facilities since the current headquarters is at capacity; Downtown storefront station also needed. Impacts are Class II, significant but mitigable.	Impacts similar to Scenario 2 and Class II, significant but mitigable.	Impacts similar to Scenario 2 and Class II, significant but mitigable.	Impacts similar to Scenario 2 and Class II, significant but mitigable.	Impacts similar to Scenario 2 and Class II, significant but mitigable.
Schools (Impact PS-3)	An estimated 3,486 new VUSD students projected by 2025 under this scenario. Based on	An estimated 4,620 new VUSD students projected by 2025 under this scenario.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Student generation and future school needs similar to Scenario 2. Impacts	Impacts similar to Scenario 2 and Class III, less than significant.



Summary Comparison of Impacts for EIR Scenarios

	Department of Education criteria, 2-3 new elementary schools needed and possibly a new middle school and new high school. Payment of State-mandated fees reduces impacts to Class III, less than significant, per State law; nevertheless, limited available land for new schools may necessitate condemnation of property for new school sites and/or more intensive use of existing facilities.	Based on Department of Education criteria, 4-5 new elementary schools needed and possibly a new middle school and new high school. Payment of State-mandated fees reduces impacts to Class III, less than significant, per State law. Expansion area acreage is sufficient to provide schools to meet expansion-related demand and partially offset demand related to intensification/reuse.			are Class III, less than significant, per State law. However, expansion areas do not provide sufficient acreage for school facilities that meet the needs of expansion-related student population growth.	
Libraries (Impact PS-4)	An additional 78,153 square feet of library facilities needed to achieve desired 1 square foot/capita ratio in 2025. Funding needed for new facilities, but facilities could likely be provided without significant environmental effects. Impacts are Class III, less than significant.	An additional 85,160 square feet of library facilities needed to achieve desired 1 square foot/capita ratio in 2025. Funding needed for new facilities, but facilities could likely be provided without significant environmental effects. Impacts are Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.
Solid Waste (Impact PS-5)	Projected growth would increase solid waste sent to landfills by an estimated 84 tons per day by 2025. This is within the current available daily capacity, but area landfills are	Projected growth would increase solid waste sent to landfills by an estimated 110 tons per day by 2025. This is within the current available daily capacity, but area	Impacts similar to Scenario 2 and Class I, unavoidably significant.	Impacts similar to Scenario 2 and Class I, unavoidably significant.	Impacts similar to Scenario 2 and Class I, unavoidably significant.	Impacts similar to Scenario 2 and Class I, unavoidably significant.



Summary Comparison of Impacts for EIR Scenarios

	projected to close in the 2022-2027 time period. Absent an alternative means/location for disposing of waste, impacts are Class I, unavoidably significant.	landfills are projected to close in the 2022-2027 time period. Absent an alternative means/location for disposing of waste, impacts are Class I, unavoidably significant.				
Recreation/Parks (Impact PS-6)	Projected population growth would generate demand for 212 acres of new parks by 2025 based on 10 acres/ 1,000 residents standard. Continued collection of required park fees and requirement of land dedication for parks could reduce impacts to Class III, less than significant. However, parks in older areas of the City (Downtown, Ventura Avenue corridor, Midtown area) where available land is lacking and population growth is projected may experience shortages of neighborhood parks absent land dedication with larger projects. Large sites to accommodate citywide park facilities are also lacking under this scenario.	Projected population growth would generate demand for 282 acres of new parks by 2025 based on 10 acres/1,000 residents standard. Continued collection of required park fees and requirement of land dedication for parks could reduce impacts to Class III, less than significant. Expansion areas provide sufficient acreage to meet 2025 demand for all types of facilities.	Impacts similar to Scenario 2 and Class III, less than significant.	Park demands in 2025 similar to Scenario 2. Continued collection of required fees and requirement of land dedication for parks could reduce impacts to Class III, less than significant. Expansion areas provide sufficient acreage to meet expansion-related demand and partially offset demand related to intensification/ reuse.	Park demands in 2025 similar to Scenario 2. Continued collection of required park fees and requirement of land dedication for parks could reduce impacts to Class III, less than significant. However, expansion areas do not provide sufficient acreage to meet expansion-related demand.	Park demands in 2025 similar to Scenario 2. Continued collection of required park fees and requirement of land dedication for parks could reduce impacts to Class III, less than significant. Expansion areas provide sufficient acreage to meet expansion-related demand and partially offset demand related to intensification/ reuse.



Action 7.12 Refer development plans to the Fire Department to assure adequacy of structural fire protection, access for firefighting, water supply, and vegetation clearance.

Action 7.13 Resolve extended response time problems by:

- Adding a fire station at the Pierpont/Harbor area,
- Relocating Fire Station #4 to the Community Park site,
- Increasing firefighting and support staff resources, and
- Reviewing and conditioning annexations and development applications, and
- Requiring the funding of new services from fees, assessments, or taxes as new subdivisions are developed.

Table 4.11-12 compares population increases and the increase in demand for facilities and firefighting personnel needed in order to maintain an adequate emergency response time of four minutes for Scenarios 1-6. As discussed in the *Setting*, the City has not officially adopted a standard for firefighter staffing levels; however, for jurisdictions that are comparable in size and population to the City of Ventura, staffing levels are typically about 0.98 fire fighters per 1,000 residents which would indicate current staffing deficiencies of 30 firefighters. Facility and staffing levels are based on achieving the desired four-minute response time, which varies (at least in part) according to fire personnel staffing levels, the placement of fire stations in relation to service areas, and the density/layout of land uses and development within a service area. Impacts associated with each scenario are discussed below.

**Table 4.11-12
 Projected Increase in Demand for Firefighting Personnel and Facilities^a**

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Current Staffing	73	73	73	73	73	73
Current Staffing Deficiencies	30	30	30	30	30	30
New Staff needed for anticipated growth.	9-18	27	27	27	27	27
Total Staff Needed in 2025 to Maintain Desired Staffing Ratio^b	112-121^c	130	130	130	130	130
Existing Facilities	6	6	6	6	6	6
Needed New Facilities	1-2	2	2	2	2	2
Total Facilities Needed in 2025	7-8	8	8	8	8	8

^a Staffing levels are based on the number of sworn firefighters and do not include Inspection Services' employees (cf setting discussion above). Facilities are measured in terms of number of fire stations.

^b This analysis is based on a desired staffing ratio of 0.98 firefighters/1,000 residents.

^c Approximately 121 firefighters would be required to achieve the desired staffing ratio; however, the actual number of new firefighters that would be hired would be based on whether or not an additional fire station is built in the North Ventura Avenue area under Scenario 1. Please see the Scenario 1 impact analysis below for a more detailed discussion of the requisite number of new fire stations and firefighters required under Scenario 1.



Scenario 1 – Intensification/Reuse Only

As shown in Table 4.11-12, there are currently 73 sworn firefighters and six fire stations serving the City. Scenario 1 would not include any expansion areas, but the addition of an estimated 21,201 new residents would require additional fire protection facilities and fire stations.

As discussed in the Setting, the VFD plans to relocate Fire Station #4 from its current location at 8303 Telephone Road to the Community Park property located at the corner of Telephone Road and Kimball Road in order to better serve the fire protection needs of Fire Sector #4. With this relocation, adequate fire protection service could be provided in all portions of Fire Sector #4. Neither the Ventura Harbor area nor areas along North Ventura Avenue currently falls within the VFD's desired four-minute response time. Two new fire stations – one to serve the Harbor area and one to serve the North Ventura Avenue area – would be needed to achieve the desired response time for these areas. The VFD has tentative plans to construct a new fire station in the Harbor area and General Plan Action 7.13 calls for a new station in this area; therefore, the new fire station is expected to be added in this area. The need for a new fire station within the North Ventura Avenue area under Scenario 1 would be based on the actual intensity of development that occurs within this area over the next 20 years. As stated above, currently response times for much of the North Ventura Avenue area exceed the desired four-minute response time; intensification of development – especially in the northern region of the North Ventura Avenue area – would most likely require the construction of a new fire station to serve this area.

As stated above, approximately 30 new firefighters are currently required to alleviate current staffing deficiencies and achieve the desired 0.98 firefighters/1,000 residents ratio. In order to adequately staff the new fire station and serve the Harbor area, an estimated nine new firefighters would be required; if an additional fire station is built to serve the North Ventura Avenue area, an additional nine firefighters would be required (Chief Mike Lavery, January 2005), thus resulting in a total of 121 firefighters or approximately 0.97 firefighters/1,000 residents.

Although an exact location for the new fire station to serve the Harbor area has not been identified, given the availability of land within this area, the construction of the new fire station would most likely occur adjacent to the Harbor along Harbor Boulevard. Similarly, a new fire station would most likely be built within the North Ventura Avenue corridor to serve this area. Funding sources for the new personnel and new facilities would be required, as well as site- and project-specific environmental review once project sites are identified for new facilities. It is anticipated that the new stations could be constructed without creating significant environmental effects.

Scenario 1 also could accommodate (under existing zoning and 1989 Comprehensive Plan land use designations) limited residential development above Foothill Road. Development in hillside areas could introduce new residences that would be located within, or directly adjacent to, high fire hazard areas. General Plan Action 7.12 would reduce potential impacts to a less than significant level through VFD review of development proposals in areas subject to wildland fire hazards. Potential secondary biological impacts associated with any clearance or setback requirements would be addressed through implementation of various policies and actions, as discussed in Section 4.4, *Biological Resources*.



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Impacts relating to intensification and reuse would be the same as those of Scenario 1. In addition, this scenario includes the possible future development of the North Avenue, Olivas, and Serra expansion areas. A discussion of possible impacts associated with the development of these areas follows.

New development within the North Avenue expansion area would be outside the City's four minute response time within this area. Development of the North Avenue expansion area would also be located adjacent to a high fire hazard area. Implementation of General Plan Action 7.12 would ensure that adequate wildland fire protections are incorporated into new developments. However, a new fire station would be needed to provide adequate fire response to the North Avenue expansion area.

The Olivas expansion area currently lacks adequate fire protection services. As discussed above, response times to the Harbor area can be 10 minutes or more, thereby exceeding the desired four minute response time. Development of the Olivas expansion area could introduce a mix of uses that currently lack adequate fire protection. However, as discussed under Scenario 1, the VFD has tentative plans for a new station adjacent to the Harbor and Action 7.13 calls for a new station in the Harbor area. This new station would provide adequate service to the Olivas expansion area.

Fire Station #4 would have primary responsibility for responding to calls within the Serra expansion area. Development of the Serra area could introduce a mix of new uses at a somewhat higher density than currently exists within this area. Although Fire Station #4 is adequate to serve the Serra expansion area, relocation of Fire Station #4 to the Community Park (as currently planned) would shorten response times and help better serve Fire Sector #4. Adequate fire protection service is expected to be available in this area.

As discussed under Scenario 1, an estimated nine new firefighters would be needed to staff a new fire station near the Harbor. About nine new firefighters would be needed to staff a second fire station to serve the North Ventura expansion area and surrounding areas (Chief Mike Lavery, January 2005). With 18 new firefighters to staff the new stations and correcting for the current staffing deficiencies, the VFD would have a total of approximately 130 firefighters. Based on the projected 2025 population, this would represent a ratio of 0.98 firefighters/1,000 residents. Funding sources for the new personnel and new facilities would be required, as well as site- and project-specific environmental review, once sites are identified for new facilities. It is anticipated that new facilities could be constructed without creating significant environmental effects.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Impacts relating to intensification and reuse would be the same as those of Scenario 1. In addition, Scenario 3 includes the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, the planned new fire station in the Harbor area would provide for adequate fire protection service in the Olivas area. However, the North



Avenue expansion area would be outside the four-minute response time; therefore, a new station would be needed to serve that area as well as adjacent areas.

As discussed under Scenario 1, an estimated nine new firefighters would be needed to staff a new fire station near the Harbor, while about nine new firefighters would be needed to staff a second fire station to serve the North Ventura expansion area and surrounding areas (Chief Mike Lavery, January 2005). With 18 new firefighters to staff the new stations and correcting the current staffing deficiencies, the VFD would have a total of approximately 130 firefighters. Based on the projected 2025 population, this would represent a ratio of 0.98 firefighters/1,000 residents. Funding sources for the new personnel and new facilities would be required, as well as site- and project-specific environmental review, once sites are identified for new facilities.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

Impacts relating to intensification and reuse would be the same as those of Scenario 1. In addition, Scenario 3 includes the possible future development of the North Avenue and Olivas expansion areas. As discussed under Scenario 2, fire protection service is adequate for the Serra area. However, the North Avenue expansion area would be outside the four-minute response time; therefore, a new station would be needed to serve that area as well as adjacent areas.

An estimated nine new firefighters would be needed to staff the new fire station near the Harbor, while an estimated nine new firefighters would be required to provide additional staffing for a second fire station to serve the North Ventura expansion area and surrounding areas. With 18 new firefighters to staff the new stations and correcting for the current staffing deficiencies, the VFD would have a total of approximately 130 firefighters. Based on the projected 2025 population, this would represent a ratio of 0.98 firefighters/1,000 residents. Funding sources for the new personnel and new facilities would be required, as well as site- and project-specific environmental review, once sites are identified for the new facilities.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Impacts relating to intensification and reuse would be the same as those of Scenario 1. In addition, Scenario 3 includes the possible future development of the North Avenue and Western Cañada Larga expansion areas.

Both the North Avenue and Western Cañada Larga expansion areas are outside the desired four-minute response time for the VFD. In addition, both areas are adjacent to high fire hazard areas. General Plan Action 7.12 would ensure that adequate wildland fire protections are incorporated into new developments. However, a new fire station would be needed to provide adequate fire response to these areas.

An estimated nine new firefighters would be needed to staff the new fire station near the Harbor, while an estimated nine new firefighters would be required to provide additional staffing for a second fire station to serve the North Ventura expansion area and surrounding areas. With 18 new firefighters to staff the new stations and correcting the current staffing deficiencies, the VFD would have a total of approximately 130 firefighters. Based on the projected 2025 population, this would represent a ratio of 0.98 firefighters/1,000 residents.



Funding sources for new personnel and new facilities would be required, as well as site- and project-specific environmental review, once sites are identified for the new facilities.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Impacts relating to intensification and reuse would be the same as those of Scenario 1. In addition, Scenario 3 includes the possible future development of the North Avenue and Poinsettia expansion areas.

As discussed under Scenario 2, the North Avenue expansion area is outside the desired four-minute response time for the VFD. In addition, it is adjacent to high fire hazard areas. Therefore, a new fire station would be needed to provide adequate fire protection services to this expansion area.

Fire Station #3 would have primary responsibility for serving new development within the Poinsettia expansion area. Fire Station #3 is located near the Telegraph Road/Victoria Avenue intersection. The most direct response route from Fire Station #3 to the Poinsettia expansion area and development along Foothill Road would require traveling east down Telegraph Road through the Telegraph Road/Victoria Avenue intersection. With the projected increase in traffic at that intersection, the response times to the Poinsettia area and adjacent neighborhoods east of Victoria Avenue could exceed the desired four minute response time. As such, Fire Station #3 would most likely need to be relocated east of the Telegraph Road/Victoria Avenue intersection (Chief Mike Lavery, January 2005).

An estimated nine new firefighters would be needed to staff the new fire station near the Harbor, while an estimated nine new firefighters would be required to provide additional staffing for a second fire station to serve the North Ventura expansion area and surrounding areas. With 18 new firefighters to staff the new stations and correcting for the current staffing deficiencies, the VFD would have a total of approximately 130 firefighters. Based on the projected 2025 population, this would represent a ratio of 0.98 firefighters/1,000 residents. Funding sources for the new personnel and new facilities would be required, as well as site- and project-specific environmental review, once sites are identified for the new facilities.

MITIGATION MEASURES

Implementation of 2005 General Plan Action 7.13 would provide the requisite funding for new facilities and equipment needed to serve new development through 2025. Site- and project-specific environmental review would be required for new fire stations once sites for the new facilities are identified. Action 7.12 would minimize impacts associated with new development adjacent to, or within, high fire hazard areas for Scenarios 1-6. Action 7.13, which calls for a new fire station in the Harbor area, would provide for adequate fire response in the Harbor district and the Olivias expansion area. The following actions are recommended to address potential impacts relating to fire response times in the event that possible development of the North Avenue, Western Cañada Larga, or Poinsettia expansion areas is included in the General Plan.



PS-1(a) North Avenue and Western Cañada Larga Expansion Areas. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the North Avenue expansion area or the Western Cañada Larga expansion area is adopted:

- *Add a fire station in the North Avenue area as determined necessary by the Ventura Fire Department. Consider an assessment district for the North Avenue area to fund a new station.*

PS-1(b) Poinsettia Expansion Area. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the Poinsettia expansion area is adopted:

- *Include a fire station site in any future specific plan for the Poinsettia expansion area if determined necessary by the Ventura Fire Department.*

SIGNIFICANCE AFTER MITIGATION

With implementation of proposed policies and action items and the additional action items recommended above, impacts relating to fire protection service would be reduced to a less than significant level for Scenarios 1-6. It is anticipated that needed new facilities could be built without creating significant environmental impacts.

<p>Impact PS-2 Possible future development under Scenarios 1-6 would increase the City's population and density of development, thereby resulting in the need to construct new facilities in order to provide effective police protection service. Impacts would be Class II, significant but mitigable, for any of the six land use scenarios.</p>
--

The 2005 General Plan includes the following policies that address police service:

Policy 7D *Improve community safety through enhanced police service.*

Action 7.15 *Increase public access to police services by:*

- *Increasing police staffing to coincide with increasing population, development, and calls for service, and*
- *Increasing community participation by creating a Volunteers in Policing Program, and*
- *Requiring the funding of new services from fees, assessments, or taxes as new subdivisions are developed.*

Action 7.16 *Provide education about specific safety concerns such as gang activity, senior-targeted fraud, and property crimes.*



Action: 7.17 *Establish a nexus between police department resources and increased service demands associated with new development.*

Police protection services are not “facility-driven;” that is, police protection services are not as reliant on facilities in order to effectively patrol a beat. An expansion of, or intensification of development within, a beat does not necessarily result in the need for additional facilities if police officers and patrol vehicles are equipped with adequate telecommunications equipment in order to communicate with police headquarters. However, if the geographical area of a beat is expanded, population increases, or intensification/redevelopment of an existing beat results in the need for new police officers, new or expanded facilities could be needed.

Table 4.11-13 compares population increases and the increase in demand for additional police personnel needed to maintain the current ratio of 1.21 police officers per 1,000 residents. Impacts associated with increased demand for police protection service are discussed below.

**Table 4.11-13
 Projected Increase in Demand for Police Department Personnel**

	Scenario 1 (Intensification/ Reuse Only)	Scenarios 2-6
Projected population increase	21,201	28,208
Additional police officers needed to maintain current 1.21 officers/1,000 residents ratio	26	34

Scenario 1 - Intensification/Reuse Only

Approximately 26 additional police personnel would be needed to maintain the current 1.21 police officers per 1,000 residents ratio with the projected increase of 21,201 new residents under Scenario 1. Implementation of General Plan Action 7.15 would provide for increased staffing as necessary to serve the community.

As the existing police headquarters is currently at maximum capacity, the addition of 26 police personnel would require either an addition/expansion of the existing headquarters or the construction of a new headquarters large enough to accommodate the projected increase in police personnel and provide effective police protection services for the entire community. Intensification and redevelopment of the Downtown area, as well as the likely increase in population in this area, would require the creation of a new beat in order to provide effective police protection service for this area (Quinn Fenwick, March 2005). Of the approximately 26 new police officers required for Scenario 1, at least six of these officers would be required to patrol the new beat created for the Downtown area. In addition, a new storefront within the Downtown area would be needed.

New development that could occur outside of the existing City limits (e.g., the Upper North Avenue, North Avenue corridors, or Saticoy corridors) would not require the construction of new facilities. However, additional telecommunications equipment (e.g., radios, cell phones, and computers) would be required to effectively patrol these areas. As the construction of new



facilities would not be required to effectively patrol these areas, impacts would not be significant.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Approximately 34 additional VPD personnel would be needed to maintain the 1.21 police officers per 1,000 residents ratio with the projected increase of 28,208 new residents under Scenario 2. Impacts relating to the intensification, redevelopment, and increase in population within the Downtown area would be the same as Scenario 1.

New development in the North Avenue, Olivas, and Serra expansion areas would not require the construction of new facilities. However, additional telecommunications equipment would be required to effectively patrol these areas (Quinn Fenwick, March 2005).

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Approximately 34 additional VPD personnel would be needed to maintain the 1.21 police officers per 1,000 residents ratio with the projected increase of 28,208 new residents under Scenario 3. Impacts relating to the intensification, redevelopment, and increase in population within the Downtown area would be the same as those of Scenario 1. Impacts from new development that could be accommodated in the North Avenue and Olivas expansion areas would be the same as those described under Scenario 2.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Approximately 34 additional VPD personnel would be needed to maintain the 1.21 police officers per 1,000 residents ratio with the projected increase of 28,208 new residents under Scenario 4. Impacts relating to the intensification, redevelopment, and increase in population within the Downtown area would be the same as those described under Scenario 1. Impacts from new development that could be accommodated in the North Avenue and Serra expansion areas would be the same as those described under Scenario 2.

Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Approximately 34 additional VPD personnel would be needed to maintain the 1.21 police officers per 1,000 residents ratio with the projected increase of 28,208 new residents under Scenario 5. Impacts relating to the intensification, redevelopment, and increase in population within the Downtown area would be the same as those of Scenario 1. Impacts from new development that could be accommodated in the North Avenue and Serra expansion areas would be the same as under Scenario 2. Possible new development within the Western Cañada Larga expansion area would not require the construction of new facilities. However, new telecommunications equipment would be required.

Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Approximately 34 additional VPD personnel would be needed to maintain the 1.21 police officers per 1,000 residents ratio with the projected increase of 28,208 new residents under



Scenario 6. Impacts relating to the intensification, redevelopment, and increase in population within the Downtown area would be the same as Scenario 1. New development in the North Avenue and Poinsettia expansion areas would not require the construction of new facilities. However, additional telecommunications equipment would be required to effectively patrol these areas.

MITIGATION MEASURES

New facilities (e.g., construction of a new storefront within the Downtown area and expansion of the existing police headquarters) would be subject to site- and project-specific environmental review and mitigation measures at such time as specific new facilities are proposed. In addition, the following mitigation measure is required.

PS-2 Police Protection Service. The following actions shall be added to the 2005 General Plan:

- *Establish a new Downtown storefront to meet the needs of the growing Downtown population*
- *Expand the Police Department headquarters as necessary to accommodate staff growth.*

SIGNIFICANCE AFTER MITIGATION

With implementation of proposed General Plan policies and actions, the above additional action items, and future site- and project-specific environmental review for the construction of new facilities, impacts relating to police protection service would be reduced to a less than significant level. It is anticipated that needed facility expansions and new facilities can be constructed with creating significant environmental effects.

Impact PS-3	Projected enrollment growth under the 2005 General Plan would exceed the capacity of existing schools within the Ventura Unified School District, thereby creating the need to construct additional facilities. However, payment of State-mandated school impact fees is presumed to provide funding for needed new school facilities. Therefore, although available land for new schools may be limited (particularly for Scenarios 1 and 5), impacts to schools would be reduced to a Class III, less than significant, level for any of the six land use scenarios.
--------------------	---

Table 4.11-14 compares the anticipated post-project school enrollment for Scenarios 1-6, based on the existing school capacity for elementary schools, middle schools, and high schools in the Ventura Unified School District. Table 4.11-5 compares the estimated number and acreage of new schools needed to serve the projected increases in student populations at the VUSD. A discussion of impacts associated with each of the six land use scenarios follows.



**Table 4.11-14
 Projected School Enrollment and Capacity**

Grade Level	Current Capacity	Current School Enrollment	New Students from Additional Growth Through 2025*	Projected 2025 Student Enrollment	Students Over Current Capacity	Capacity Utilization
Scenario 1						
K-5	8,277	7,729	1,826	9,555	1,278	115%
6-8	4,858	4,201	747	4,948	90	102%
9-12	5,586	5,267	913	6,180	594	111%
Scenario 1 Total	18,721	17,197	3,486	20,683	1,962	110%
Scenarios 2-6						
K-5	8,277	7,729	2,420	10,149	1,872	123%
6-8	4,858	4,201	990	5,191	333	107%
9-12	5,586	5,267	1,210	6,477	891	116%
Scenarios 2-6 Total	18,721	17,197	4,620	21,817	3,096	117%

** Calculated based upon rates of 0.22 elementary school students per unit, 0.09 middle school students per unit, and 0.11 high school students per unit. Numbers are rounded to the nearest whole number. The total increase in students is based upon the number of new dwelling units shown in Table 2-6 in Section 2.0 (approximately 8,300 units for Scenario 1 and 11,000 units for Scenarios 2-6).*

Scenario 1 - Intensification/Reuse Only

Under Scenario 1, the anticipated addition of 8,300 residential units through 2025 would generate an estimated 3,486 new students at the Ventura Unified School District. This total includes 1,826 elementary, 747 middle, and 913 high school students. With this increase in enrollment, overall enrollment would exceed the capacity of existing VUSD schools by an estimated 1,962 students.

Based on California Department of Education recommended standards, projected student growth associated with Scenario 1 would generate the need for an estimated 2-3 new elementary schools, and potentially a new middle school and high school. Overall acreage needed to accommodate new facilities would range from about 29 to 93 acres, depending primarily upon whether or not new middle or high school facilities are needed.

Pursuant to Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to CGC §65994(h), impacts relating to school capacity would not be significant if future developers within the VUSD continue to pay State-mandated school impact fees. Site- and project-specific environmental review would be required for



**Table 4.11-15
 Projected School Demand**

School Type	Students Over Current Capacity (from Table 4.11-14)	Students/School ^a	New Schools Needed ^a	School Acres Needed ^b
Scenario 1				
Elementary	1,278	450	2-3	19-29
Middle	90	900	0-1	0-21
School	594	1,200	0-1	0-34
Total	1,962		3-6	29-93
Scenarios 2-6				
Elementary	1,872	450	4-5	38-48
Middle	333	900	0-1	0-21
School	891	1,200	0-1	0-34
Total	3,096		4-7	38-103

^a Recommended school size from the California Department of Education.

^b Total students over capacity divided by the number of students per school.

^c Based on recommended school size from the California Department of Education: 9.6 acres for elementary schools, 20.9 acres for middle schools, and 33.5 acres for high schools.

individual school sites as they are identified in the future.

Although impacts would not be significant under CEQA, it should be noted that Scenario 1 includes only limited land that could be used for the development of new school facilities. Development of the planned West End Elementary site would partially meet the elementary school demand. However, other sites of sufficient size to accommodate new schools are designated for other uses.

One alternative to developing new schools would be to expand existing schools. Enrollment and current capacity at several VUSD schools are currently under the CDE's recommended recommended 450-student school size. However, it should be noted that the VUSD has indicated that existing playground facilities are already overused and more intensive use of facilities would exacerbate this condition. Another option would be to acquire properties that are currently designated for other uses and converting them to school sites. Depending upon owners' willingness to sell properties, this approach could require VUSD condemnation of properties to meet school needs.



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Under Scenario 2, the anticipated addition of 11,000 residential units through 2025 would generate an estimated 4,620 new students at the Ventura Unified School District. This total includes 2,420 elementary, 990 middle, and 1,210 high school students. With this increase in enrollment, overall enrollment would exceed the capacity of existing VUSD schools by an estimated 3,096 students.

Based upon California Department of Education recommended standards, projected student growth associated with Scenario 2 would generate the need for an estimated 4-5 new elementary schools and potentially a new middle school and high school. Overall acreage needed to accommodate new facilities would range from about 38 to 103 acres, depending primarily upon whether or not new middle or high school facilities are needed.

As with Scenario 1, site- and project-specific environmental review would be required for individual school sites as they are identified in the future and collection of State-mandated school impact fees would reduce school capacity impacts to a less than significant level.

Scenario 2 includes the North Avenue, Olivas, and Serra expansion areas, which have a combined 1,449 acres. Based on the estimated 2,700 total new residences in the expansion areas, the expansion areas themselves would generate an estimated 594 elementary school students, 243 middle school students, and 297 high school students. The 1,449 combined acres provide sufficient land to meet demands associated with expansion and at least partially offset demands associated with intensification/reuse.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Projected VUSD enrollment increases and demand for new school facilities would be identical to those identified for Scenario 2. Site- and project-specific environmental review would be required for individual school sites as they are identified in the future and collection of State-mandated school impact fees would reduce school capacity impacts to a less than significant level.

Scenario 3 includes the North Avenue and Olivas expansion areas, which have a combined 985 acres. This acreage is sufficient to meet school acreage demands associated with expansion and at least partially offset demands associated with intensification/reuse.

Scenario 4 – Intensification/Reuse + North Avenue + Serra

Projected VUSD enrollment increases and demand for new school facilities would be identical to those identified for Scenario 2. Site- and project-specific environmental review would be required for individual school sites as they are identified in the future and collection of State-mandated school impact fees would reduce school capacity impacts to a less than significant level.



Scenario 4 includes the North Avenue and Serra expansion areas, which have a combined 511 acres. This acreage is sufficient to meet school acreage demands associated with expansion and at least partially offset demands associated with intensification/reuse.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

Projected VUSD enrollment increases and demand for new school facilities would be identical to those identified for Scenario 2. Site- and project-specific environmental review would be required for individual school sites as they are identified in the future and collection of State-mandated school impact fees would reduce school capacity impacts to a less than significant level.

Scenario 5 includes the North Avenue and Western Cañada Larga expansion areas, which have a combined 176 acres, about of 146 of which are developable. This amount of acreage is not sufficient to accommodate any school facilities given that it is assumed that 2,700 residences would be built in the limited amount of land available. Thus, the expansion areas would not be able to provide schools to meet demand associated with expansion area development. Even if sufficient land were available to accommodate schools, the Western Cañada Larga area is not located adjacent to the more densely populated residential areas of the Planning Area and would not serve as a preferred location for new schools.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

Projected VUSD enrollment increases and demand for new school facilities would be identical to those identified for Scenario 2. Site- and project-specific environmental review would be required for individual school sites in the future and collection of State-mandated school impact fees would reduce school capacity impacts to a less than significant level.

Scenario 6 includes the North Avenue and Poinsettia expansion areas, which have a combined 473 acres. This acreage is sufficient to meet school acreage demands associated with expansion and at least partially offset demands associated with intensification/reuse.

MITIGATION MEASURES

As discussed above, site- and project-specific environmental review would be required for schools if, or when, new sites are proposed for development in the future. As previously noted, pursuant to Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, mitigation is not required for any scenario. Nevertheless, the following is recommended.

- PS-3(a) School Coordination.** The following action should be added to the 2005 General Plan:



- Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development.

PS-3(b) Expansion Area Schools. The following action should be added to the 2005 General Plan if any land use scenario that includes an expansion area is adopted:

- Require expansion area specific plans to be prepared in coordination with the Ventura Unified School District and set aside land needed for new school facilities.

SIGNIFICANCE AFTER MITIGATION

Continued collection of State-mandated school impact fees would fund the construction of new school facilities that would be required to accommodate projected increases in school enrollment and would reduce school impacts to a less than significant level for any of the six scenarios. Nevertheless, it should be noted that land available for school development would be limited under Scenario 1; therefore, selection of that scenario may require intensification of the use of existing schools or VUSD condemnation of property to provide needed school facilities. In addition, the expansion areas considered for Scenario 5 (North Avenue and Western Cañada Larga) do not include sufficient acreage to provide for school facility demands generated by projected expansion area development.

<p>Impact PS-4 Ventura libraries are currently undersized to serve the City’s existing population and, given the projected population growth rates for Scenarios 1-6, the existing library services would be inadequate to serve the future service area population. Although new facilities would be needed to meet projected demand under Scenarios 1-6, facilities could be constructed without causing significant environmental impacts. This is considered to be a Class III, <i>less than significant</i>, impact for all six scenarios.</p>
--

Table 4.11-16 compares the anticipated demand for library services for Scenarios 1-6. Project demand is measured in terms of books per capita, as well as size of facilities (in square feet) per capita. Although the Ventura County Library currently does not have an adopted standard for these two measures, two books per capita and one square foot of facilities per capita were used, as they reflect the standards used for recently approved projects within Ventura County (e.g., the Camarillo library). The needs assessment includes E.P. Foster Library, H.P. Wright Library, and Avenue Library.

It is important to note that other factors besides the number of books and size of facilities have an impact on the quality of library services. Staffing levels, computer equipment, internet access, and age of books, for example, also play a key role in the quality of library services. However, in order to assess impacts on library facilities for Scenarios 1-6, books per capita and



**Table 4.11-16
 Projected Demand for Library Services**

	Current Books^a	Books Needed in 2025 at 2 Books/ Capita^b	Additional Books Required to Maintain 2 Books/ Capita	Current Facilities (square feet)^c	Facilities Needed in 2025 to Achieve 1 Square Foot/Capita Ratio (square feet)^b	Additional Facilities Required to Meet 1 Square Foot/Capita Ratio^d
Scenario 1	227,565	252,306	24,741	48,000	126,153	78,153
Scenarios 2-6	227,565	266,320	38,755	48,000	133,160	85,160

^a Book estimates from Starrett Kreissman, personal communication, 1/24/05.

^b Based on population of 126,153 for Scenario 1 and 133,160 for Scenarios 2-6.

^c Size of facilities from Starrett Kreissman, personal communication, 1/24/05.

library facilities per capita were used as they are directly related to the need for new or physically altered facilities. A discussion of impacts for each scenario follows.

Scenario 1 - Intensification/Reuse Only

Although there is no officially adopted books per capita ratio, 2 books per capita is considered an appropriate standard for the City of Ventura (Starrett Kreissman, January 2005). With a total of 227,565 books and a population of 104,952 residents, E.P. Foster Library, H.P. Wright Library, and Avenue Library currently maintain 2.16 books per capita, thereby exceeding the 2 books per capita standard. Under Scenario 1, the projected 2025 population would be 126,153 residents. Therefore, 252,306 books would be needed to maintain 2 books per capita, which would require the acquisition of an estimated 24,741 additional books.

Similar to the books per capita ratio, there is no officially adopted facilities per capita ratio; however, one square foot per capita is considered an appropriate standard (Starrett Kreissman, January 2005). With a total of 48,000 square feet of facilities and a population of 104,952, the current ratio is 0.46 square feet of facilities per capita. In order to achieve one square foot of facilities per capita, an additional 78,153 square feet of library facilities would be required by 2025 based on the 0.88% annual population growth projection.

Additional facilities would likely be provided within already urbanized areas of the Planning Area. Options for providing additional facilities could include the leasing of existing buildings, expanding existing library facilities, and/or building new facilities, any of which could likely be implemented without creating significant environmental impacts.

Scenarios 2 - 6

Because impacts would be the same for Scenarios 2-6, these scenarios are not discussed



individually. Under Scenarios 2-6, the projected 2025 population would be 133,160 residents. Therefore, 266,320 books would be needed to maintain 2 books per capita, which would require the acquisition of an estimated 38,755 additional books.

In order to achieve one square foot of library facilities per capita in 2025, an additional 85,160 square feet of facilities would be required by 2025 based on the 1.14% annual population growth projection assumed for Scenarios 2-6. Additional facilities could be provided within already urbanized areas of the Planning Area through leasing of existing buildings, expanding existing library facilities, and/or building new facilities. Expansion areas could also be used to wholly or partially meet new library demands under any of the five scenarios. Any of the options for providing new library facilities could likely be implemented without creating significant environmental impacts.

MITIGATION MEASURES

As discussed above, Scenarios 1-6 could accommodate the construction of new library facilities without creating any significant environmental impacts. Mitigation is not needed, though increased funding of libraries would be needed if new facilities are to be developed.

SIGNIFICANCE AFTER MITIGATION

Impacts would not be significant for any of the six land use scenarios. Projected overall demand for additional library facilities and services would be greater under Scenarios 2-6 than under Scenario 1 because of the higher projected population.

Impact PS-5	Existing landfills have adequate capacity to accommodate projected citywide increases in solid waste generation for the next 15-17 years. However, regional waste generation increases could exceed the daily capacity of area landfills. In addition, area landfills are projected to close in the 2022-2027 period; therefore, expanded or new facilities will be needed to accommodate solid waste generated in the City through 2025. Although the identification of new facilities is physically feasible, the City cannot ensure that new facilities are sited. Impacts are therefore considered Class I, <i>unavoidably significant</i>, for all six land use scenarios.
--------------------	--

The 2005 General Plan includes the following policies and actions related to reducing solid waste generation:

- Policy 5B** *Improve services in ways that respect and even benefit the environment.*
- Action 5.10** *Utilize existing waste source reduction requirements, and continue to expand and improve composting and recycling options.*
- Policy 1D** *Expand the use of green practices.*
- Action 1.25** *Purchase and use recycled materials and alternative and renewable*



energy sources as feasible in City operations.

Action 1.27 *Utilize green waste as biomass/compost in City operations.*

Action 1.30 *Provide information to businesses about how to reduce waste and pollution and conserve resources.*

Table 4.11-17 shows the estimated increase in solid waste generation anticipated for Scenarios 1-6. A discussion of the impacts associated with each scenario follows.

**Table 4.11-17
 Current and Projected Solid Waste Generation (tons per day)**

	Current Citywide (2003) ^a			2025 Citywide			Projected Increase (2003-2025)		
	Tons Generated Per Day	Tons Diverted from Landfills	Tons Sent to Landfills	Tons Generated Per Day ^b	Tons Diverted from Landfills ^c	Tons Sent to Landfills ^c	Increase in Tons Per Day	Additional Tons Diverted from Landfills	Additional Tons Sent to Landfills
Scenario 1	1,009	616	393	1,224	747	477	215	131	84
Scenarios 2-6	1,009	616	393	1,291	788	503	282	172	110

^a From Gary Haden, City of Ventura Environmental Services Office, personal communication, 1/24/04.

^b Based on the current per capita rate of 0.0096 tons/person/day applied to the projected population of 126,153 (Scenario 1) and 133,160 (Scenarios 2-6).

^c Assumes the City's 2003 diversion rate of 61%.

Scenario 1 - Intensification/Reuse Only

Under Scenario 1, daily citywide solid waste generation is projected to increase by about 215 tons per day by 2025. Assuming that the current 61% diversion rate is maintained, 39% of this total, about 84 tons per day, would be sent to area landfills. This is within the 350-ton combined currently available capacity at the Toland Road and Simi Valley Landfills (100 tons at Toland Road and 250 tons at Simi Valley). Adequate landfill capacity could potentially be available for the next 15-17 years. However, the Simi Valley Landfill is a less desirable alternative to Toland Road because of its long distance from Ventura. In addition, that landfill is currently projected to close by 2022. This would reduce available capacity to 100 tons per day. Though the projected 84-ton increase for the City is within this amount, the cumulative increase in solid waste sent by Ventura and other cities in the region is anticipated to exceed 100 tons given that waste generated in Ventura makes up only about 25-30% of the total waste currently going to Toland Road Landfill. In addition, the Toland Road Landfill is projected to close by 2027. Consequently, a new or expanded solid waste disposal facility is expected to be needed over the next 20 years to accommodate waste generated in Ventura. Impacts relating to solid waste disposal are considered significant.

As discussed in the *Setting*, household hazardous waste collection programs resulted in the collection of approximately 250,721 pounds of household hazardous waste and oil during 2003-2004. Using the City of Ventura 2003 population of approximately 104,300 residents, household



hazardous waste collection programs collected approximately 2.4 pounds of household hazardous waste and oil per person per year. Using this per capita rate, population growth under Scenario 1 would increase household hazardous waste generation by approximately 50,882 pounds per year. The Environmental Services Office is currently constructing a household hazardous waste facility that would allow the number of household hazardous waste collection events to increase from four to eleven events per year. Construction of the new household hazardous waste facility and the anticipated increase in collection events could accommodate the anticipated increase in household hazardous waste and oil under Scenario 1. Therefore, impacts relating to household hazardous waste are not considered significant.

Scenarios 2 - 6

Because solid waste generation and impacts would be the same for Scenarios 2-6, those scenarios are not discussed individually. Under Scenarios 2-6, daily citywide solid waste generation is projected to increase by about 282 tons per day by 2025. Assuming that the current 61% diversion rate is maintained, 39% of this total, about 110 tons per day, would be sent to area landfills. This is within the 350-ton combined currently available capacity at the Toland Road and Simi Valley Landfills (100 tons at Toland Road and 250 tons at Simi Valley). Therefore, adequate landfill capacity could potentially be available for the next 15-17 years. However, as noted previously, the Simi Valley Landfill is a less desirable alternative than Toland because of its distance from Ventura and is currently projected to close by 2022. This would reduce available capacity to 100 tons per day, which is not sufficient to accommodate the 110-ton increase associated with growth under Scenarios 2-6 or the combined increase in solid waste generation in all cities that take solid waste to Toland Road Landfill. In addition, the Toland Road Landfill is projected to close by 2027. Consequently, a new or expanded solid waste disposal facility is expected to be needed over the next 20 years to accommodate solid waste generated in Ventura. Impacts relating to solid waste disposal are considered significant.

Using the per capita rate of 2.4 pounds of household hazardous waste per year (see discussion under Scenario 1), population growth under Scenarios 2-6 would increase household hazardous waste generation by approximately 67,700 pounds per year. As noted above, the Environmental Services Office is currently constructing a household hazardous waste facility that would allow the number of household hazardous waste collection events to increase from four to eleven events per year. Construction of the new household hazardous waste facility and the anticipated increase in collection events could accommodate the anticipated increase in household hazardous waste and oil under Scenarios 2-6. Therefore, impacts relating to household hazardous waste are not considered significant.

MITIGATION MEASURES

The policies and actions listed at the beginning of this impact discussion would serve to reduce solid waste generation and landfilling to the maximum degree feasible, but would not address the potential landfill capacity shortfall. The following measure is recommended to address the potential lack of available landfill capacity in 2025 for all six scenarios.

PS-5 Solid Waste Disposal Facilities. The following actions shall be added to the 2005 General Plan:



- *Coordinate with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, or develop alternative means of disposing of solid waste that will provide sufficient capacity for waste generated in the City.*
- *Develop incentives for new residences and businesses to incorporate recycling and waste diversion practices using guidelines provided by the Environmental Services Office.*

SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended action would provide a mechanism for identifying landfill space or other means of disposing of solid waste that would meet the City's needs through 2025 and beyond. However, because siting of new landfills and waste disposal facilities is subject to the approval of another agency (the Regional Sanitation District), the City cannot guarantee the siting of a new landfill within the timeframe of the 2005 General Plan. In addition, though any new or expanded facility would likely be subject to separate environmental review under CEQA, the siting of a new facility would likely have unavoidably significant secondary environmental impacts. As such, impacts relating to solid waste disposal facilities are considered unavoidably significant for any of the six scenarios.

Impact PS-6	Population growth accommodated under any of the 2005 General Plan land use scenarios would increase demand for recreational facilities and programs. With continued payment of Quimby fees and parkland dedication in conjunction with new development, impacts could be reduced to a Class III, <i>less than significant</i>, level for all six scenarios. It should be noted, however, that Scenario 1 does not include land that could accommodate new citywide park facilities, while the expansion areas included in Scenario 5 do not include sufficient land to provide park acreage meeting the demands of projected expansion area population growth.
--------------------	---

The 2005 General Plan includes the following policies and actions relating to the provision of parks.

- Policy 6A** *Expand the park and trail network to link shoreline, hillside, and watershed areas.*
- Action 6.1** *Develop new neighborhood parks, pocket parks, and community gardens as feasible and appropriate to meet citizen needs, and require them in new development.*
- Action 6.2** *Require higher density development to provide pocket parks, tot lots, seating plazas, and other aesthetic green spaces.*
- Action 6.3** *Require development to include trails when appropriate.*



- Action 6.4** Request Flood Control District approval of public access along unchannelized watercourses for hiking.
- Action 6.5** Seek landowner permission to allow public access on properties adjacent to open space where needed to connect trails.
- Action 6.6** Update plans for and complete the linear park system as resources allow.
- Action 6.7** Work with the County of Ventura to initiate efforts to create public trails in the hillsides.
- Action 6.8** Update the Park and Recreation Workbook as necessary to reflect City objectives and community needs.
- Action 6.9** Require dedication of land identified as part of the City Linear Park System in conjunction with new development.
- Action 6.10** Evaluate and incorporate, as feasible, linear park segments in the General Bikeway Plan.
- Action 6.11** Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.
- Action 6.12** Update and carry out the Grant Park Master Plan.
- Action 6.13** Foster the partnership between the City and Fair Board to improve Seaside Park.
- Action 6.13** Foster the partnership between the City and Fair Board to improve Seaside Park.
- Policy 6B** Ensure equal access to facilities and programs.
- Action 6.14** Improve facilities at City parks to respond to the requirements of special needs groups.
- Action 6.15** Adjust and subsidize fees to ensure that all residents have the opportunity to participate in recreation programs.
- Action 6.16** Update the project fee schedule as necessary to ensure that development provides its fair share of park and recreation facilities.
- Policy 6C** Provide additional gathering spaces and recreation opportunities.
- Action 6.17** Update and create new agreements for joint use of school and City recreational and park facilities.
- Action 6.18** Offer programs that highlight natural assets, such as surfing, sailing, kayaking, climbing, gardening, and bird watching.
- Action 6.19** Provide additional boating and swimming access as feasible.
- Action 6.20** Earmark funds for adequate maintenance and rehabilitation of existing skatepark facilities, and identify locations and funding for new development of advanced level skatepark facilities.



Table 4.11-18 compares the parkland demand that would result from growth projected for Scenarios 1-6. A discussion of each scenario follows.

**Table 4.11-18
 Current and Projected Parkland Demand**

	Current Demand for Parkland^a	Increased Parkland Demand Due to Projected Population Growth^a	Total Parkland Demand in 2025^a	Total Existing Parkland^b	Additional Parkland Required to Meet 10/Acres per 1,000 Residents in 2025
Scenario 1	1,050 acres	212 acres	1,262 acres	866-870 acres	392-396 acres
Scenarios 2-6	1,050 acres	282 acres	1,332 acres	866-870 acres	462-466 acres

^aDemand for parkland is based on the City's current standard of 10 acres/1,000 residents.

^bTotal existing parkland includes Community, Montalvo, and Fill Parks, as well as City-owned linear parks. The total existing parkland varies, as the size of Surfers Point at Seaside Park and Seaside Wilderness Park fluctuate according to the mean high tide line. In addition, approximately 65% of Seaside Wilderness Park is located in the Ventura Riverbed.

Scenario 1 – Intensification/Reuse Only

Parkland demand is based on the City standard of 10 acres per 1,000 residents. Using the 2004 population of 104,952, total existing parkland is deficient by approximately 180-184 acres. With an annual population growth rate of 0.88%, Scenario 1 would generate an estimated 21,201 new residents. Based on the 10 acres/1,000 residents standard, this would generate the need for approximately 212 acres of additional parkland. Therefore, citywide demand for parkland in 2025 would be 1,262 acres. Because the current parkland inventory includes 866-870 acres, approximately 392-396 acres of new parkland would be needed to meet the 10 acres/1,000 residents standard.

Scenario 1 does not include any expansion areas and would emphasize intensification of development and the reuse of existing lands within already developed areas. Site- and project-specific environmental review would be required as sites are identified for new facilities. Dedication of parklands for new development and continued payment of required park fees to purchase lands that could be converted into parklands within the City would help offset the demand in new parklands under Scenario 1. Moreover, non-city special use facilities (e.g., state beaches, the Ventura County Fairgrounds, and Ventura Unified School District sports fields) would continue to provide approximately 600 acres of additional recreational parks and facilities that could be utilized by current and new residents.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

The intensification of residential development in certain areas of the City – notably portions of Saticoy, the Downtown District, and the Ventura Avenue, Main Street, and Thompson



Boulevard, and Telegraph Road corridors – could substantially increase demand for parks in these areas, which are largely lacking in local park facilities. Available land for new park facilities, particularly citywide facilities, is largely lacking in these areas. Therefore, the development of new parks may require land dedication in conjunction with the development of large properties in order to provide park facilities in areas where substantial residential growth is anticipated. General Plan Action 6.1 addresses this issue, calling for new neighborhood parks, pocket parks, and community gardens, and requiring new development to incorporate park facilities. In addition, Action 6.2 requires higher density development to provide pocket parks, tot lots, seating plazas, and other aesthetic green spaces. It should be noted, however, that large parcels of 100 acres or more that could accommodate citywide park facilities are lacking under Scenario 1. Consequently, the development of new citywide facilities may require future consideration of SOI expansion. Such expansion would be subject to environmental review under CEQA and, depending upon which areas, if any, are considered, voter approval.

Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Based on a projected annual population growth rate of 1.14%, Scenario 2 would accommodate an estimated 28,208 new residents. Based on the 10 acres/1,000 residents standard, this would generate the need for approximately 282 acres of additional parkland. Therefore, the citywide demand for parkland in 2025 would be 1,262 acres. The current parkland inventory includes 866-870 acres; therefore, approximately 462-466 acres of new parkland would be required to meet the 10 acres/1,000 residents standard in 2025.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

Park issues associated with intensification and reuse would be similar to those described for Scenario 1. This scenario would also include the North Avenue, Olivas, and Serra expansion areas, which include a combined 1,449 acres. If developed in the future, these areas are projected to accommodate up to about 2,700 new residences. Based on the current 2.57 persons/household, the expansion areas would accommodate a population of just under 7,000. Thus, about 70 acres of parks would be needed in order to meet demand associated with expansion area development. Specific plans have not been developed for any of the expansion areas. However, as noted in the “Expansion Area Acres by Use” estimates provided in Appendix B, it is anticipated that less than 500 acres of land would be needed to accommodate the amount of development projected for the expansion areas. Thus, more than 900 expansion area acres would potentially be available for new park facilities. This acreage would more than meet the demands associated with expansion area residential development and could be used to offset the current citywide shortfall of park acreage as well as the lack of space for citywide park facilities in intensification/reuse areas.

Scenario 3 – Intensification/Reuse + North Avenue + Olivas

The increase in park demand associated with Scenario 3 would be identical to that of Scenario 2



- 282 acres. Citywide demand for parkland in 2025 would be 1,262 acres. As with Scenario 2, approximately 462-466 acres of new parkland would be required to meet the 10 acres/1,000 residents standard in 2025.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

Park issues associated with intensification and reuse would be similar to those described for Scenario 1. This scenario would also include the North Avenue and Olivas expansion areas, which include a combined 985 acres and, if developed, could accommodate about 7,000 new residents. Similar to Scenario 2, about 70 acres of parks would be needed in order to meet demand associated with expansion area development. As noted in the "Expansion Area Acres by Use" estimates provided in Appendix B, it is anticipated that more than 500 expansion area acres would potentially be available for new park facilities under this scenario. This acreage would more than meet the demands associated with expansion area residential development and potentially could be used to offset the current citywide shortfall of park acreage as well as the lack of space for citywide park facilities in intensification/reuse areas.

Scenario 4 - Intensification/Reuse + North Avenue + Serra

The increase in park demand associated with Scenario 4 would be identical to that of Scenario 2 - 282 acres. Citywide demand for parkland in 2025 would be 1,262 acres. As with Scenario 2, approximately 462-466 acres of new parkland would be required to meet the 10 acres/1,000 residents standard in 2025.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

Park issues associated with intensification and reuse would be similar to those described for Scenario 1. This scenario would also include the North Avenue and Serra expansion areas, which include a combined 519 acres and, if developed, could accommodate about 7,000 new residents. Similar to Scenario 2, about 70 acres of parks would be needed in order to meet demand associated with expansion area development. As noted in the "Expansion Area Acres by Use" estimates provided in Appendix B, it is estimated that 147 expansion area acres would potentially be available for new park facilities under this scenario. This acreage would more than meet the demands associated with expansion area residential development and could be used to partially offset some of the current citywide shortfall of park acreage as well as the lack of space for citywide park facilities in intensification/reuse areas.

Scenario 5 - Intensification/Reuse + North Avenue + Western Cañada Larga

The increase in park demand associated with Scenario 5 would be identical to that of Scenario 2 - 282 acres. Citywide demand for parkland in 2025 would be 1,262 acres. As with Scenario 2,



approximately 462-466 acres of new parkland would be required to meet the 10 acres/1,000 residents standard in 2025.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

Park issues associated with intensification and reuse would be similar to those described for Scenario 1. This scenario would also include the North Avenue and Western Cañada Larga expansion areas, which include a combined 176 acres and, if developed, could accommodate about 7,000 new residents. Similar to Scenario 2, about 70 acres of parks would be needed in order to meet demand associated with expansion area development. As noted in the "Expansion Area Acres by Use" estimates provided in Appendix B, it is estimated that only about 32 expansion area acres would potentially be available for new park facilities under this scenario. This acreage would not be adequate to meet the demands associated with expansion area residential development.

Scenario 6 - Intensification/Reuse + North Avenue + Poinsettia

The increase in park demand associated with Scenario 6 would be identical to that of Scenario 2 - 282 acres. Citywide demand for parkland in 2025 would be 1,262 acres. As with Scenario 2, approximately 462-466 acres of new parkland would be required to meet the 10 acres/1,000 residents standard in 2025.

Dedication of parkland for new development and continued collection of required park fees on new development would allow the City to address increased demand for parks associated with population growth. Specific environmental impacts associated with individual new park facilities would need to be addressed on a case-by-case as new facilities are proposed.

Park issues associated with intensification and reuse would be similar to those described for Scenario 1. This scenario would also include the North Avenue and Poinsettia expansion areas, which include a combined 473 acres and, if developed, could accommodate about 7,000 new residents. Similar to Scenario 2, about 70 acres of parks would be needed in order to meet demand associated with expansion area development. As noted in the "Expansion Area Acres by Use" estimates provided in Appendix B, it is estimated that 113 expansion area acres would potentially be available for new park facilities under this scenario. This acreage would more than meet the demands associated with expansion area residential development and could be used to partially offset some of the current citywide shortfall of park acreage as well as the lack of space for citywide park facilities in intensification/reuse areas.

MITIGATION MEASURES

Continued payment of required park fees and dedication of land for parks on a case-by-case basis would reduce impacts to a less than significant level. Mitigation is not required for any of the six scenarios.



SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant for any of the six scenarios with continued payment of applicable park fees and dedication of parkland on a case-by-case basis. Possible environmental impacts associated with the development of new parks would depend upon the local and type of facility and would need to be addressed on case-by-case basis. It should be noted that Scenarios 2, 3, 4, and 6 would provide greater opportunities for the development of new parks, particularly citywide facilities, than would Scenarios 1 or 5. Scenario 5 includes insufficient expansion area acreage to provide enough parkland to meet the parkland demand associated with that scenario.



4.12 TRANSPORTATION and CIRCULATION

This section discusses the impacts of the 2005 General Plan upon the local transportation and circulation system. Impacts relating to the roadway system, public transit, and bicycle and pedestrian facilities are evaluated. The analysis summarizes the findings and conclusions of the Circulation Element Update Traffic Study prepared by Austin-Foust Associates. The entire text of that study, dated May 2005, is included in Appendix E. Intersection capacity utilization worksheets and other traffic study backup data are available for review at the City of Ventura Community Development Department.

4.12.1 Setting

a. Street System Performance Criteria. To evaluate the Circulation Element arterial street system in relation to the Land Use Element, use is made of performance criteria. These criteria include “performance standards” and “thresholds of significance,” the latter being used for identifying project impacts.

Performance Criteria Definitions. The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. The intersection capacity utilization (ICU) methodology is applied using peak hour volumes and the geometric configuration of the intersection. This methodology sums the V/C ratios for the critical movements of an intersection and is generally compatible with the intersection capacity analysis methodology outlined in the 2000 Highway Capacity Manual (HCM 2000).

The ICU calculation methodology and associated impact criteria used for the study area arterial system are summarized in Table 4.12-1. Action 4.11 of the 2005 General Plan directs the City to “refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.” To this end, the standards for analyzing the performance of the City’s circulation system are established as level of service “D” or “E” depending on location. This constitutes a relaxation of the current City standard (LOS C citywide except for LOS D for intersections in the Downtown, Midtown, and Westside areas). The calculation methodology, which includes saturation flow rate and clearance interval parameters that are representative values for planning purposes, could change over time in response to changes in technical procedures used for such purposes.

b. Arterial Street System. The citywide street system is illustrated on Figure 4.12-1, which shows the intersections analyzed in this EIR. Traffic conditions on the street network are described in terms of traffic volumes on the individual streets and also in terms of intersection operation. The former uses average daily traffic (ADT) as the measure of traffic usage, while the latter examines peak hour volumes to determine how well an intersection performs during rush hours.

Existing ADT volumes on the arterial street system are shown on Figure 2-2 of the traffic study in Appendix E. Estimates of current traffic volumes are based on counts taken in 2004 and represent two-direction 24-hour vehicles on an average weekday. Such volumes are not used



**Table 4.12-1
 Arterial Intersection Performance Criteria**

V/C Calculation Methodology^a	
Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following values:	
Saturation Flow Rate: 1,600 vehicles/hour/lane.	
Clearance Interval: none	
Performance Standard	
Level of Service E (peak hour ICU less than or equal to 1.00) for freeway ramp intersections. Level of Service D (peak hour ICU less than or equal to 0.90) for all other Principal Intersections*.	
Threshold of Significance (for impact analyses)	
For an intersection that is forecast to operate worse than it's performance standard, the impact of a given project is considered to be significant if the project increases the ICU by more than 0.01. An ICU increase of more than .01 does not cause the threshold of significance to be exceeded if the with-project ICU does not exceed the maximum ICU value.	
Level of Service	
Level of service ranges are as follows:	
ICU	LEVEL OF SERVICE (LOS)
0.00 – 0.60	A
0.61 – 0.70	B
0.71 – 0.80	C
0.81 – 0.90	D
0.91 – 1.00	E
Above 1.00	F
* Principal Intersections are intersections to be regularly monitored as a gauge of the operation of the City's circulation system. These intersections are illustrated on Figure 4-5 of the traffic study in Appendix E.	
^a Methodology is consistent with that recommended in the Ventura County Congestion Management Program	

directly in level of service criteria, but serve a number of purposes relative to evaluating the use of the arterial street system. In particular, they provide one of the criteria for determining functional classification.

Level of service (LOS) on the arterial street system is defined according to peak hour intersection performance using ICU values. Figure 4.12-1 shows the intersections included in this evaluation and Table 4.12-2 lists the ICUs and corresponding LOS values for year 2004. The ICUs and LOS values are illustrated on Figure 4.12-2, which shows the highest of the AM or PM ICU values at each intersection. One location does not meet the City's performance standard. The deficiency identified at the Ventura Boulevard/North Bank Drive intersection is a consequence of assuming the location to be signalized and is not an indicator of traffic operations at this location. The uncontrolled single lane off-ramp from northbound U.S. 101

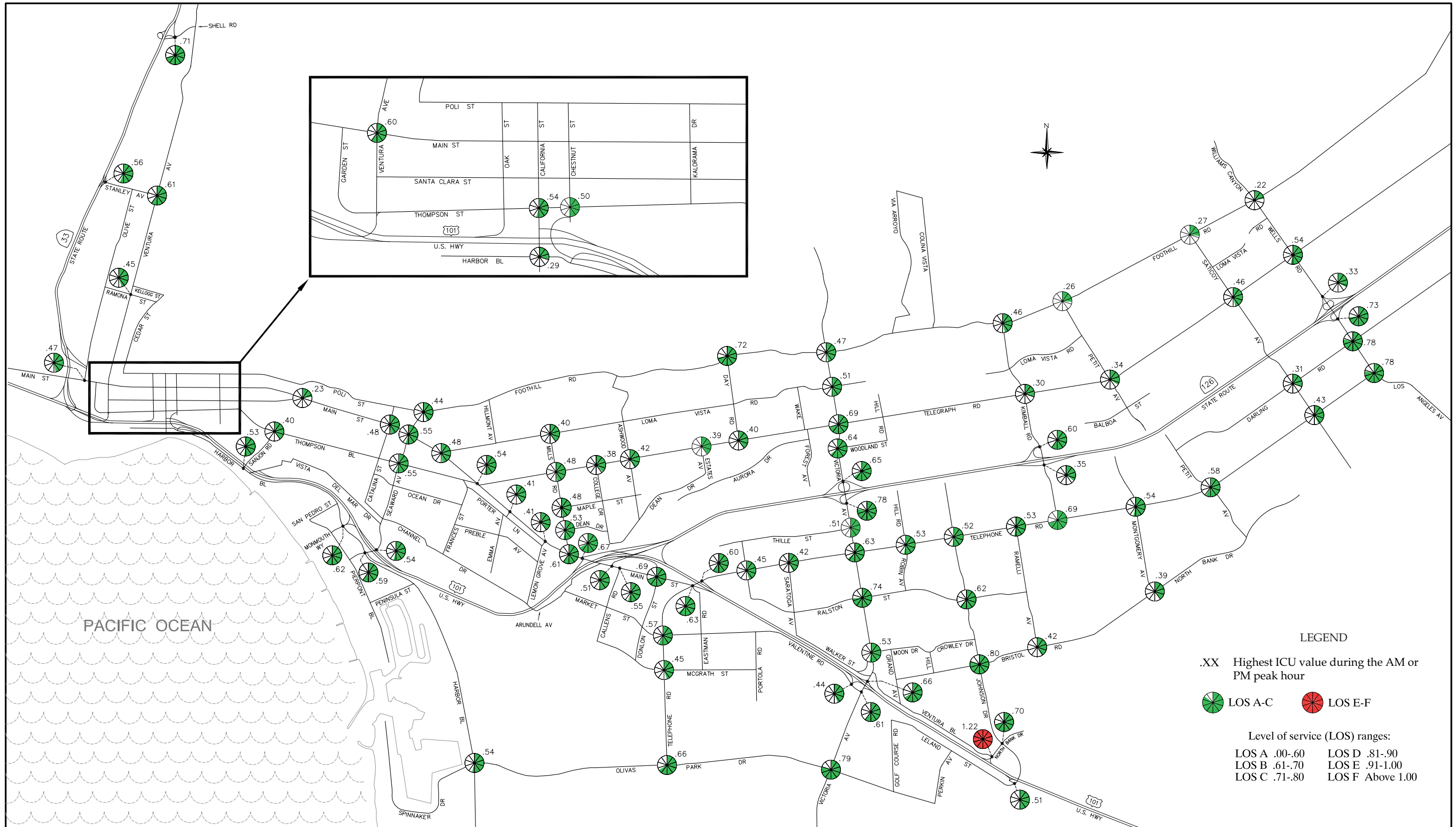




Intersection Location Map

Source: Austin-Foust Associates, Inc., May 2005

Figure 4-12-1
 City of Ventura



Existing Intersection Capacity Utilization (ICU)

Source: Austin-Foust Associates, Inc., May 2005

**Table 4.12-2
Existing ICU Summary**

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.46	A	.47	A
2. Victoria & Loma Vista	.51	A	.45	A
3. Victoria & Telegraph	.57	A	.69	B
4. Victoria & Woodland	.64	B	.50	A
5. Victoria & SR 126 SB Ramps	.53	A	.78	C
6. Victoria & Thille	.49	A	.51	A
7. Victoria & Telephone	.57	A	.63	B
8. Victoria & Ralston	.59	A	.74	C
10. Victoria & Moon	.50	A	.53	A
14. Hill & Telephone	.53	A	.45	A
15. Johnson & Telephone	.42	A	.52	A
18. Seaward & US 101 NB Ramps	.47	A	.54	A
19. Monmouth/US 101 SB & Harbor	.48	A	.62	B
20. Harbor & Olivas Park	.39	A	.54	A
23. Mills & Loma Vista	.33	A	.40	A
24. Mills & Telegraph	.45	A	.48	A
25. Mills & Maple	.47	A	.48	A
26. Mills & Dean	.51	A	.53	A
27. Mills & Main	.59	A	.61	B
28. US 101 NB Ramps & Main	.60	A	.67	B
29. SR 126 EB Ramps & Main	.37	A	.51	A
30. Callens & Main	.34	A	.55	A
31. Donlon & Main	.45	A	.69	B
32. Telephone & Main	.43	A	.63	B
33. US 101 NB Ramps & Telephone	.39	A	.60	A
34. Portola & Telephone	.38	A	.45	A
35. Saratoga & Telephone	.32	A	.42	A
38. Telephone & Market	.38	A	.57	A
42. Telephone & McGrath	.24	A	.45	A
45. Catalina & Main	.48	A	.48	A
46. Seaward & Main	.49	A	.55	A
47. Main & Loma Vista	.48	A	.44	A
49. Main & Telegraph	.38	A	.54	A
50. Emma & Main	.31	A	.41	A
51. Lemon Grove & Main	.31	A	.41	A
53. Kimball & Telephone	.69	B	.53	A



**Table 4.12-2
Existing ICU Summary**

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
55. Kimball & SR 126 EB Ramps	.35	A	.34	A
56. Kimball & SR 126 WB Ramps	.60	A	.34	A
58. Kimball & Telegraph	.21	A	.30	A
60. Ramelli & Telephone	.29	A	.53	A
61. Montgomery & Telephone	.54	A	.36	A
63. Petit & Telephone	.43	A	.58	A
65. Sanjon & Thompson	.35	A	.40	A
68. Seaward & Thompson	.42	A	.55	A
71. Sanjon & Harbor	.32	A	.53	A
75. Ashwood & Telegraph	.29	A	.42	A
77. Day & Telegraph	.40	A	.37	A
85. Victoria & Olivas Park	.77	C	.79	C
86. Telephone & Olivas Park	.53	A	.66	B
91. Johnson & Ralston	.53	A	.62	B
92. Johnson & Bristol	.74	C	.80	C
94. Johnson & North Bank	.60	A	.70	B
95. Bristol & Ramelli	.42	A	.21	A
96. Montgomery & North Bank	.39	A	.29	A
100. Saticoy & Telephone	.43	A	.41	A
101. Saticoy & Telegraph	.46	A	.42	A
102. Wells & Telegraph	.54	A	.52	A
104. Wells & SR 126 EB Ramps	.73	C	.63	B
105. Wells & Darling	.72	C	.78	C
106. Wells & Telephone	.78	C	.72	C
114. California & Thompson	.52	A	.54	A
115. Chestnut & Thompson	.42	A	.50	A
120. Ventura & Main	.35	A	.60	A
132. Ventura & Stanley	.55	A	.61	B
136. US 101 SB Ramps & Valentine	.40	A	.44	A
138. Johnson & US 101 SB Ramps	.42	A	.51	A
160. Victoria & US 101 NB Ramps	.66	B	.60	A
161. Victoria & Valentine	.43	A	.61	B
162. California & Harbor	.16	A	.29	A
163. Santa Clara & Main	.23	A	.23	A
164. Seaward & Poli	.39	A	.44	A
165. Seaward & Harbor	.57	A	.59	A
166. College & Telegraph	.33	A	.38	A



**Table 4.12-2
Existing ICU Summary**

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
168. Day & Foothill	.71	C	.72	C
169. Kimball & Foothill	.46	A	.40	A
170. Petit & Foothill	.26	A	.12	A
171. Saticoy & Foothill	.27	A	.23	A
172. Wells & Foothill	.22	A	.16	A
173. Victoria & SR 126 WB Ramps	.65	B	.61	B
174. Petit & Telegraph	.34	A	.24	A
175. Ventura & Northbank	.51	A	1.22	F
176. Saticoy & Darling	.31	A	.23	A
177. Wells & SR 126 WB Ramps	.24	A	.33	A
178. SR-33 Ramps & Stanley	.49	A	.56	A
179. SR-33 Ramps & Shell	.71	C	.70	B
180. Estates & Telegraph	.26	A	.39	A
181. Ventura & Ramona	.31	A	.45	A
182. Olive & Main	.47	A	.47	A

Level of service ranges: .00 - .60 = A
.61 - .70 = B
.71 - .80 = C
.81 - .90 = D
.91 - 1.00 = E
Above 1.00 = F

Note: Gray shading denotes intersection locations that exceed performance criteria.

feeds into three lanes on eastbound North Bank Drive and the other movements are stop-sign controlled.

c. Transit. The bus routes currently serving the City are illustrated on Figure 4.12-3. Service is provided by South Coast Area Transit (SCAT), with all six routes operating on both weekdays and weekend days. The routes serve major activity centers throughout the City, and as discussed in the bicycle section later in this chapter, buses are able to transport bicycles by means of special racks mounted on the buses.

Ventura Intercity Service Transit Authority (VISTA) provides bus service between Ventura and Santa Barbara via the transit center at Pacific View Mall. Greyhound buses connect Ventura with other statewide and national destinations. The Greyhound Station is located at 291 East Thompson Boulevard near Palm Street, and is located in a small undersized building.

Rail transit service is provided by Metrolink and AMTRAK. Figure 4.12-3 shows the station locations.



Metrolink provides rail service between Ventura and Union Station in Los Angeles on the Ventura County line. A Metrolink station operates in the City of Ventura at Ventura Boulevard and Inez Street (the Montalvo Station). Presently, three trains in both the AM and PM operate the entire length of the route between Ventura and Union Station.

Rail service to Ventura is also provided by AMTRAK via the Pacific Surfliner, which runs between San Luis Obispo to the north and San Diego to the south. The station is an unstaffed facility located at Harbor Boulevard and Figueroa Street adjacent to the Ventura County Fairgrounds (Seaside Park). Four trains operate daily, with one additional train on the weekends and one additional train that operates only during the weekdays.

d. Bicycle/Pedestrian Travel. The non-motorized components of the City's circulation system include bicycle and pedestrian facilities. These are discussed below.

Bicycle Facilities. The City General Bikeway Plan, adopted in December 1999, provides detailed information regarding the current bikeway network and an implementation program for augmenting the existing system. The plan envisions a "citywide bikeway system that serves the needs of both commuter and recreational cyclists." The Select System of Bikeways Map, shown on Figure 4.12-4, delineates existing and proposed bikeways that connect major destinations such as schools, businesses, public facilities, transit centers, and regional trails. The map also indicates the locations of amenities such as bike racks, restrooms, and shower facilities. The General Bikeway Plan is designed to facilitate the following actions:

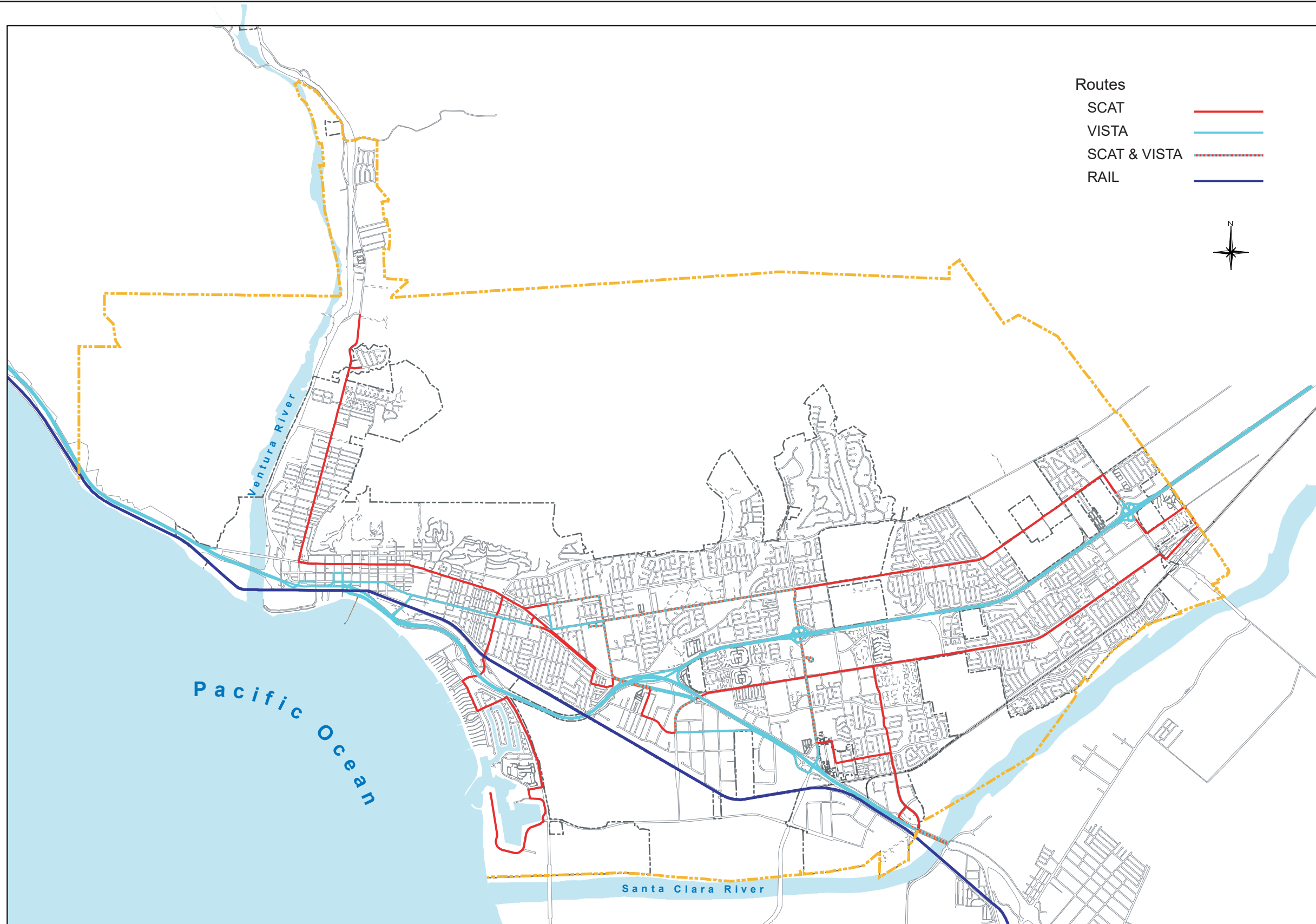
- *Address and expand upon existing City policies and establish related goals*
- *Recommend bikeway design standards*
- *Evaluate existing bicycle safety and education programs and make recommendations for enhancement*
- *Identify priorities and a phasing plan for implementation of the Select System of Bikeways Map*
- *Identify and recommend potential funding alternatives and other opportunities for inter-agency cooperation*

The General Bikeway Plan serves as a flexible, comprehensive and long-range guide for future bicycle planning, design and budgetary decisions, and helps ensure that the community's bicycle transportation and recreational needs are met.

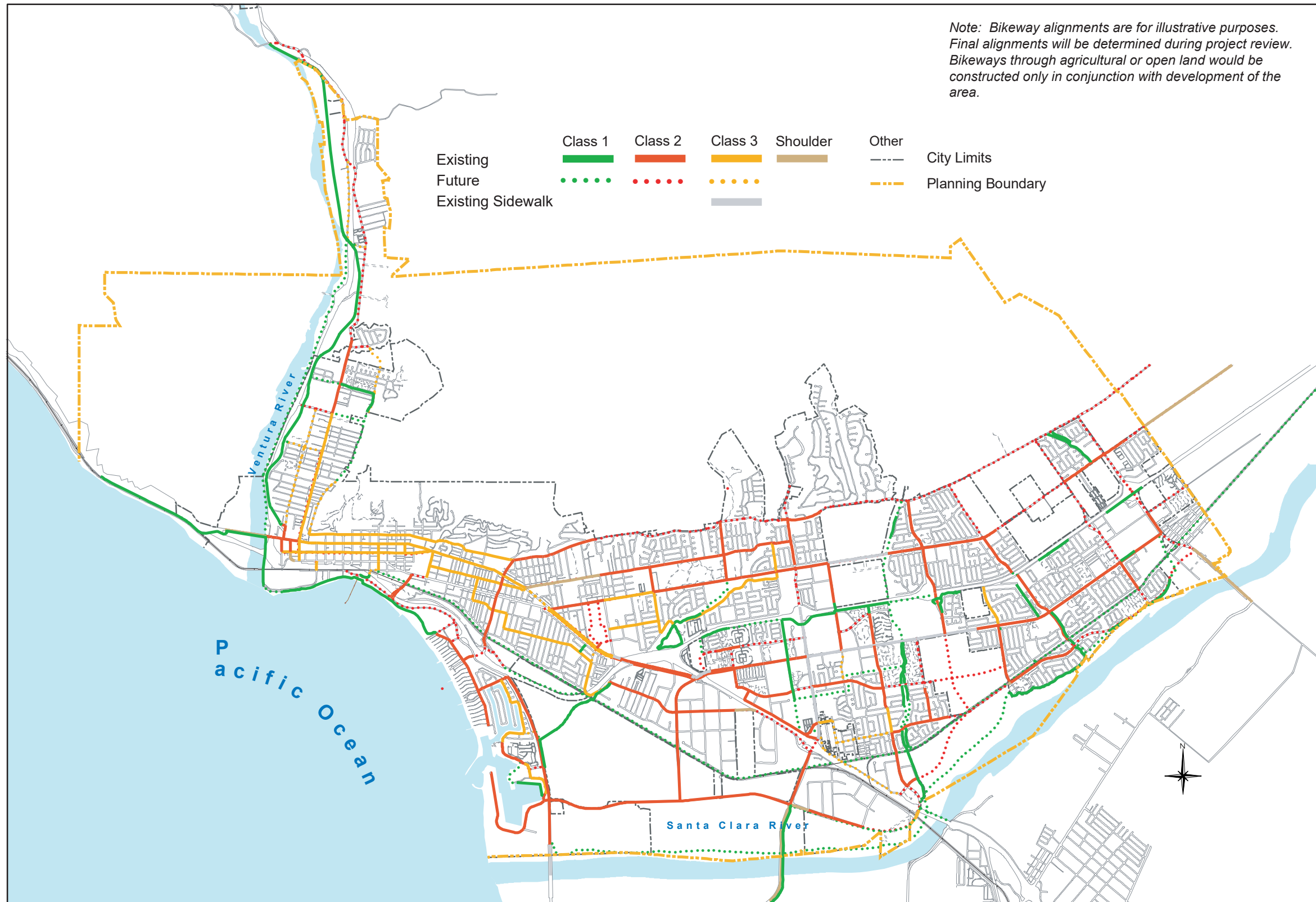
City bikeways conform to standards and designations established by the California Department of Transportation (Caltrans), which are described below.

- ***Bike Path (Class I)*** – *Class I bike paths are separated from roads by distance or barriers, and cross-traffic by motor vehicles is minimized. Bike paths offer opportunities not provided by the road system and can provide recreational opportunities or serve as desirable commuter routes. Design standards require two-way bicycle paths to be a minimum of eight feet wide plus shoulders. Bike paths are usually shared with pedestrians, and if pedestrian use is expected to be significant, the desirable width is 12 feet.*





Existing Transit Routes



Existing System of Bikeways

- ***Bike Lane (Class II)*** – A Class II bikeway is a lane on a road that is reserved for bicycles. The lane is painted with pavement lines and markings and is signed. The lane markings decrease the potential for conflicts between motorists and bicyclists. Bike lanes are one-way, with a lane on each side of the roadway between the travel lane and the edge of paving or, if parking is permitted, between the travel lane and the parking lane. The lanes are at least four feet wide, five feet if parking is permitted.
- ***Bike Route (Class III)*** – Class III bike routes share existing roads and provide continuity to other bikeways or designated preferred routes through high traffic areas. There is no separate lane and bike routes are established by placing signs that direct cyclists and warn drivers of the presence of bicyclists. Since bicyclists are permitted on all roads, the decision to sign a road as a bike route is based on factors including the advisability of encouraging bicycle travel on the route, the need to meet bicycle demand, and the desire to connect discontinuous segments of bike lanes.

Pedestrian Facilities and Programs. Figure 4.12-5 shows primary pedestrian facilities in Ventura, which are described below.

Sidewalks. Sidewalks are the most important component of the City's pedestrian system. The City maintains 283 centerline miles of streets (one centerline mile is 5,280 feet by 10 feet) and 2 million square feet of sidewalks. Most city streets have sidewalks, but some neighborhood streets do not. For example, portions of the Arundell area that were developed in the 1970s and 1980s lack sidewalks. During that period, it was assumed industrial uses would not need sidewalks. Some hillside neighborhoods also lack sidewalks, including portions of Hobson Heights and Ondulando. Finally, there are stretches of arterial streets, such as Foothill Road and Telephone Road that lack sidewalks. Maintenance of the sidewalk system is a large cost item for the City. As of January 2002, the City had recorded 11,249 damaged segments of sidewalk.

Access Ramps. Access ramps are sloped sidewalks at intersections that provide transitions into street crosswalks for wheelchairs, strollers, and other wheeled vehicles like bicycles. The need for access ramps was codified with the 1990 Americans with Disabilities Act (ADA), which intends to make American society more accessible to people with disabilities. It contains requirements for new construction, alterations or renovations to buildings and facilities, and access to existing facilities of private companies that provide public goods or services. ADA requires access ramps at each street intersection from the sidewalk to the street level to permit safe movement for people with disabilities. Access ramps are currently being retrofitted into City sidewalks.

Crosswalks. The California Vehicle Code defines a crosswalk as the portion of a roadway at an intersection that is an extension of the curb and property lines of the intersecting street, or is any other portion of a roadway that is marked as a pedestrian crossing location by painted lines. A marked crosswalk is delineated by white or yellow painted markings on the pavement. Crosswalks adjacent to or within 600 feet of a school building or grounds or along a suggested route to school are painted yellow; all other painted crosswalks are white. Although drivers legally must yield to pedestrians in any crosswalk (marked or unmarked), marking encourages pedestrians to use particular crossings. The City maintains marked crosswalks at intersections:



- *Where there is substantial conflict between vehicle and pedestrian movement*
- *Where significant pedestrian concentrations occur*
- *Where pedestrians could not otherwise recognize the proper place to cross*
- *Where traffic movements are controlled*

Such locations include school crossings and signalized and four way stop intersections.

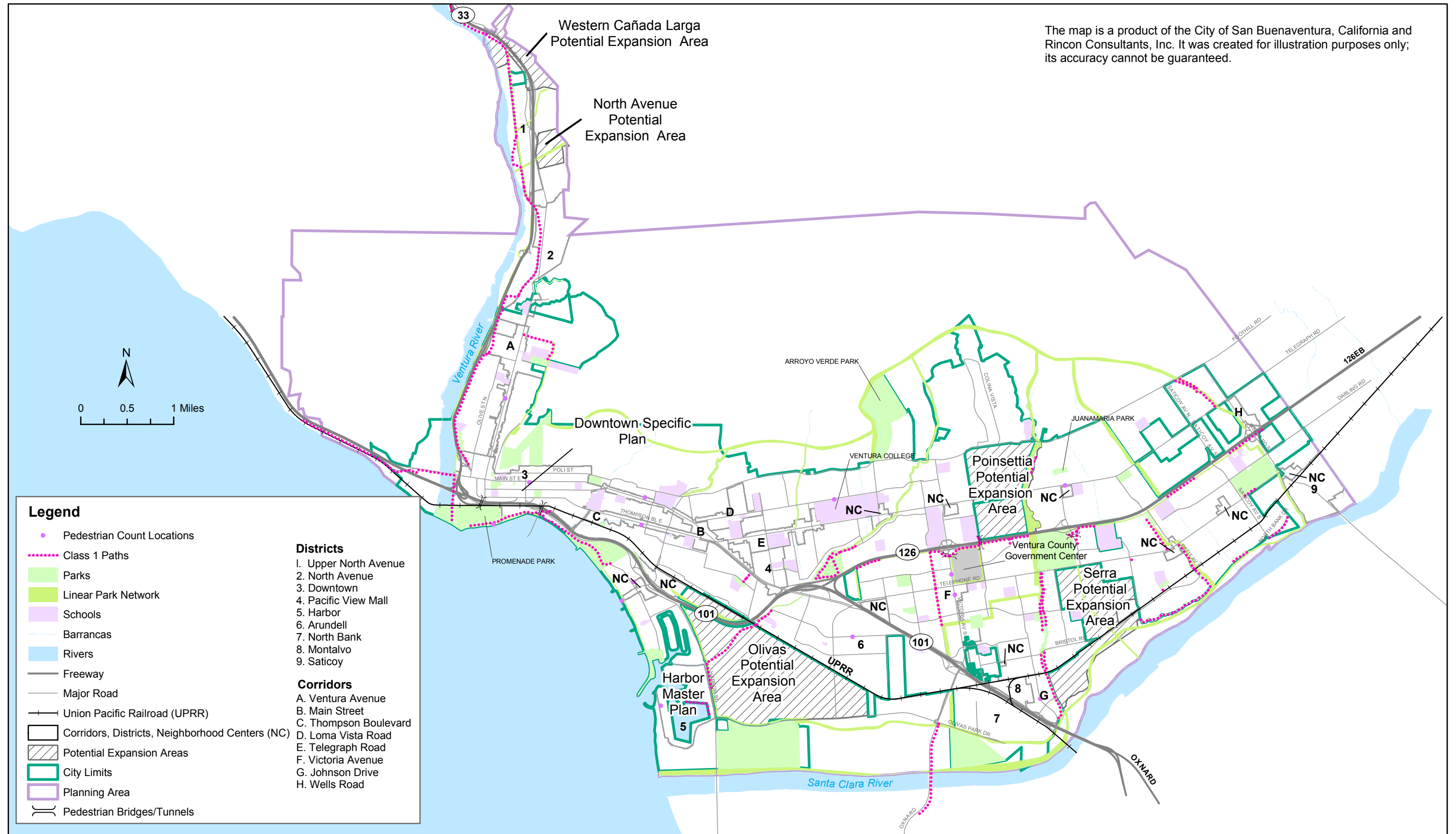
In an effort to improve the “pedestrian friendliness” of the local circulation system, the City has undertaken a number of programs. These are summarized below.

- **Lowered Speed Limits.** *In January 2001, the State revised the criteria used to determine speed limits to include consideration of adjacent residential density and bicycle and pedestrian safety. Many City streets have been re-surveyed under the new criteria and speed limits have been lowered. This ongoing effort will continue to evaluate and adjust the speed limit.*
- **Restriping Streets.** *The City has been studying the advantages, disadvantages, and feasibility of narrowing selected segments of arterials and collector streets from four lanes to two to make them more pedestrian and bicycle friendly, as well as to calm traffic. Pierpont Boulevard was restriped from four lanes to two, narrowing the field of car travel while affording pedestrians more buffer area from through-lanes of vehicle traffic. Class II bike lanes on the street were widened and clearly painted, while cars were aligned more toward the center of the street. Similar efforts have been implemented on portions of Main Street, Santa Clara Street, and Loma Vista Road between Main Street and Mills Road.*
- **Neighborhood Traffic Management and Calming Program.** *In June 1997, the City adopted a Comprehensive Neighborhood Traffic Management Program aimed at reducing traffic volumes and speeds on local residential streets carrying 800 or more vehicles per day. The Program, which was updated in December 2004, includes a four-tiered approach offering 25 different options to citizens wanting to implement traffic measures on their streets. Levels 1 and 2, which do not involve major physical changes to the street, are implemented by the City. Posting 25 mph speed limits and directing Police Department enforcement are two traffic-calming approaches at these levels. Levels 3 and 4 options, which are funded by citizens, involve physical changes to the street such as traffic circles, speed humps, and chokers, to calm traffic speeds and/or reduce traffic volumes. A report describing the Neighborhood Traffic Management and Calming Program is available at City Hall or online at www.ci.ventura.ca.us/cityhall/publicworks/traffic.htm.*
- **School Traffic Safety Programs.** *The Ventura Unified School District and the City have been working together to maintain a Comprehensive Suggested Route to School Program. In addition, the City has developed a manual entitled, “School Area Traffic Safety Guidelines.” The guidelines include safe routes to school maps for all elementary and middle schools in the Ventura Unified District, information on the adult/assistant crossing guard program, traffic control devices that can potentially be used in school zones, and walking/biking safety education programs.*

Assembly Bill 1886 allows for a doubling of the base fines in the case of misdemeanors or infractions, respectively, occurring in specially posted school zones. The program was implemented by a vote of the city council. The enhanced portion of



The map is a product of the City of San Buenaventura, California and Rincon Consultants, Inc. It was created for illustration purposes only; its accuracy cannot be guaranteed.



Source: City of San Buenaventura and Rincon Consultants, Inc., 2005.

the fine imposed, pursuant to Section 42011 of the Vehicle Code, is used exclusively to pay for the cost of school pedestrian-bicyclist safety programs. Currently double fine school zones have been installed throughout the City at all of the elementary and middle school locations.

The City uses specialized funding through the State Safe Routes to School (SR2S) program. It is a safety program that uses federal transportation funds for construction of school access-related bicycle/pedestrian safety and traffic calming projects.

- **Improved Pedestrian Signals.** *The City is working to improve pedestrian accessibility at signalized intersections. There are several different programs being worked on to retrofit all existing pedestrian push buttons with ADA compliant accessible push buttons and install audible pedestrian signals (APS) at several intersection locations where visually impaired pedestrians routinely cross. Lastly, the City is putting in “countdown timers” which indicate the time remaining until the flashing “Don’t Walk” phase of the signal is terminated.*

Pedestrian System Deficiencies. The main deficiency of Ventura’s pedestrian system is its discontinuity. Many sections of streets lack sidewalks, and pedestrian connections between key use areas are rare and often in need of repair. A pedestrian environment is lacking in a number of locations throughout the City. There are limited crosswalks in some key use areas, and, in some instances, the pedestrian signal phases may be too short for some walkers. Traffic-calming measures would also improve the walkability of many Ventura neighborhoods. Table 4.12-3 lists specific pedestrian system deficiencies by neighborhood.

**Table 4.12-3
 Neighborhood Pedestrian System Concerns**

Community	Concern
Westside	<ul style="list-style-type: none"> • Few sidewalk and pedestrian amenities such as street trees, lights, benches • Conflict between bicycles on sidewalks and pedestrians
Downtown	<ul style="list-style-type: none"> • Inadequate and unsafe Beach connections
Midtown	<ul style="list-style-type: none"> • Few sidewalk and pedestrian amenities such as street trees • Limited marked or signalized crosswalks • Signal phases for crossing wide streets too short • Cars drive too fast despite 35 mph posted speed limit
Pierpont	<ul style="list-style-type: none"> • Residential driveways too short, and sidewalks too narrow (5 feet) • Mixed-use area (lower Seaward) not attracting as many pedestrians as it could
Harbor	<ul style="list-style-type: none"> • Frequent disconnections of inner-harbor pedestrian path
Arundell	<ul style="list-style-type: none"> • Large portions of missing sidewalks along streets • No sidewalk and pedestrian amenities where sidewalks are present
East Ventura	<ul style="list-style-type: none"> • Several main streets very wide with high traffic volumes • Cars drive too fast (posted speed limit between 40 and 55 mph) • Sidewalks lacking in some areas • Few sidewalk amenities where sidewalks are present • Bicycle lanes on sidewalks on parts of Telephone Road and Victoria Avenue
Foothill Area	<ul style="list-style-type: none"> • Foothill Road dangerous (few sidewalks/crossings, too many cars, drive too fast) • Some neighborhoods lack sidewalks

Source: Ventura Vision, 2000, CPAC workshops 2001-2002, various neighborhood plans, and Rincon Consultants site visits, 2002.



4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of impacts uses long-range traffic forecast data based on projected growth in accordance with the General Plan land uses through 2025 to assess future needs and thereby identify a future street network that is adequate to serve those needs.

The approach used in this analysis is to apply year 2025 traffic forecasts to the existing system plus committed improvements (i.e., those that are funded and planned for implementation). The resulting information is then used to identify where deficiencies can be anticipated. Additional or expanded roadways are then added to the committed arterial street system until there is adequate capacity to serve the future traffic demands (these are referred to as non-committed improvements). Where appropriate, alternative strategies for achieving a balanced system were tested and evaluated.

Traffic forecast data presented here was produced using the Ventura citywide traffic forecasting model. The model uses future land use and circulation system assumptions to derive corresponding traffic forecast data. A detailed description of the modeling procedures can be found in the traffic model documentation report, which is available for review at the City of Ventura Community Development Department.

The evaluation of land use and circulation system alternatives uses the performance criteria described in the *Setting*. As discussed there, the procedure is based on peak hour intersection performance with emphasis on the Principal Intersections identified throughout the City (and as illustrated on Figure 4-5 of the traffic study in Appendix E). Peak hour intersection capacity utilization (ICU) values are calculated using a "Baseline" set of roadway system improvements. As discussed in the *Setting*, level of service (LOS) "E" (ICU not to exceed 1.00) is the performance standard for freeway ramp intersections and LOS "D" (ICU not to exceed .90) is the performance standard for all other Principal Intersections. Locations not operating at an acceptable LOS with the Baseline Network assumptions are considered deficient, and improvements needed to mitigate the projected deficiencies are identified. Impacts relating to transportation and circulation would also be considered potentially significant if development allowed under the 2005 General Plan through 2025 would:

- *Result in a change in air traffic patterns*
- *Substantially increase traffic-related hazards due to a design feature or incompatible uses*
- *Result in inadequate emergency access*
- *Conflict with adopted policies relating to alternative transportation modes, including transit, walking, and bicycling*

b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of transportation and circulation impacts for each of the six 2005 General Plan land use scenarios. A discussion of the impacts for each scenario follows.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Roadway System Impacts (Impact TC-1)	<p>One location - Wells Road and Darling Road intersection - requires additional (non-committed) improvements. Because feasible improvements are available for this deficiency, impacts are Class II, significant but mitigable.</p>	<p>Four locations require additional (non-committed) improvements, with one deficiency under the Baseline Network and four deficiencies under the Alternative Network. Deficient locations are:</p> <p><u>Baseline Network</u></p> <ul style="list-style-type: none"> • Wells Road at Darling Road <p><u>Alternative Network</u></p> <ul style="list-style-type: none"> • Mills Road at Main Street • Johnson Drive at North Bank Drive • Wells Road at Darling Road • Ventura Boulevard at North Bank Drive <p>Feasible improvements are available for all deficiencies except Johnson Drive/North Bank Drive. Impacts at that location are Class I, unavoidably significant.</p>	<p>Two locations require additional (non-committed) improvements, with one deficiency under the Baseline Network and two under the Alternative Network. Deficient locations are:</p> <p><u>Baseline Network</u></p> <ul style="list-style-type: none"> • Wells Road at Darling Road <p><u>Alternative Network</u></p> <ul style="list-style-type: none"> • Mills Road at Main Street • Wells Road at Darling Road <p>Because feasible improvements are available for these deficiencies, impacts are Class II, significant but mitigable.</p>	<p>Four locations require additional (non-committed) improvements, with three deficiencies under each network scenario (Baseline and Alternative). Deficient locations are:</p> <p><u>Baseline Network</u></p> <ul style="list-style-type: none"> • Johnson Drive at Telephone Road • Johnson Drive at North Bank Drive • Wells Road at Darling Road <p><u>Alternative Network</u></p> <ul style="list-style-type: none"> • Johnson Drive at North Bank Drive • Wells Road at Darling Road • Ventura Boulevard at North Bank Drive <p>Because feasible improvements are available for these deficiencies, impacts are Class II, significant but mitigable.</p>	<p>Two locations require additional (non-committed) improvements, with both deficiencies under each network scenario (Baseline and Alternative). Deficient locations are:</p> <p><u>Baseline Network</u></p> <ul style="list-style-type: none"> • SR-33 Ramps at Shell Road • Wells Road at Darling Road <p><u>Alternative Network</u></p> <ul style="list-style-type: none"> • SR-33 Ramps at Shell Road • Wells Road at Darling Road <p>Because feasible improvements are available for these deficiencies, impacts are Class II, significant but mitigable.</p>	<p>One location requires additional (non-committed) improvements, with the deficiency under both network scenarios (Baseline and Alternative). The deficient location is:</p> <p><u>Baseline Network</u></p> <ul style="list-style-type: none"> • Wells Road at Darling Road <p><u>Alternative Network</u></p> <ul style="list-style-type: none"> • Wells Road at Darling Road <p>Because feasible improvements are available for this deficiency, impacts are Class II, significant but mitigable.</p>



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Alternative Transportation Modes (Impact TC-2)	Emphasis on intensification/reuse and mixed use development, in combination with proposed General Plan policies, generally enhance opportunities for alternative transportation modes. Impacts are Class IV, beneficial.	Impacts similar to Scenario 1 and Class IV, beneficial. Expansion areas served by existing bus routes. Olivas and Serra areas would improve connections between existing neighborhoods.	Impacts similar to Scenario 1 and Class IV, beneficial. Expansion areas served by existing bus routes. Olivas area would improve connections between existing neighborhoods.	Impacts similar to Scenario 1 and Class IV, beneficial. Expansion areas served by existing bus routes. Serra area would improve connections between existing neighborhoods.	Impacts similar to Scenario 1 and Class IV, beneficial. Expansion areas served by existing bus routes.	Impacts similar to Scenario 1 and Class IV, beneficial. Expansion areas served by existing bus routes. Poinsettia area would improve connections between existing neighborhoods.
Traffic-Related Hazards (Impact TC-3)	Mixed use development along main traffic corridors (Main Street, Thompson Boulevard, Ventura Avenue, etc.) creates some potential for pedestrian hazards. Proposed General Plan policies/actions and existing City programs reduce impacts to Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas pose no obvious traffic hazards.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas pose no obvious traffic hazards.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas pose no obvious traffic hazards.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas pose no obvious traffic hazards.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas pose no obvious traffic hazards.
Air Traffic (Impact TC-4)	No airports are located within or adjacent to the Ventura Planning Area. Air traffic impacts are Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant.



Impact TC-1 Growth accommodated under any of the General Plan land use scenarios could result in deficiencies to the local circulation system based on recommended level of service standards. The number of locations that could have deficiencies based on the projected growth scenarios ranges from one (for Scenario 1) to four (for Scenarios 2 and 4). Feasible improvements are available to address all projected deficiencies for Scenarios 1, 3, 4, 5, and 6; therefore, impacts associated with those scenarios are considered Class II, *significant but mitigable*. For Scenario 2, implementation of feasible improvements would not achieve performance standards at the Johnson Drive/North Bank Drive intersection. The impact at that location is considered Class I, *unavoidably significant*, for Scenario 2.

Scenario 1 - Intensification/Reuse Only

The overall trip generation increase citywide through 2025 is estimated at 172,290 ADT under this scenario (see Table 3-1 in the traffic study in Appendix E). This represents an increase of 18.7% over existing conditions, and the growth is generally spread throughout the Planning Area. ADTs for specific roadways are shown on Figure 3-2 of the traffic study in Appendix E.

Year 2025 ICUs are illustrated on Figure 4.12-6. Transportation improvements to provide adequate capacity for this scenario are shown in Table 4.12-4. Year 2025 ICUs are listed in Table 4.12-5, which shows the ICU values under Baseline improvements only, and then the values obtained by adding the recommended additional improvements (labeled “non-committed” improvements). Scenario 1 results in one location requiring additional (non-committed) improvements. This location is the Wells Road and Darling Road intersection.



**Table 4.12-4
Roadway Improvements – Scenario 1**

Location	Improvement
<i>I. Baseline</i>	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
<i>II. Non-Committed</i>	
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane





2025 Intersection Capacity Utilization (ICU)
 Scenario 1 (Baseline Network)

**Table 4.12-5
2025 ICU Summary – Scenario 1**

Intersection	Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.54	A	--		--	
2. Victoria & Loma Vista	.55	A	.51	A	--		--	
3. Victoria & Telegraph	.62	B	.77	C	--		--	
4. Victoria & Woodland	.71	C	.56	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.84	D	--		--	
6. Victoria & Thille	.52	A	.60	A	--		--	
7. Victoria & Telephone	.63	B	.72	C	--		--	
8. Victoria & Ralston	.69	B	.77	C	--		--	
10. Victoria & Moon	.56	A	.62	B	--		--	
14. Hill & Telephone	.53	A	.60	A	--		--	
15. Johnson & Telephone	.49	A	.74	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.62	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.56	A	.80	C	--		--	
20. Harbor & Olivas Park	.41	A	.76	C	--		--	
23. Mills & Loma Vista	.33	A	.42	A	--		--	
24. Mills & Telegraph	.50	A	.52	A	--		--	
25. Mills & Maple	.53	A	.52	A	--		--	
26. Mills & Dean	.54	A	.53	A	--		--	
27. Mills & Main	.69	B	.73	C	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.83	D	--		--	
29. SR 126 EB Ramps & Main (a)	.53	A	.65	B	--		--	
30. Callens & Main	.46	A	.68	B	--		--	
31. Donlon & Main	.56	A	.84	D	--		--	
32. Telephone & Main (a)	.61	B	.86	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.67	B	--		--	
34. Portola & Telephone	.36	A	.50	A	--		--	
35. Saratoga & Telephone	.30	A	.56	A	--		--	
38. Telephone & Market	.60	A	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--	
45. Catalina & Main	.38	A	.35	A	--		--	
46. Seaward & Main	.53	A	.69	B	--		--	
47. Main & Loma Vista	.52	A	.54	A	--		--	
49. Main & Telegraph	.46	A	.71	C	--		--	
50. Emma & Main	.40	A	.51	A	--		--	
51. Lemon Grove & Main	.41	A	.47	A	--		--	
53. Kimball & Telephone	.76	C	.66	B	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.77	C	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--	
60. Ramelli & Telephone	.38	A	.67	B	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--	
65. Sanjon & Thompson	.48	A	.59	A	--		--	
68. Seaward & Thompson	.51	A	.65	B	--		--	
71. Sanjon & Harbor	.36	A	.66	B	--		--	
75. Ashwood & Telegraph	.29	A	.48	A	--		--	
77. Day & Telegraph	.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.66	B	.80	C	--		--	
86. Telephone & Olivas Park	.56	A	.69	B	--		--	
91. Johnson & Ralston	.71	C	.80	C	--		--	
92. Johnson & Bristol	.71	C	.73	C	--		--	

**Table 4.12-5
2025 ICU Summary – Scenario 1**

	Baseline Improvements				Non-Committed Improvements			
94. Johnson & North Bank	.70	B	.82	D	--		--	
95. Bristol & Ramelli	.49	A	.26	A	--		--	
96. Montgomery & North Bank	.55	A	.47	A	--		--	
100. Saticoy & Telephone	.47	A	.46	A	--		--	
101. Saticoy & Telegraph	.47	A	.51	A	--		--	
102. Wells & Telegraph	.63	B	.63	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.65	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.06	F	.63	B	.88	D
106. Wells & Telephone	.72	C	.73	C	--		--	
114. California & Thompson	.39	A	.46	A	--		--	
115. Chestnut & Thompson	.48	A	.59	A	--		--	
120. Ventura & Main	.40	A	.71	C	--		--	
132. Ventura & Stanley	.75	C	.83	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.48	A	.53	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.52	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.81	D	.66	B	--		--	
161. Victoria & Valentine (a)	.69	B	.78	C	--		--	
162. California & Harbor	.26	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--	
164. Seaward & Poli	.41	A	.50	A	--		--	
165. Seaward & Harbor	.58	A	.70	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.30	A	--		--	
172. Wells & Foothill	.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.86	D	.74	C	--		--	
174. Petit & Telegraph	.42	A	.28	A	--		--	
175. Ventura & North Bank (a)	.41	A	.88	D	--		--	
176. Saticoy & Darling	.35	A	.29	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.50	A	--		--	
178. SR-33 Ramps & Stanley (a)	.67	B	.76	C	--		--	
179. SR-33 Ramps & Shell (a)	.83	D	.86	D	--		--	
180. Estates & Telegraph	.29	A	.39	A	--		--	
181. Ventura & Ramona	.32	A	.49	A	--		--	
182. Olive & Main	.52	A	.58	A	--		--	
190. Petit & North Bank	.20	A	.26	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--	
192. Los Angeles & North Bank	.71	C	.85	D	--		--	
193. Saticoy & A Street	.17	A	.13	A	--		--	
194. Wells & A Street	.43	A	.41	A	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations. Note: Gray shading denotes intersection locations that exceed the performance standard.



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue, Olivas, and Serra expansion areas. The overall trip generation increase citywide through 2025 is estimated at 206,905 ADT under this scenario (see Table 3-4 in the traffic study in Appendix E). This represents an increase of 22.5% over existing conditions. ADTs for specific roadways are shown on Figure 3-5 of the traffic study in Appendix E.

Year 2025 ICUs are depicted on Figure 4.12-7. To serve this scenario, it is anticipated that the following new roadway links would be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Mills Road extension to Harbor Boulevard (connection at Schooner Drive)
2. New collector between Mills Road and Telephone Road in the Olivas expansion area
3. North Bank Drive extension from Johnson Drive to Bristol Road
4. Kimball Road extension from Telephone Road to North Bank Drive
5. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Table 4.12-6 summarizes the overall roadway and intersection improvements for this scenario, and Table 4.12-7 lists the ICU values with Baseline Improvements and with the recommended additional improvements. It should be noted that with North Bank Drive extended from Johnson Drive to Bristol Road in the Alternative Network, the six-lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline Network is not needed.

Scenario 2 results in a total of four locations that require additional (non-committed) improvements, with one deficiency occurring under the Baseline Network and four deficiencies occurring under the Alternative Network. The deficient locations are as follows:

Baseline Network

- Wells Road at Darling Road

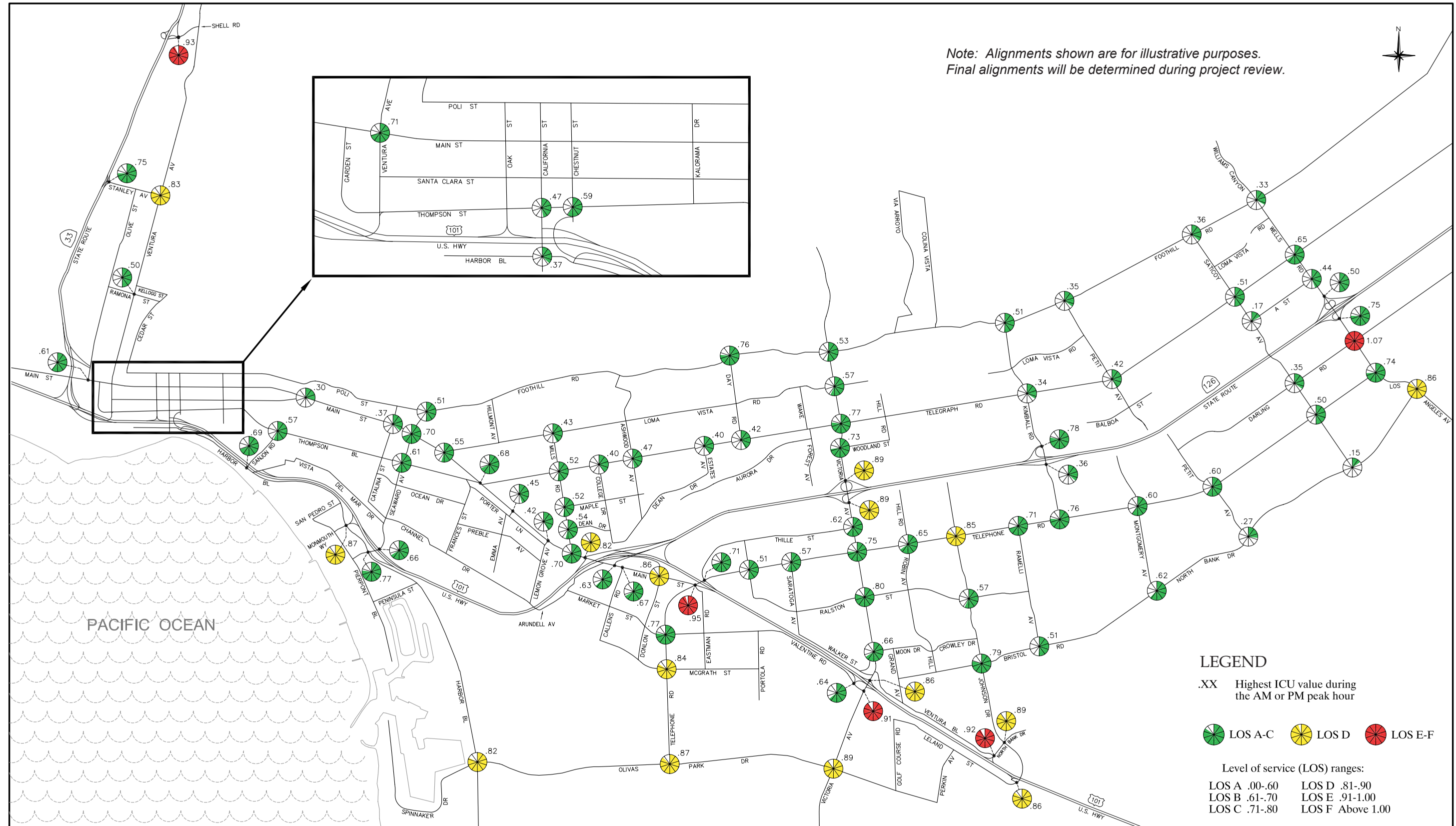
Alternative Network

- Mills Road at Main Street
- Johnson Drive at North Bank Drive
- Wells Road at Darling Road
- Ventura Boulevard at North Bank Drive



This page intentionally left blank.





2025 Intersection Capacity Utilization (ICU)
 Scenario 2 (Baseline Network)

Source: Austin-Foust Associates, Inc., May 2005

**Table 4.12-6
Roadway Improvements – Scenario 2**

Location	Improvement
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes (a)
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound Right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
1a. Streets (Alternative Network)	
B Street (Mills Road to Telephone Road)	New two-lane roadway
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
Mills Road (Arundell Avenue to Harbor Boulevard)	New four-lane roadway
North Bank Drive (Johnson Drive to Bristol Road)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway



**Table 4.12-6
Roadway Improvements – Scenario 2**

<i>Location</i>	<i>Improvement</i>
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
27. Mills Road at Main Street	Add northbound left-turn lane and second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Improve eastbound approach to provide two left-turn lanes, three through lanes and a separate right-turn lane, and improve westbound approach to provide three left-turn lanes and two through lanes
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
175. Ventura Boulevard at North Bank Drive	Add third eastbound through lane

(a) This widening is not needed in the Alternative Network for this scenario, which includes an extension of North Bank Drive from Johnson Drive to Bristol Road.



**Table 4.12-7
 2025 ICU Summary – Scenario 2**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.53	A	--		--		.51	A	.54	A	--		--	
2. Victoria & Loma Vista	.57	A	.51	A	--		--		.55	A	.51	A	--		--	
3. Victoria & Telegraph	.64	B	.77	C	--		--		.61	B	.76	C	--		--	
4. Victoria & Woodland	.73	C	.57	A	--		--		.69	B	.54	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.89	D	--		--		.54	A	.82	D	--		--	
6. Victoria & Thille	.53	A	.62	B	--		--		.50	A	.56	A	--		--	
7. Victoria & Telephone	.66	B	.75	C	--		--		.60	A	.68	B	--		--	
8. Victoria & Ralston	.70	B	.80	C	--		--		.63	B	.80	C	--		--	
10. Victoria & Moon	.57	A	.66	B	--		--		.54	A	.59	A	--		--	
14. Hill & Telephone	.56	A	.65	B	--		--		.51	A	.55	A	--		--	
15. Johnson & Telephone	.52	A	.85	D	--		--		.45	A	.47	A	--		--	
18. Seaward & US 101 NB Ramps (a)	.59	A	.66	B	--		--		.50	A	.54	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.57	A	.87	D	--		--		.58	A	.85	D	--		--	
20. Harbor & Olivas Park	.52	A	.82	D	--		--		.52	A	.79	C	--		--	
23. Mills & Loma Vista	.34	A	.43	A	--		--		.33	A	.44	A	--		--	
24. Mills & Telegraph	.49	A	.52	A	--		--		.49	A	.55	A	--		--	
25. Mills & Maple	.51	A	.52	A	--		--		.57	A	.60	A	--		--	
26. Mills & Dean	.54	A	.52	A	--		--		.58	A	.59	A	--		--	
27. Mills & Main	.70	B	.69	B	--		--		.83	D	1.14	F	.59	A	.76	C
28. US 101 NB Ramps & Main (a)	.82	D	.80	C	--		--		.72	C	.72	C	--		--	
29. SR 126 EB Ramps & Main (a)	.55	A	.63	B	--		--		.47	A	.58	A	--		--	
30. Callens & Main	.47	A	.67	B	--		--		.41	A	.61	B	--		--	
31. Donlon & Main	.58	A	.86	D	--		--		.51	A	.79	C	--		--	
32. Telephone & Main (a)	.69	B	.95	E	--		--		.63	B	.90	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.57	A	.71	C	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.36	A	.51	A	--		--		.36	A	.51	A	--		--	
35. Saratoga & Telephone	.31	A	.57	A	--		--		.30	A	.55	A	--		--	



**Table 4.12-7
 2025 ICU Summary – Scenario 2**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
38. Telephone & Market	.67	B	.77	C	--		--		.62	B	.74	C	--		--	
42. Telephone & McGrath	.41	A	.84	D	--		--		.29	A	.70	B	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.38	A	.34	A	--		--	
46. Seaward & Main	.58	A	.70	B	--		--		.54	A	.66	B	--		--	
47. Main & Loma Vista	.55	A	.51	A	--		--		.53	A	.50	A	--		--	
49. Main & Telegraph	.45	A	.68	B	--		--		.44	A	.68	B	--		--	
50. Emma & Main	.41	A	.45	A	--		--		.42	A	.47	A	--		--	
51. Lemon Grove & Main	.40	A	.42	A	--		--		.46	A	.51	A	--		--	
53. Kimball & Telephone	.76	C	.71	C	--		--		.49	A	.38	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.36	A	.34	A	--		--		.40	A	.34	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.78	C	.43	A	--		--		.92	E	.47	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.27	A	.34	A	--		--	
60. Ramelli & Telephone	.42	A	.71	C	--		--		.28	A	.35	A	--		--	
61. Montgomery & Telephone	.60	A	.39	A	--		--		.55	A	.40	A	--		--	
63. Petit & Telephone	.46	A	.60	A	--		--		.49	A	.62	B	--		--	
65. Sanjon & Thompson	.49	A	.57	A	--		--		.48	A	.55	A	--		--	
68. Seaward & Thompson	.50	A	.61	B	--		--		.50	A	.60	A	--		--	
71. Sanjon & Harbor	.37	A	.69	B	--		--		.36	A	.69	B	--		--	
75. Ashwood & Telegraph	.29	A	.47	A	--		--		.31	A	.46	A	--		--	
77. Day & Telegraph	.42	A	.39	A	--		--		.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.72	C	.89	D	--		--		.72	C	.86	D	--		--	
86. Telephone & Olivas Park	.64	B	.87	D	--		--		.55	A	.65	B	--		--	
91. Johnson & Ralston	.52	A	.57	A	--		--		.43	A	.53	A	--		--	
92. Johnson & Bristol	.75	C	.79	C	--		--		.33	A	.51	A	--		--	
94. Johnson & North Bank	.74	C	.89	D	--		--		.99	E	1.32	F	.79	C	.97	E
95. Bristol & Ramelli	.51	A	.31	A	--		--		.12	A	.14	A	--		--	
96. Montgomery & North Bank	.62	B	.47	A	--		--		.54	A	.43	A	--		--	



**Table 4.12-7
 2025 ICU Summary – Scenario 2**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
100. Saticoy & Telephone	.50	A	.48	A	--		--		.46	A	.45	A	--		--	
101. Saticoy & Telegraph	.50	A	.51	A	--		--		.49	A	.52	A	--		--	
102. Wells & Telegraph	.65	B	.63	B	--		--		.63	B	.61	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.66	B	.75	C	--		--		.63	B	.73	C	--		--	
105. Wells & Darling	.69	B	1.07	F	.63	B	.88	D	.67	B	1.03	F	.61	B	.83	D
106. Wells & Telephone	.74	C	.73	C	--		--		.68	B	.70	B	--		--	
114. California & Thompson	.43	A	.47	A	--		--		.41	A	.46	A	--		--	
115. Chestnut & Thompson	.50	A	.59	A	--		--		.49	A	.56	A	--		--	
120. Ventura & Main	.42	A	.71	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.75	C	.83	D	--		--		.75	C	.83	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.54	A	.64	B	--		--		.55	A	.63	B	--		--	
138. Johnson & US 101 SB Ramps (a)	.57	A	.86	D	--		--		.59	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.86	D	.72	C	--		--		.81	D	.68	B	--		--	
161. Victoria & Valentine (a)	.79	C	.91	E	--		--		.75	C	.86	D	--		--	
162. California & Harbor	.29	A	.37	A	--		--		.31	A	.37	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--		.25	A	.28	A	--		--	
164. Seaward & Poli	.42	A	.51	A	--		--		.41	A	.48	A	--		--	
165. Seaward & Harbor	.64	B	.77	C	--		--		.57	A	.64	B	--		--	
166. College & Telegraph	.34	A	.40	A	--		--		.34	A	.41	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--		.75	C	.74	C	--		--	
169. Kimball & Foothill	.51	A	.44	A	--		--		.53	A	.51	A	--		--	
170. Petit & Foothill	.35	A	.18	A	--		--		.34	A	.19	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.32	A	--		--	
172. Wells & Foothill	.33	A	.25	A	--		--		.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.89	D	.75	C	--		--		.83	D	.71	C	--		--	
174. Petit & Telegraph	.42	A	.27	A	--		--		.44	A	.27	A	--		--	
175. Ventura & North Bank (a)	.46	A	.92	E	--		--		.48	A	1.13	F	.48	A	.78	C



**Table 4.12-7
 2025 ICU Summary – Scenario 2**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
176. Saticoy & Darling	.35	A	.29	A	--		--		.35	A	.28	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.50	A	--		--		.32	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.69	B	.75	C	--		--		.69	B	.75	C	--		--	
179. SR-33 Ramps & Shell (a)	.93	E	.93	E	--		--		.93	E	.93	E	--		--	
180. Estates & Telegraph	.28	A	.40	A	--		--		.28	A	.38	A	--		--	
181. Ventura & Ramona	.33	A	.50	A	--		--		.33	A	.50	A	--		--	
182. Olive & Main	.54	A	.61	B	--		--		.55	A	.61	B	--		--	
190. Petit & North Bank	.22	A	.27	A	--		--		.24	A	.30	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.13	A	--		--	
192. Los Angeles & North Bank	.72	C	.86	D	--		--		.66	B	.82	D	--		--	
193. Saticoy & A St	.17	A	.12	A	--		--		.18	A	.12	A	--		--	
194. Wells & A St	.44	A	.41	A	--		--		.43	A	.42	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.33	A	.37	A	--		--	
197. Kimball & Ralston	--		--		--		--		.32	A	.46	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.26	A	.23	A	--		--	
199. Kimball & North Bank	--		--		--		--		.69	B	.64	B	--		--	
200. Harbor & Mills	--		--		--		--		.42	A	.59	A	--		--	
201. Mills & B St	--		--		--		--		.73	C	.75	C	--		--	
202. Telephone & B St	--		--		--		--		.48	A	.65	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.



Scenario 3 – Intensification/Reuse + North Avenue + Olivas

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Olivas expansion areas. The overall trip generation increase citywide through 2025 is estimated at 201,998 ADT under this scenario (see Table 3-7 of the traffic study in Appendix E). This represents an increase of 21.9% over existing conditions. ADTs for specific roadways are shown on Figure 3-8 of the traffic study in Appendix E.

Year 2025 ICUs are depicted on Figure 4.12-8. Deficiencies shown here are addressed by selected intersection improvements and by new roadway links serving the Olivas expansion area (the Mills Road extension and a new collector between the extension of Mills Road and Telephone Road). Table 4.12-8 summarizes the overall roadway and intersection improvements for this scenario. Table 4.12-9 lists the ICU values with Baseline improvements and with the recommended additional improvements.

Scenario 3 results in two locations that require additional (non-committed) improvements, with one deficiency occurring under the Baseline Network and two occurring under the Alternative Network. The deficient locations are as follows:

Baseline Network

- Wells Road at Darling Road

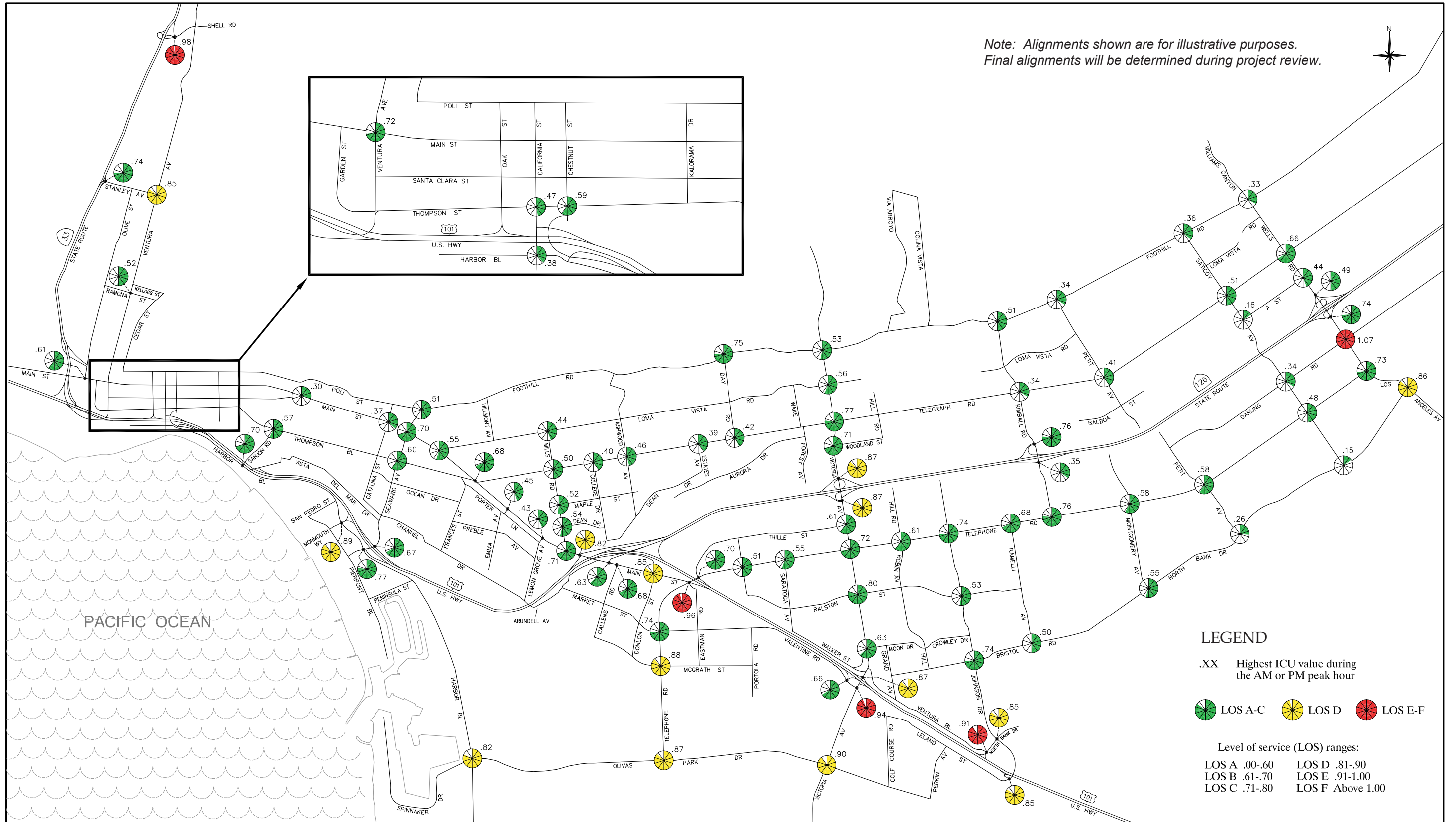
Alternative Network

- Mills Road at Main Street
- Wells Road at Darling Road

**Table 4.12-8
Roadway Improvements – Scenario 3**

<i>Location</i>	<i>Improvement</i>
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
1a. Streets (Alternative Network)	
B Street (Mills Road to Telephone Road)	New two-lane roadway
Mills Road (Arundell Avenue to Harbor Boulevard)	New four-lane roadway
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add second southbound left-turn lane, second westbound left-turn lane and eastbound left-turn lane
2a. Intersections (Alternative Network)	
27. Mills Road at Main Street	Add northbound left-turn lane and second northbound and southbound through lanes
105. Wells Road at Darling Road	Add second southbound left-turn lane, second westbound left-turn lane and eastbound left-turn lane





2025 Intersection Capacity Utilization (ICU)
 Scenario 3 (Baseline Network)

**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.49	A	.53	A	--		--		.50	A	.52	A	--		--	
2. Victoria & Loma Vista	.56	A	.50	A	--		--		.55	A	.49	A	--		--	
3. Victoria & Telegraph	.63	B	.77	C	--		--		.61	B	.75	C	--		--	
4. Victoria & Woodland	.71	C	.56	A	--		--		.69	B	.55	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.87	D	--		--		.56	A	.84	D	--		--	
6. Victoria & Thille	.53	A	.61	B	--		--		.51	A	.60	A	--		--	
7. Victoria & Telephone	.64	B	.72	C	--		--		.61	B	.70	B	--		--	
8. Victoria & Ralston	.69	B	.80	C	--		--		.68	B	.79	C	--		--	
10. Victoria & Moon	.57	A	.63	B	--		--		.57	A	.62	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.53	A	.61	B	--		--	
15. Johnson & Telephone	.48	A	.74	C	--		--		.48	A	.73	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.60	A	.67	B	--		--		.52	A	.55	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.57	A	.89	D	--		--		.58	A	.86	D	--		--	
20. Harbor & Olivas Park	.55	A	.82	D	--		--		.53	A	.81	D	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
23. Mills & Loma Vista	.34	A	.44	A	--		--		.33	A	.45	A	--		--	
24. Mills & Telegraph	.49	A	.50	A	--		--		.50	A	.54	A	--		--	
25. Mills & Maple	.52	A	.51	A	--		--		.58	A	.60	A	--		--	
26. Mills & Dean	.54	A	.54	A	--		--		.57	A	.58	A	--		--	
27. Mills & Main	.70	B	.71	C	--		--		.95	E	1.27	F	.60	A	.82	D
28. US 101 NB Ramps & Main (a)	.82	D	.80	C	--		--		.71	C	.70	B	--		--	
29. SR 126 EB Ramps & Main (a)	.55	A	.63	B	--		--		.47	A	.57	A	--		--	
30. Callens & Main	.47	A	.68	B	--		--		.42	A	.59	A	--		--	
31. Donlon & Main	.59	A	.85	D	--		--		.54	A	.79	C	--		--	
32. Telephone & Main (a)	.69	B	.96	E	--		--		.65	B	.90	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.57	A	.70	B	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.37	A	.51	A	--		--		.35	A	.50	A	--		--	
35. Saratoga & Telephone	.31	A	.55	A	--		--		.30	A	.55	A	--		--	
42. Telephone & McGrath	.46	A	.88	D	--		--		.29	A	.70	B	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.38	A	.34	A	--		--	
46. Seaward & Main	.59	A	.70	B	--		--		.56	A	.67	B	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
47. Main & Loma Vista	.55	A	.53	A	--		--		.53	A	.51	A	--		--	
49. Main & Telegraph	.46	A	.68	B	--		--		.45	A	.67	B	--		--	
50. Emma & Main	.41	A	.45	A	--		--		.42	A	.47	A	--		--	
51. Lemon Grove & Main	.40	A	.43	A	--		--		.49	A	.49	A	--		--	
53. Kimball & Telephone	.76	C	.66	B	--		--		.76	C	.65	B	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--		.34	A	.32	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.76	C	.40	A	--		--		.76	C	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.24	A	.33	A	--		--	
60. Ramelli & Telephone	.37	A	.68	B	--		--		.38	A	.67	B	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--		.58	A	.36	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--		.46	A	.59	A	--		--	
65. Sanjon & Thompson	.49	A	.57	A	--		--		.48	A	.57	A	--		--	
68. Seaward & Thompson	.53	A	.60	A	--		--		.50	A	.58	A	--		--	
71. Sanjon & Harbor	.38	A	.70	B	--		--		.37	A	.68	B	--		--	
75. Ashwood & Telegraph	.29	A	.46	A	--		--		.31	A	.48	A	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
77. Day & Telegraph	.42	A	.39	A	--		--		.43	A	.39	A	--		--	
85. Victoria & Olivas Park	.74	C	.90	D	--		--		.73	C	.85	D	--		--	
86. Telephone & Olivas Park	.68	B	.87	D	--		--		.56	A	.66	B	--		--	
91. Johnson & Ralston	.67	B	.80	C	--		--		.71	C	.81	D	--		--	
92. Johnson & Bristol	.72	C	.74	C	--		--		.71	C	.74	C	--		--	
94. Johnson & North Bank	.71	C	.85	D	--		--		.71	C	.81	D	--		--	
95. Bristol & Ramelli	.50	A	.27	A	--		--		.47	A	.26	A	--		--	
96. Montgomery & North Bank	.55	A	.48	A	--		--		.54	A	.46	A	--		--	
100. Saticoy & Telephone	.48	A	.46	A	--		--		.47	A	.46	A	--		--	
101. Saticoy & Telegraph	.47	A	.51	A	--		--		.47	A	.51	A	--		--	
102. Wells & Telegraph	.66	B	.62	B	--		--		.66	B	.62	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.66	B	.74	C	--		--		.66	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.07	F	.63	B	.89	D	.69	B	1.06	F	.63	B	.88	D
106. Wells & Telephone	.72	C	.73	C	--		--		.72	C	.73	C	--		--	
114. California & Thompson	.44	A	.47	A	--		--		.43	A	.47	A	--		--	
115. Chestnut & Thompson	.50	A	.59	A	--		--		.50	A	.58	A	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
120. Ventura & Main	.40	A	.72	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.85	D	--		--		.74	C	.84	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.56	A	.66	B	--		--		.56	A	.63	B	--		--	
138. Johnson & US 101 SB Ramps (a)	.58	A	.85	D	--		--		.58	A	.85	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.87	D	.73	C	--		--		.82	D	.71	C	--		--	
161. Victoria & Valentine (a)	.82	D	.94	E	--		--		.80	C	.90	D	--		--	
162. California & Harbor	.28	A	.38	A	--		--		.31	A	.38	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.42	A	.51	A	--		--		.41	A	.49	A	--		--	
165. Seaward & Harbor	.65	B	.77	C	--		--		.56	A	.68	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--		.34	A	.42	A	--		--	
168. Day & Foothill	.73	C	.75	C	--		--		.73	C	.73	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--		.51	A	.46	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.31	A	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
172. Wells & Foothill	.33	A	.26	A	--		--		.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.87	D	.73	C	--		--		.84	D	.71	C	--		--	
174. Petit & Telegraph	.41	A	.27	A	--		--		.41	A	.27	A	--		--	
175. Ventura & North Bank (a)	.42	A	.91	E	--		--		.42	A	.89	D	--		--	
176. Saticoy & Darling	.34	A	.30	A	--		--		.34	A	.29	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.68	B	.74	C	--		--		.68	B	.74	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	
180. Estates & Telegraph	.29	A	.39	A	--		--		.28	A	.39	A	--		--	
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.51	A	--		--	
182. Olive & Main	.55	A	.61	B	--		--		.56	A	.61	B	--		--	
190. Petit & North Bank	.21	A	.26	A	--		--		.20	A	.26	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.15	A	--		--	
192. Los Angeles & North Bank	.71	C	.86	D	--		--		.71	C	.86	D	--		--	



**Table 4.12-9
 2025 ICU Summary – Scenario 3**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
193. Saticoy & A St	.16	A	.13	A	--		--		.16	A	.13	A	--		--	
194. Wells & A St	.44	A	.42	A	--		--		.44	A	.41	A	--		--	
200. Harbor & Mills	--		--		--		--		.42	A	.64	B	--		--	
201. Mills & B St	--		--		--		--		.77	C	.83	D	--		--	
202. Telephone & B St	--		--		--		--		.49	A	.65	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.



Scenario 4 – Intensification/Reuse + North Avenue + Serra

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Serra expansion areas. The overall trip generation increase citywide through 2025 is estimated at 199,798 ADT under this scenario (see Table 3-10 of the traffic study in Appendix E). This represents an increase of 21.7% over existing conditions. ADTs for specific roadways are shown on Figure 3-11 of the traffic study in Appendix E.

Year 2025 ICUs are shown on Figure 4.12-9. To serve this scenario, it is anticipated that the following new roadway links would be added as an alternative to the Baseline Network along with selected intersection improvements:

1. North Bank Drive extension from Johnson Drive to Bristol Road
2. Kimball Road extension from Telephone Road to North Bank Drive
3. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Table 4.12-10 summarizes the overall roadway and intersection improvements for this scenario, and Table 4.12-11 lists the ICU values with Baseline Improvements and with the recommended additional improvements. It should be noted that with North Bank Drive extended from Johnson Drive to Bristol Road in the Alternative Network, the six-lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline Network is not needed.

Scenario 4 results in four locations that require additional (non-committed) improvements, with three deficiencies occurring under each network scenario (Baseline and Alternative). The deficient locations are as follows:

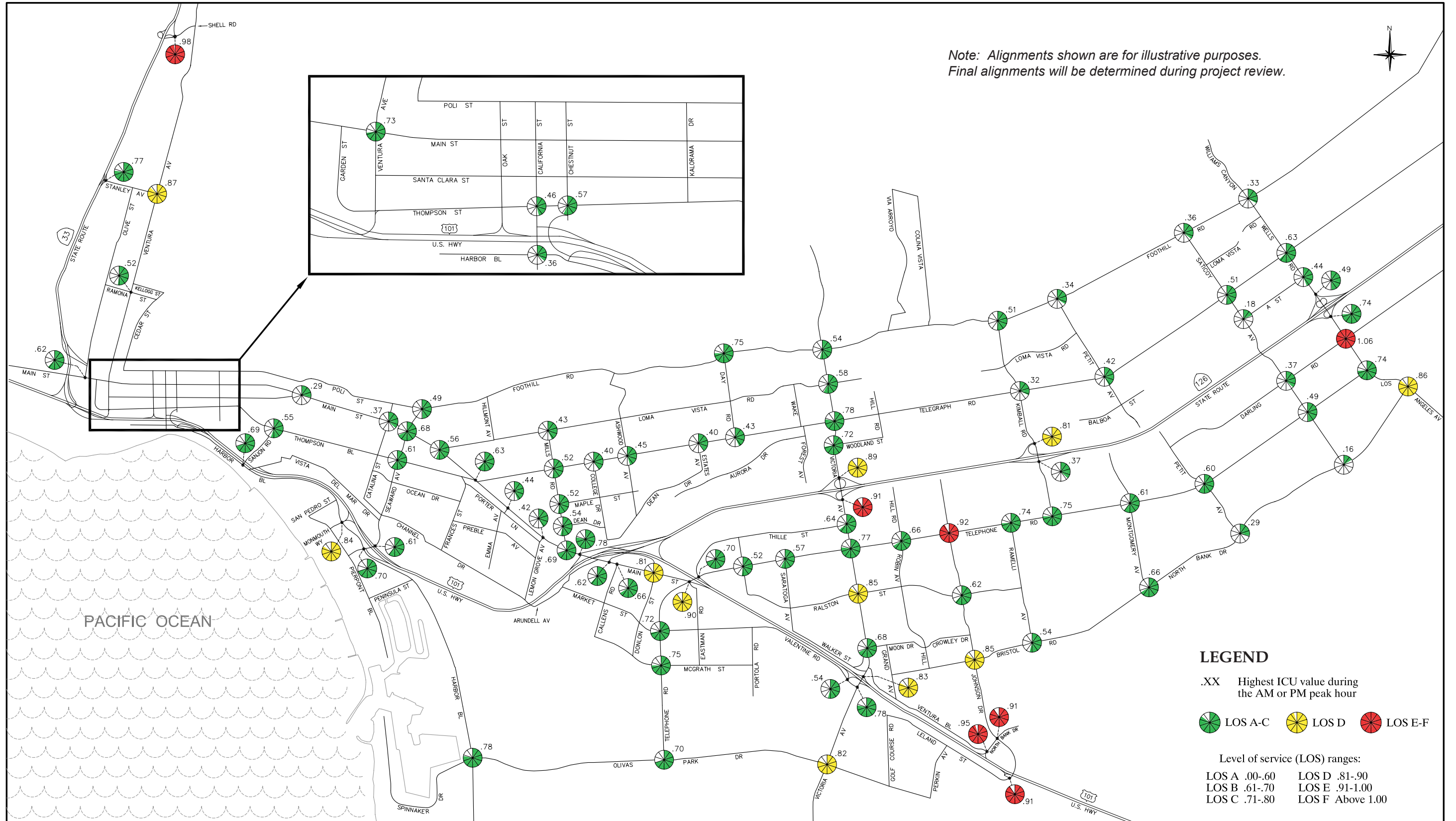
Baseline Network

- Johnson Drive at Telephone Road
- Johnson Drive at North Bank Drive
- Wells Road at Darling Road

Alternative Network

- Johnson Drive at North Bank Drive
- Wells Road at Darling Road
- Ventura Boulevard at North Bank Drive





2025 Intersection Capacity Utilization (ICU)
 Scenario 4 (Baseline Network)

Source: Austin-Foust Associates, Inc., May 2005

Figure 4-12-9

**Table 4.12-10
Roadway Improvements – Scenario 4**

<i>Location</i>	<i>Improvement</i>
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes (a)
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
1a. Streets (Alternative Network)	
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
North Bank Drive (Johnson Drive to Bristol Road)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway
2. Intersections (Baseline Network)	
15. Johnson Drive & Telephone Road	Add separate eastbound right-turn lane



**Table 4.12-10
Roadway Improvements – Scenario 4**

Location	Improvement
94. Johnson Drive at North Bank Drive	Add southbound right-turn lane
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
94. Johnson Drive at North Bank Drive	Improve eastbound approach to provide two left-turn lanes, three through lanes and a separate right-turn lane, and improve westbound approach to provide three left-turn lanes and two through lanes
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
175. Ventura Boulevard at North Bank Drive	Add third eastbound through lane

(a) This widening is not needed in the Alternative Network for this scenario, which includes an extension of North Bank Drive from Johnson Drive to Bristol Road.



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.54	A	--		--		.50	A	.53	A	--		--	
2. Victoria & Loma Vista	.58	A	.51	A	--		--		.59	A	.52	A	--		--	
3. Victoria & Telegraph	.64	B	.78	C	--		--		.64	B	.77	C	--		--	
4. Victoria & Woodland	.72	C	.57	A	--		--		.71	C	.57	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.91	E	--		--		.56	A	.83	D	--		--	
6. Victoria & Thille	.53	A	.64	B	--		--		.52	A	.62	B	--		--	
7. Victoria & Telephone	.64	B	.77	C	--		--		.63	B	.72	C	--		--	
8. Victoria & Ralston	.71	C	.85	D	--		--		.69	B	.87	D	--		--	
10. Victoria & Moon	.60	A	.68	B	--		--		.58	A	.64	B	--		--	
14. Hill & Telephone	.57	A	.66	B	--		--		.53	A	.58	A	--		--	
15. Johnson & Telephone	.55	A	.92	E	.52	A	.85	D	.46	A	.66	B	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.61	B	--		--		.52	A	.61	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.55	A	.84	D	--		--		.55	A	.84	D	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
20. Harbor & Olivas Park	.41	A	.78	C	--		--		.41	A	.78	C	--		--	
23. Mills & Loma Vista	.33	A	.43	A	--		--		.33	A	.42	A	--		--	
24. Mills & Telegraph	.49	A	.52	A	--		--		.49	A	.51	A	--		--	
25. Mills & Maple	.52	A	.50	A	--		--		.51	A	.50	A	--		--	
26. Mills & Dean	.54	A	.53	A	--		--		.54	A	.54	A	--		--	
27. Mills & Main	.69	B	.68	B	--		--		.67	B	.68	B	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.78	C	--		--		.77	C	.78	C	--		--	
29. SR 126 EB Ramps & Main (a)	.53	A	.62	B	--		--		.52	A	.62	B	--		--	
30. Callens & Main	.46	A	.66	B	--		--		.45	A	.65	B	--		--	
31. Donlon & Main	.57	A	.81	D	--		--		.56	A	.81	D	--		--	
32. Telephone & Main (a)	.62	B	.90	D	--		--		.62	B	.89	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.70	B	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.36	A	.52	A	--		--		.35	A	.50	A	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
35. Saratoga & Telephone	.31	A	.57	A	--		--		.31	A	.56	A	--		--	
38. Telephone & Market	.62	B	.72	C	--		--		.62	B	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.29	A	.75	C	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.37	A	.33	A	--		--	
46. Seaward & Main	.55	A	.68	B	--		--		.55	A	.68	B	--		--	
47. Main & Loma Vista	.56	A	.54	A	--		--		.56	A	.53	A	--		--	
49. Main & Telegraph	.45	A	.63	B	--		--		.45	A	.62	B	--		--	
50. Emma & Main	.40	A	.44	A	--		--		.40	A	.44	A	--		--	
51. Lemon Grove & Main	.40	A	.42	A	--		--		.40	A	.42	A	--		--	
53. Kimball & Telephone	.75	C	.74	C	--		--		.63	B	.44	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.37	A	.33	A	--		--		.38	A	.34	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.81	D	.44	A	--		--		.84	D	.48	A	--		--	
58. Kimball & Telegraph	.25	A	.32	A	--		--		.25	A	.33	A	--		--	
60. Ramelli & Telephone	.45	A	.74	C	--		--		.35	A	.42	A	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
61. Montgomery & Telephone	.61	B	.42	A	--		--		.52	A	.42	A	--		--	
63. Petit & Telephone	.46	A	.60	A	--		--		.49	A	.62	B	--		--	
65. Sanjon & Thompson	.47	A	.55	A	--		--		.47	A	.54	A	--		--	
68. Seaward & Thompson	.49	A	.61	B	--		--		.49	A	.61	B	--		--	
71. Sanjon & Harbor	.36	A	.69	B	--		--		.36	A	.69	B	--		--	
75. Ashwood & Telegraph	.30	A	.45	A	--		--		.29	A	.45	A	--		--	
77. Day & Telegraph	.43	A	.39	A	--		--		.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.68	B	.82	D	--		--		.68	B	.83	D	--		--	
86. Telephone & Olivas Park	.56	A	.70	B	--		--		.56	A	.70	B	--		--	
91. Johnson & Ralston	.56	A	.62	B	--		--		.48	A	.60	A	--		--	
92. Johnson & Bristol	.79	C	.85	D	--		--		.66	B	.86	D	--		--	
94. Johnson & North Bank	.76	C	.91	E	.71	C	.87	D	.92	E	1.19	F	.77	C	.88	D
95. Bristol & Ramelli	.54	A	.37	A	--		--		.32	A	.29	A	--		--	
96. Montgomery & North Bank	.66	B	.47	A	--		--		.45	A	.39	A	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
100. Saticoy & Telephone	.49	A	.48	A	--		--		.48	A	.49	A	--		--	
101. Saticoy & Telegraph	.49	A	.51	A	--		--		.48	A	.52	A	--		--	
102. Wells & Telegraph	.63	B	.62	B	--		--		.64	B	.62	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.66	B	.74	C	--		--		.66	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.06	F	.63	B	.89	D	.69	B	1.08	F	.63	B	.87	D
106. Wells & Telephone	.74	C	.73	C	--		--		.73	C	.73	C	--		--	
114. California & Thompson	.42	A	.46	A	--		--		.42	A	.46	A	--		--	
115. Chestnut & Thompson	.49	A	.57	A	--		--		.50	A	.55	A	--		--	
120. Ventura & Main	.42	A	.73	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.87	D	--		--		.74	C	.87	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.46	A	.54	A	--		--		.49	A	.55	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.56	A	.91	E	--		--		.58	A	.87	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.83	D	.70	B	--		--		.81	D	.68	B	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
161. Victoria & Valentine (a)	.73	C	.78	C	--		--		.70	B	.78	C	--		--	
162. California & Harbor	.28	A	.36	A	--		--		.28	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.29	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.41	A	.49	A	--		--		.41	A	.50	A	--		--	
165. Seaward & Harbor	.58	A	.70	B	--		--		.58	A	.70	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--		.32	A	.38	A	--		--	
168. Day & Foothill	.74	C	.75	C	--		--		.74	C	.75	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--		.51	A	.48	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.31	A	--		--	
172. Wells & Foothill	.33	A	.25	A	--		--		.33	A	.25	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.89	D	.76	C	--		--		.87	D	.75	C	--		--	
174. Petit & Telegraph	.42	A	.26	A	--		--		.41	A	.27	A	--		--	
175. Ventura & North Bank (a)	.48	A	.95	E	--		--		.47	A	1.06	F	.47	A	.74	C



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
176. Saticoy & Darling	.37	A	.29	A	--		--		.36	A	.30	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.68	B	.77	C	--		--		.68	B	.77	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	
180. Estates & Telegraph	.29	A	.40	A	--		--		.29	A	.40	A	--		--	
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.53	A	--		--	
182. Olive & Main	.55	A	.62	B	--		--		.55	A	.62	B	--		--	
190. Petit & North Bank	.22	A	.29	A	--		--		.22	A	.28	A	--		--	
191. Saticoy & North Bank	.08	A	.16	A	--		--		.08	A	.14	A	--		--	
192. Los Angeles & North Bank	.73	C	.86	D	--		--		.71	C	.85	D	--		--	
193. Saticoy & A St	.18	A	.13	A	--		--		.18	A	.12	A	--		--	
194. Wells & A St	.44	A	.42	A	--		--		.45	A	.41	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.48	A	.57	A	--		--	



**Table 4.12-11
 2025 ICU Summary – Scenario 4**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
197. Kimball & Ralston	--		--		--		--		.26	A	.38	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.25	A	.24	A	--		--	
199. Kimball & North Bank	--		--		--		--		.71	C	.64	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.



Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Western Cañada Larga expansion areas. The overall trip generation increase citywide through 2025 is estimated at 190,050 ADT under this scenario (see Table 3-13 of the traffic study in Appendix E). This represents an increase of 20.6% over existing conditions. ADTs for specific roadways are shown on Figure 3-14 of the traffic study in Appendix E.

Year 2025 ICUs are shown on Figure 4.12-10. To serve this scenario, it is anticipated that the following new roadway links would be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Kimball Road extension from Johnson Drive to Bristol Road
2. Ralston Street extension from Ramelli Avenue to Montgomery Avenue
3. Cedar Street extension from Kellogg Street to Stanley Avenue
4. Stanley Avenue extension from Ventura Avenue to Cedar Street

Table 4.12-12 summarizes the overall roadway and intersection improvements for this scenario, and Table 4.12-13 lists the ICU values with Baseline improvements and with the recommended additional improvements.

Scenario 5 results in two locations that require additional (non-committed) improvements, with both deficiencies occurring under each network scenario (Baseline and Alternative). The deficient locations are as follows:

Baseline Network

- SR 33 Ramps at Shell Road
- Wells Road at Darling Road

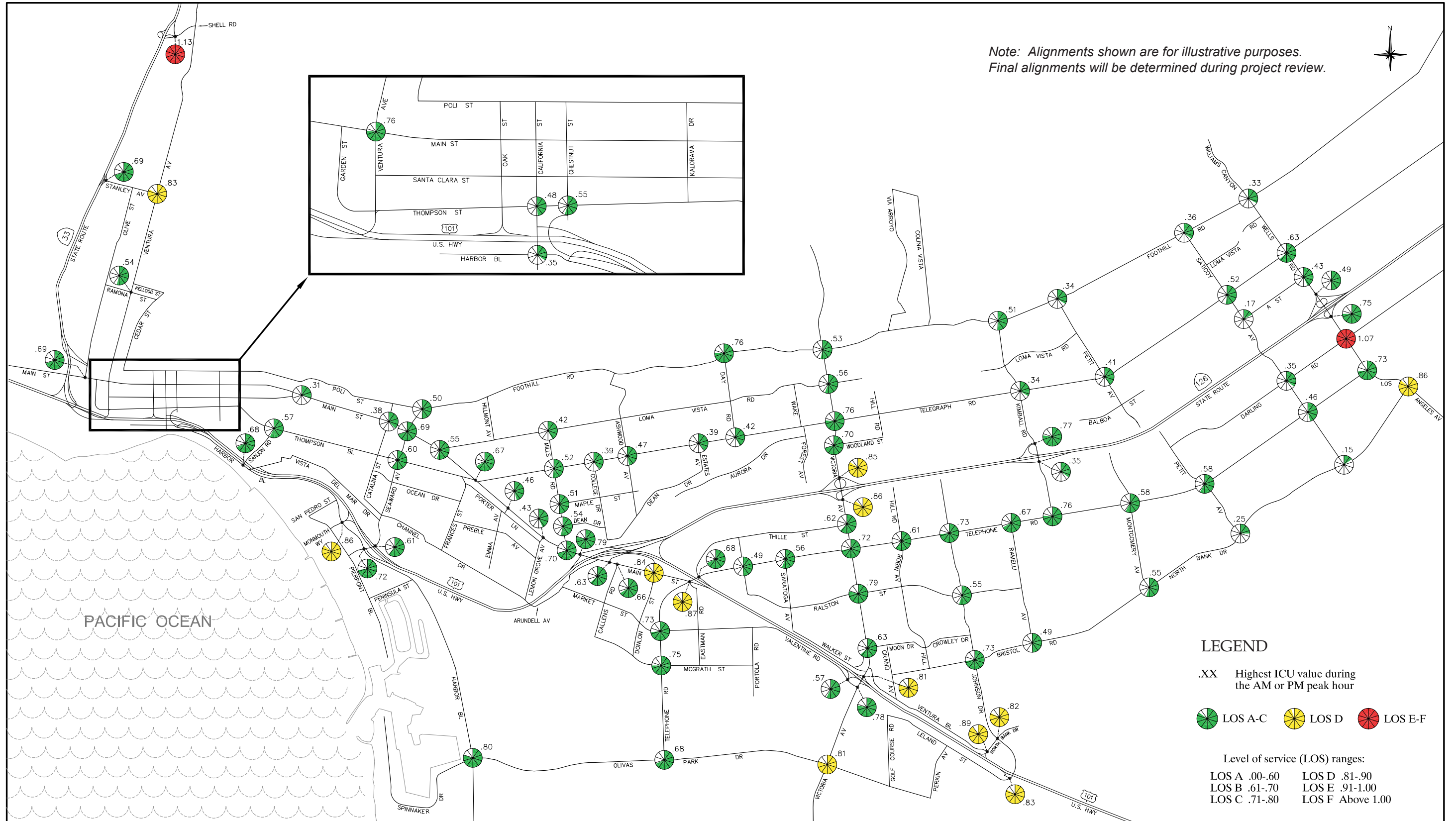
Alternative Network

- SR 33 Ramps at Shell Road
- Wells Road at Darling Road



This page intentionally left blank.





2025 Intersection Capacity Utilization (ICU)
 Scenario 5 (Baseline Network)

Source: Austin-Foust Associates, Inc., May 2005

Figure 4-12-10

**Table 4.12-12
Roadway Improvements – Scenario 5**

<i>Location</i>	<i>Improvement</i>
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
1a. Streets (Alternative Network)	
Cedar Street (Kellogg Street to Stanley Avenue)	New two-lane roadway
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway
Stanley Avenue (Cedar Street to Ventura Avenue)	New two-lane roadway



**Table 4.12-12
Roadway Improvements – Scenario 5**

<i>Location</i>	<i>Improvement</i>
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
179. SR-33 Ramps at Shell Road	Add southbound right-turn lane, second westbound through lane and separate westbound right-turn lane
2a. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
179. SR-33 Ramps at Shell Road	Add southbound right-turn lane, second westbound through lane and separate westbound right-turn lane



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.49	A	.53	A	--		--		.49	A	.53	A	--		--	
2. Victoria & Loma Vista	.56	A	.50	A	--		--		.57	A	.51	A	--		--	
3. Victoria & Telegraph	.63	B	.76	C	--		--		.62	B	.76	C	--		--	
4. Victoria & Woodland	.70	B	.56	A	--		--		.70	B	.55	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.59	A	.86	D	--		--		.58	A	.85	D	--		--	
6. Victoria & Thille	.52	A	.62	B	--		--		.51	A	.61	B	--		--	
7. Victoria & Telephone	.63	B	.72	C	--		--		.61	B	.71	C	--		--	
8. Victoria & Ralston	.67	B	.79	C	--		--		.71	C	.82	D	--		--	
10. Victoria & Moon	.55	A	.63	B	--		--		.57	A	.61	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.53	A	.60	A	--		--	
15. Johnson & Telephone	.48	A	.73	C	--		--		.48	A	.73	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.53	A	.61	B	--		--		.53	A	.59	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.56	A	.86	D	--		--		.55	A	.88	D	--		--	
20. Harbor & Olivas Park	.43	A	.80	C	--		--		.43	A	.80	C	--		--	



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
23. Mills & Loma Vista	.33	A	.42	A	--		--		.33	A	.42	A	--		--	
24. Mills & Telegraph	.48	A	.52	A	--		--		.48	A	.50	A	--		--	
25. Mills & Maple	.51	A	.50	A	--		--		.51	A	.50	A	--		--	
26. Mills & Dean	.53	A	.54	A	--		--		.53	A	.54	A	--		--	
27. Mills & Main	.68	B	.70	B	--		--		.68	B	.70	B	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.79	C	--		--		.78	C	.79	C	--		--	
29. SR 126 EB Ramps & Main (a)	.53	A	.63	B	--		--		.53	A	.62	B	--		--	
30. Callens & Main	.46	A	.66	B	--		--		.46	A	.66	B	--		--	
31. Donlon & Main	.56	A	.84	D	--		--		.56	A	.83	D	--		--	
32. Telephone & Main (a)	.62	B	.87	D	--		--		.62	B	.87	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.55	A	.68	B	--		--		.56	A	.68	B	--		--	
34. Portola & Telephone	.35	A	.49	A	--		--		.35	A	.49	A	--		--	
35. Saratoga & Telephone	.30	A	.56	A	--		--		.30	A	.56	A	--		--	
38. Telephone & Market	.61	B	.73	C	--		--		.61	B	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.29	A	.75	C	--		--	



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
45. Catalina & Main	.38	A	.34	A	--		--		.38	A	.33	A	--		--	
46. Seaward & Main	.56	A	.69	B	--		--		.56	A	.68	B	--		--	
47. Main & Loma Vista	.55	A	.53	A	--		--		.56	A	.52	A	--		--	
49. Main & Telegraph	.45	A	.67	B	--		--		.45	A	.67	B	--		--	
50. Emma & Main	.41	A	.46	A	--		--		.41	A	.46	A	--		--	
51. Lemon Grove & Main	.40	A	.43	A	--		--		.40	A	.43	A	--		--	
53. Kimball & Telephone	.76	C	.67	B	--		--		.66	B	.44	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--		.38	A	.33	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.77	C	.39	A	--		--		.85	D	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.24	A	.35	A	--		--	
60. Ramelli & Telephone	.38	A	.67	B	--		--		.35	A	.38	A	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--		.56	A	.39	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--		.46	A	.56	A	--		--	
65. Sanjon & Thompson	.48	A	.57	A	--		--		.49	A	.57	A	--		--	
68. Seaward & Thompson	.50	A	.60	A	--		--		.49	A	.59	A	--		--	



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
71. Sanjon & Harbor	.35	A	.68	B	--		--		.35	A	.70	B	--		--	
75. Ashwood & Telegraph	.29	A	.47	A	--		--		.29	A	.47	A	--		--	
77. Day & Telegraph	.42	A	.39	A	--		--		.42	A	.39	A	--		--	
85. Victoria & Olivas Park	.66	B	.81	D	--		--		.66	B	.81	D	--		--	
86. Telephone & Olivas Park	.56	A	.68	B	--		--		.56	A	.68	B	--		--	
91. Johnson & Ralston	.46	A	.55	A	--		--		.67	B	.89	D	--		--	
92. Johnson & Bristol	.70	B	.73	C	--		--		.72	C	.69	B	--		--	
94. Johnson & North Bank	.69	B	.82	D	--		--		.70	B	.82	D	--		--	
95. Bristol & Ramelli	.49	A	.27	A	--		--		.49	A	.31	A	--		--	
96. Montgomery & North Bank	.55	A	.48	A	--		--		.46	A	.32	A	--		--	
100. Saticoy & Telephone	.46	A	.46	A	--		--		.47	A	.45	A	--		--	
101. Saticoy & Telegraph	.47	A	.52	A	--		--		.48	A	.52	A	--		--	
102. Wells & Telegraph	.63	B	.62	B	--		--		.65	B	.62	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.67	B	.75	C	--		--		.66	B	.76	C	--		--	
105. Wells & Darling	.70	B	1.07	F	.64	B	.88	D	.69	B	1.07	F	.63	B	.88	D



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
106. Wells & Telephone	.73	C	.73	C	--		--		.73	C	.71	C	--		--	
114. California & Thompson	.44	A	.48	A	--		--		.43	A	.51	A	--		--	
115. Chestnut & Thompson	.51	A	.55	A	--		--		.54	A	.59	A	--		--	
120. Ventura & Main	.43	A	.76	C	--		--		.39	A	.71	C	--		--	
132. Ventura & Stanley	.68	B	.83	D	--		--		.61	B	.62	B	--		--	
136. US 101 SB Ramps & Valentine (a)	.49	A	.57	A	--		--		.49	A	.56	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.57	A	.83	D	--		--		.57	A	.83	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.81	D	.67	B	--		--		.80	C	.67	B	--		--	
161. Victoria & Valentine (a)	.68	B	.78	C	--		--		.68	B	.78	C	--		--	
162. California & Harbor	.29	A	.35	A	--		--		.29	A	.41	A	--		--	
163. Santa Clara & Main	.26	A	.31	A	--		--		.26	A	.30	A	--		--	
164. Seaward & Poli	.41	A	.50	A	--		--		.41	A	.50	A	--		--	
165. Seaward & Harbor	.60	A	.72	C	--		--		.59	A	.71	C	--		--	
166. College & Telegraph	.34	A	.39	A	--		--		.33	A	.40	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--		.73	C	.76	C	--		--	



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
169. Kimball & Foothill	.51	A	.44	A	--		--		.51	A	.45	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.30	A	--		--		.36	A	.31	A	--		--	
172. Wells & Foothill	.33	A	.26	A	--		--		.33	A	.25	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.85	D	.73	C	--		--		.80	C	.73	C	--		--	
174. Petit & Telegraph	.41	A	.28	A	--		--		.41	A	.28	A	--		--	
175. Ventura & North Bank (a)	.42	A	.89	D	--		--		.42	A	.89	D	--		--	
176. Saticoy & Darling	.35	A	.29	A	--		--		.35	A	.28	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.64	B	.69	B	--		--		.61	B	.62	B	--		--	
179. SR-33 Ramps & Shell (a)	1.13	F	1.11	F	.80	C	.78	C	1.12	F	1.10	F	.80	C	.76	C
180. Estates & Telegraph	.28	A	.39	A	--		--		.28	A	.39	A	--		--	
181. Ventura & Ramona	.36	A	.54	A	--		--		.33	A	.39	A	--		--	
182. Olive & Main	.63	B	.69	B	--		--		.61	B	.67	B	--		--	



**Table 4.12-13
 2025 ICU Summary – Scenario 5**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
190. Petit & North Bank	.20	A	.25	A	--		--		.21	A	.22	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.14	A	--		--	
192. Los Angeles & North Bank	.72	C	.86	D	--		--		.71	C	.86	D	--		--	
193. Saticoy & A St	.17	A	.13	A	--		--		.17	A	.13	A	--		--	
194. Wells & A St	.43	A	.41	A	--		--		.44	A	.41	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.39	A	.48	A	--		--	
197. Kimball & Ralston	--		--		--		--		.32	A	.44	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.22	A	.17	A	--		--	
199. Kimball & North Bank	--		--		--		--		.44	A	.47	A	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.



Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Poinsettia expansion areas. The overall trip generation increase citywide through 2025 is estimated at 199,936 ADT under this scenario (see Table 3-16 of the traffic study in Appendix E). This represents an increase of 21.7% over existing conditions. ADTs for specific roadways are shown on Figure 3-17 of the traffic study in Appendix E.

Year 2025 ICUs are shown on Figure 4.12-11. To serve this scenario, it is anticipated that the following new roadway links would be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Johnson Drive extension from SR 126 to Foothill Road
2. Loma Vista Road extension from Victoria Avenue to Kimball Road
3. Woodland Street extension from Hill Road to Johnson Drive

Table 4.12-14 summarizes the overall roadway and intersection improvements for this scenario, and Table 4.12-15 lists the ICU values with Baseline improvements and with the recommended additional improvements.

Scenario 6 results in one location that will require additional (non-committed) improvements, with the deficiency occurring under both network scenarios (Baseline and Alternative). The deficient location is as follows:

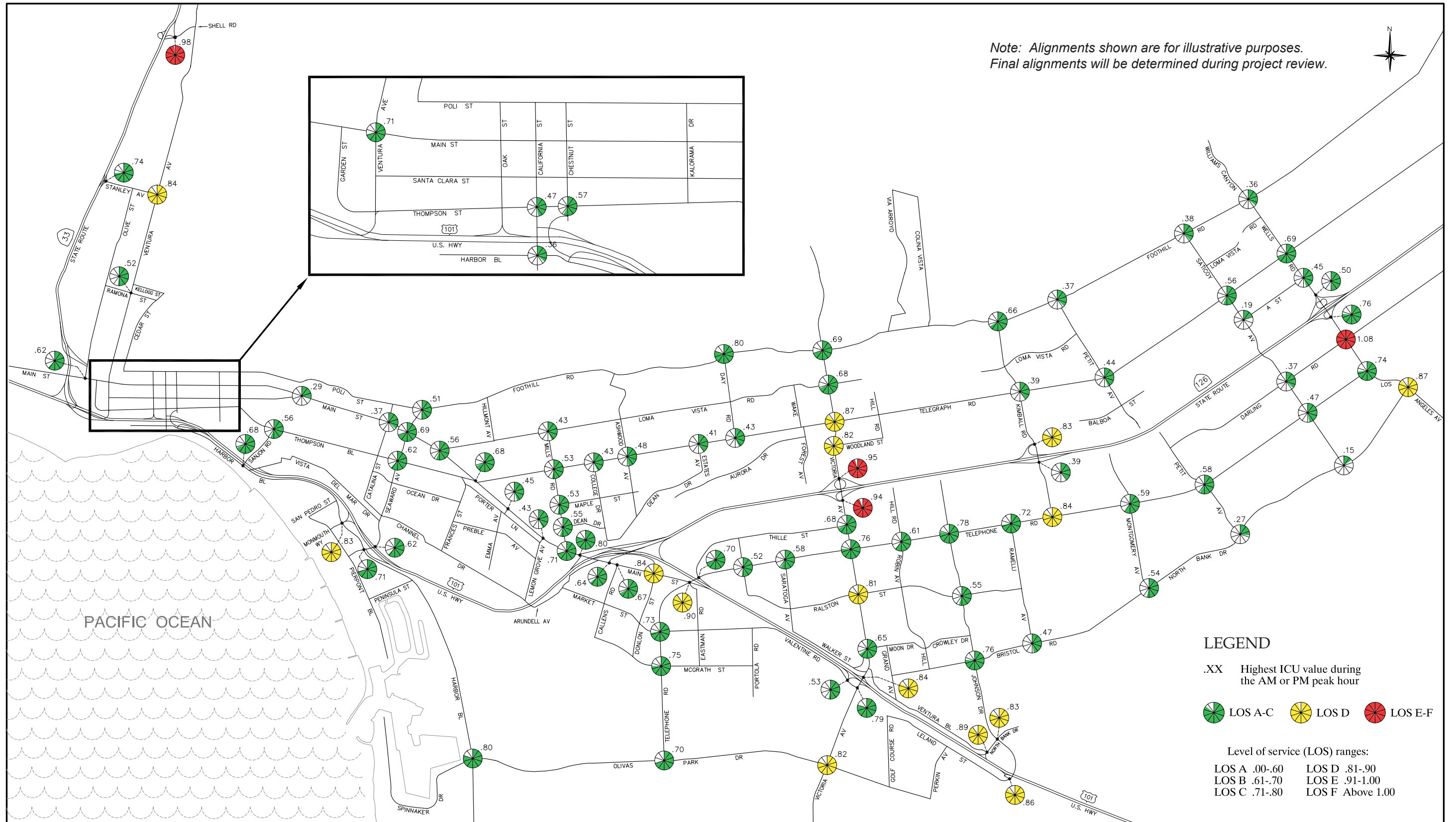
Baseline Network

- Wells Road at Darling Road

Alternative Network

- Wells Road at Darling Road





2025 Intersection Capacity Utilization (ICU)
 Scenario 6 (Baseline Network)

**Table 4.12-14
Roadway Improvements – Scenario 6**

<i>Location</i>	<i>Improvement</i>
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR 126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR 126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR 126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
1a. Streets (Alternative Network)	
Johnson Drive (Current terminus to Telegraph Road)	New four-lane roadway
Johnson Drive (Telegraph Road to Foothill Road)	New two-lane roadway
Loma Vista Road (Kimball Road to Victoria Avenue)	New two-lane roadway
Woodland Street (Hill Road to Johnson Drive)	New two-lane roadway



**Table 4.12-14
Roadway Improvements – Scenario 6**

<i>Location</i>	<i>Improvement</i>
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.53	A	.69	B	--		--		.53	A	.56	A	--		--	
2. Victoria & Loma Vista	.68	B	.61	B	--		--		.56	A	.57	A	--		--	
3. Victoria & Telegraph	.74	C	.87	D	--		--		.56	A	.75	C	--		--	
4. Victoria & Woodland	.82	D	.77	C	--		--		.65	B	.51	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.64	B	.94	E	--		--		.48	A	.70	B	--		--	
6. Victoria & Thille	.57	A	.68	B	--		--		.47	A	.57	A	--		--	
7. Victoria & Telephone	.64	B	.76	C	--		--		.61	B	.78	C	--		--	
8. Victoria & Ralston	.73	C	.81	D	--		--		.75	C	.80	C	--		--	
10. Victoria & Moon	.60	A	.65	B	--		--		.56	A	.61	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.69	B	.66	B	--		--	
15. Johnson & Telephone	.50	A	.78	C	--		--		.73	C	.79	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.62	B	--		--		.52	A	.61	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.55	A	.83	D	--		--		.55	A	.81	D	--		--	
20. Harbor & Olivas Park	.41	A	.80	C	--		--		.41	A	.79	C	--		--	



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
23. Mills & Loma Vista	.35	A	.43	A	--		--		.34	A	.43	A	--		--	
24. Mills & Telegraph	.49	A	.53	A	--		--		.49	A	.51	A	--		--	
25. Mills & Maple	.53	A	.51	A	--		--		.51	A	.48	A	--		--	
26. Mills & Dean	.55	A	.53	A	--		--		.53	A	.56	A	--		--	
27. Mills & Main	.69	B	.71	C	--		--		.66	B	.69	B	--		--	
28. US 101 NB Ramps & Main (a)	.79	C	.80	C	--		--		.76	C	.78	C	--		--	
29. SR 126 EB Ramps & Main (a)	.54	A	.64	B	--		--		.51	A	.61	B	--		--	
30. Callens & Main	.46	A	.67	B	--		--		.44	A	.63	B	--		--	
31. Donlon & Main	.55	A	.84	D	--		--		.54	A	.81	D	--		--	
32. Telephone & Main (a)	.62	B	.90	D	--		--		.64	B	.93	E	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.70	B	--		--		.56	A	.70	B	--		--	
34. Portola & Telephone	.36	A	.52	A	--		--		.36	A	.52	A	--		--	
35. Saratoga & Telephone	.30	A	.58	A	--		--		.33	A	.57	A	--		--	
38. Telephone & Market	.65	B	.73	C	--		--		.63	B	.74	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.28	A	.74	C	--		--	



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
45. Catalina & Main	.37	A	.34	A	--		--		.37	A	.33	A	--		--	
46. Seaward & Main	.55	A	.69	B	--		--		.56	A	.70	B	--		--	
47. Main & Loma Vista	.56	A	.55	A	--		--		.55	A	.56	A	--		--	
49. Main & Telegraph	.45	A	.68	B	--		--		.45	A	.65	B	--		--	
50. Emma & Main	.40	A	.45	A	--		--		.40	A	.44	A	--		--	
51. Lemon Grove & Main	.39	A	.43	A	--		--		.39	A	.42	A	--		--	
53. Kimball & Telephone	.84	D	.71	C	--		--		.66	B	.53	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.39	A	.38	A	--		--		.31	A	.24	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.83	D	.43	A	--		--		.71	C	.35	A	--		--	
58. Kimball & Telegraph	.30	A	.39	A	--		--		.26	A	.35	A	--		--	
60. Ramelli & Telephone	.39	A	.72	C	--		--		.33	A	.56	A	--		--	
61. Montgomery & Telephone	.59	A	.34	A	--		--		.58	A	.35	A	--		--	
63. Petit & Telephone	.44	A	.58	A	--		--		.44	A	.59	A	--		--	
65. Sanjon & Thompson	.49	A	.56	A	--		--		.47	A	.55	A	--		--	
68. Seaward & Thompson	.50	A	.62	B	--		--		.49	A	.60	A	--		--	



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
71. Sanjon & Harbor	.36	A	.68	B	--		--		.36	A	.67	B	--		--	
75. Ashwood & Telegraph	.31	A	.48	A	--		--		.32	A	.48	A	--		--	
77. Day & Telegraph	.43	A	.41	A	--		--		.43	A	.41	A	--		--	
85. Victoria & Olivas Park	.68	B	.82	D	--		--		.70	B	.81	D	--		--	
86. Telephone & Olivas Park	.56	A	.70	B	--		--		.56	A	.66	B	--		--	
91. Johnson & Ralston	.53	A	.55	A	--		--		.54	A	.63	B	--		--	
92. Johnson & Bristol	.72	C	.76	C	--		--		.66	B	.85	D	--		--	
94. Johnson & North Bank	.72	C	.83	D	--		--		.72	C	.89	D	--		--	
95. Bristol & Ramelli	.47	A	.28	A	--		--		.53	A	.31	A	--		--	
96. Montgomery & North Bank	.54	A	.47	A	--		--		.54	A	.47	A	--		--	
100. Saticoy & Telephone	.47	A	.45	A	--		--		.45	A	.46	A	--		--	
101. Saticoy & Telegraph	.51	A	.56	A	--		--		.48	A	.51	A	--		--	
102. Wells & Telegraph	.68	B	.69	B	--		--		.63	B	.60	A	--		--	
104. Wells & SR 126 EB Ramps (a)	.67	B	.76	C	--		--		.67	B	.78	C	--		--	
105. Wells & Darling	.70	B	1.08	F	.64	B	.89	D	.69	B	1.08	F	.66	B	.89	D



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
106. Wells & Telephone	.73	C	.74	C	--		--		.72	C	.73	C	--		--	
114. California & Thompson	.42	A	.47	A	--		--		.41	A	.48	A	--		--	
115. Chestnut & Thompson	.49	A	.57	A	--		--		.47	A	.57	A	--		--	
120. Ventura & Main	.41	A	.71	C	--		--		.40	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.84	D	--		--		.74	C	.84	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.45	A	.53	A	--		--		.47	A	.53	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.56	A	.86	D	--		--		.52	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.84	D	.70	B	--		--		.82	D	.69	B	--		--	
161. Victoria & Valentine (a)	.71	C	.79	C	--		--		.71	C	.78	C	--		--	
162. California & Harbor	.27	A	.36	A	--		--		.28	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.29	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.44	A	.51	A	--		--		.42	A	.49	A	--		--	
165. Seaward & Harbor	.57	A	.71	C	--		--		.57	A	.71	C	--		--	
166. College & Telegraph	.36	A	.43	A	--		--		.33	A	.43	A	--		--	
168. Day & Foothill	.80	C	.78	C	--		--		.80	C	.79	C	--		--	



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
169. Kimball & Foothill	.63	B	.66	B	--		--		.55	A	.43	A	--		--	
170. Petit & Foothill	.37	A	.20	A	--		--		.39	A	.22	A	--		--	
171. Saticoy & Foothill	.38	A	.33	A	--		--		.42	A	.35	A	--		--	
172. Wells & Foothill	.36	A	.28	A	--		--		.37	A	.27	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.95	E	.87	D	--		--		.80	C	.70	B	--		--	
174. Petit & Telegraph	.44	A	.28	A	--		--		.46	A	.27	A	--		--	
175. Ventura & North Bank (a)	.42	A	.89	D	--		--		.43	A	.95	E	--		--	
176. Saticoy & Darling	.37	A	.28	A	--		--		.34	A	.26	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.34	A	.50	A	--		--		.33	A	.47	A	--		--	
178. SR-33 Ramps & Stanley (a)	.67	B	.74	C	--		--		.67	B	.74	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	
180. Estates & Telegraph	.27	A	.41	A	--		--		.28	A	.41	A	--		--	
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.50	A	--		--	
182. Olive & Main St	.53	A	.62	B	--		--		.53	A	.61	B	--		--	



**Table 4.12-15
 2025 ICU Summary – Scenario 6**

Intersection	Baseline Network								Alternative Network							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements (including non-committed alternative network streets)				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
190. Petit Av & North Bank Dr	.20	A	.27	A	--		--		.19	A	.26	A	--		--	
191. Saticoy Av & North Bank Dr	.08	A	.15	A	--		--		.08	A	.15	A	--		--	
192. Los Angeles Av & North Bank	.72	C	.87	D	--		--		.71	C	.86	D	--		--	
193. Saticoy Av & A St	.19	A	.13	A	--		--		.18	A	.12	A	--		--	
194. Wells Rd & A St	.45	A	.42	A	--		--		.40	A	.41	A	--		--	
205. Johnson & Woodland	--		--		--		--		.66	B	.69	B	--		--	
206. Johnson & Telegraph	--		--		--		--		.78	C	.68	B	--		--	
207. Johnson & Loma Vista	--		--		--		--		.32	A	.49	A	--		--	
208. Johnson & Foothill	--		--		--		--		.52	A	.63	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.



MITIGATION MEASURES

The 2005 General Plan includes the following actions intended to maintain and improve traffic circulation in the Planning Area.

- Action 4.2** Develop a prioritized list of projects needed to improve safety for all travel modes and provide needed connections and multiple route options.*
- Action 4.5** Utilize existing roadways to meet mobility needs, and only consider widening roads when other alternatives are not feasible.*
- Action 4.7** Update the traffic mitigation fee program to fund necessary citywide circulation system and mobility improvements needed in conjunction with new development.*
- Action 4.10** Modify traffic signal timing to ensure safety and minimize delay for all users.*

In addition, as discussed in the *Setting* and in subsection a of the Impact Analysis (“Methodology and Significance Thresholds”), 2005 General Plan Action 4.11 directs the City to “refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.” Although no specific level of service (LOS) is defined in the 2005 General Plan, the local Congestion Management Program (CMP) establishes a minimum LOS of E for CMP intersections. Using this a guide, the analysis contained in this EIR uses LOS standards of “E” (ICU not to exceed 1.00) for freeway ramp intersections and “D” (ICU not to exceed .90) for all other Principal Intersections. This represents a relaxation of the current Comprehensive Plan standards of LOS “C” citywide and LOS “D” for intersections along Ventura Avenue. This relaxation of standards is consistent with the overall circulation goal of reducing dependence on the automobile and improving opportunities for other modes of transportation. However, it should be recognized that this relaxation of standards would allow for higher levels of traffic congestion at City intersections before implementing improvements to ease congestion.

As discussed in the “Impact Analysis,” certain intersections within the Planning Area are projected to experience levels of service below the performance standards used for this analysis (LOS “D” or “E” depending on the location. The discussion for each of the scenarios identifies specific locations where deficiencies are projected to occur and specific feasible improvements that could be implemented at those intersections to achieve the level of service standards. For Scenarios 1, 3, 4, 5, and 6, feasible improvements are available to achieve performance standards at all intersections. For Scenario 2, feasible improvements are available for all of the intersections other than the Johnson Drive/North Bank Drive intersection. However, even with implementation of feasible improvements, that intersection would not meet the performance standard of LOS D. Therefore, the impact at that location is considered unavoidably significant under Scenario 2.

Because the analysis of Year 2025 impacts is out of necessity based upon predictions about the level of development that will occur and where such development will be, it cannot be determined with certainty which of the identified improvements which actually be needed over the next 20 years. As such, it would not be appropriate to adopt actual physical improvements



at this time. Rather, the purpose of the EIR analysis is to determine whether mitigation is possible, if actually needed in the future.

To provide a mechanism for addressing impacts as they occur and implementing the improvements identified in this EIR (or other feasible improvements that achieve the same objectives) as needed, the following measure is required:

TC-1 Additional Circulation Actions. The following actions shall be added to the 2005 General Plan to ensure that traffic impacts of future developments are addressed and mitigated:

- Require project proponents to analyze traffic impacts and implement mitigation as appropriate prior to development. Depending upon the nature of the impacts and improvements needed, mitigation may either consist of implementing needed physical improvements, contributing “fair share” fee toward implementation of needed improvements, or some combination thereof.
- Update the traffic mitigation fee program to fund necessary citywide circulation and mobility system improvements needed in conjunction with new development.

SIGNIFICANCE AFTER MITIGATION

Implementation of the above action would provide a mechanism for implementation of transportation system improvements as needed. Thus, impacts would be reduced to a less than significant level for Scenarios 1, 3, 4, 5, and 6. However, as noted above, the level of service at the Johnson Drive/North Bank Drive is not projected to meet the performance standard of LOS D under Scenario 2. Therefore, the impact at that location is considered unavoidably significant for Scenario 2.

The identified roadway system improvements primarily consist of re-striping of existing roads and addition of lanes at specific intersections. In most locations, improvements would not require the acquisition of additional right-of-way and would generally have only minor secondary effects. However, at certain locations, additional right-of-way may be needed. In addition, at a limited number of locations, road extensions or widenings are anticipated. For example, under any scenario, it is anticipated that A Street would be built between Saticoy Avenue and Wells Road, Hill Road would be extended from Moon Drive to Ralston Street, North Bank Drive would be extended to Wells Road, and Thille Street would be extended to Telephone Road. In addition, it is anticipated that Victoria Avenue from U.S. 101 to the southern City limit would be widened to six lanes and Wells Road would be widened (from two to four lanes north of SR 126 and from four to six lanes south of SR 126). These types of improvements may cause temporary traffic disruption and minor land disturbances, though it is anticipated that they can be implemented without significant secondary effects.

It should again be noted that it is anticipated that implementation of the 2005 General Plan will involve a relaxation of current level of service standards. This would minimize secondary



impacts relating to the construction of roadway improvements, but would allow for higher levels of traffic congestion than would be anticipated under the current level of service standards.

Impact TC-2 Implementation of any of the 2005 General Plan land use scenarios would be expected to generally enhance the use of alternative transportation modes, including transit, bicycling, and walking. Impacts relating to alternative transportation are considered Class IV, *beneficial*, under any scenario.

The 2005 General Plan includes a range of policies and actions aimed at enhancement of alternative transportation mode opportunities throughout the Planning Area. These include:

- Policy 4A* *Ensure that the transportation system is safe and easily accessible to all travelers.*
- Action 4.2* *Develop a prioritized list of projects needed to improve safety for all travel modes and provide needed connections and multiple route options.*
- Action 4.3* *Provide transportation services that meet the special mobility needs of the community including youth, elderly, and disabled persons.*
- Action 4.6* *Require new development to be designed with interconnected transportation modes and routes.*
- Action 4.8* *Implement the City's Neighborhood Traffic Management Program and update as necessary to improve livability in residential areas.*
- Action 4.11* *Refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.*
- Action 4.12* *Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles.*
- Policy 4B* *Help reduce dependence on the automobile.*
- Action 4.14* *Provide development incentives to encourage projects that reduce automobile trips.*
- Action 4.15* *Encourage the placement of facilities that house or serve elderly, disabled, or socioeconomically disadvantaged persons in areas with existing public transportation services and pedestrian and bicycle amenities.*
- Action 4.16* *Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes.*
- Action 4.17* *Prepare and periodically update a Mobility Plan that integrates a variety of travel alternatives to minimize reliance on any single mode.*
- Action 4.18* *Promote the development and use of recreational trails as transportation routes to connect housing with services, entertainment, and employment.*



- Action 4.19** *Adopt new development code provisions that establish vehicle trip reduction requirements for all development.*
- Action 4.20** *Develop a transportation demand management program to shift travel behavior toward alternative modes and services.*
- Action 4.21** *Require new development to provide pedestrian and bicycle access and facilities as appropriate, including connected paths along the shoreline and watercourses.*
- Action 4.22** *Update the General Bikeway Plan as needed to encourage bicycle use as a viable transportation alternative to the automobile and include the bikeway plan as part of a new Mobility Plan.*
- Action 4.23** *Upgrade and add bicycle lanes when conducting roadway maintenance as feasible.*
- Action 4.24** *Require sidewalks wide enough to encourage walking that include ramps and other features needed to ensure access for mobility-impaired persons.*
- Action 4.25** *Adopt new development code provisions that require the construction of sidewalks in all future projects, where appropriate.*
- Policy 4C** *Increase transit efficiency and options.*
- Action 4.28** *Require all new development to provide for citywide improvements to transit stops that have sufficient quality and amenities, including shelters and benches, to encourage ridership.*
- Action 4.29** *Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.*
- Action 4.30** *Work with public transit agencies to provide information to riders at transit stops, libraries, lodging, and event facilities.*
- Action 4.31** *Work with public and private transit providers to enhance public transit service.*
- Action 4.32** *Coordinate with public transit systems for the provision of additional routes as demand and funding allow.*
- Action 4.33** *Work with Amtrak, Metrolink, and Union Pacific to maximize efficiency of passenger and freight rail service to the City and to integrate and coordinate passenger rail service with other transportation modes.*
- Action 4.34** *Lobby for additional transportation funding and changes to Federal, State, and regional transportation policy that support local decision-making.*

All of the General Plan land use scenarios emphasize intensification and reuse of already developed areas of the City prior to the conversion of agricultural or open space lands at the City's periphery, focusing future development in particular on the districts and corridors identified on Figures 2-3 through 2-8 in Section 2.0, *Project Description*. Higher intensity land use patterns are generally supportive of alternative transportation since residences, employment centers, and services are generally closer together. Research indicates that in compact neighborhoods, where destinations are nearer to one another, people are more willing to walk, bicycle and ride transit. According to one study, every time a neighborhood doubles in



compactness, the number of vehicle trips residents make is reduced by 20% to 30% (Holtzclaw, 1991).

Implementation of the policies and actions included in the 2005 General Plan is expected to improve the availability of sidewalks, bike paths, and transit over time. By making these transportation alternatives more attractive, General Plan implementation is expected to foster a gradual transition toward greater use of alternatives to the single-occupant automobile.

The districts and corridors where development is to be emphasized under any of the land use scenarios are generally located along or in close proximity to existing SCAT bus routes (see Figure 4.12-3). Similarly, all of the expansion areas included in Scenarios 2-6 are located along existing SCAT bus routes, as follows:

- *North Avenue – Routes 6B, and 16*
- *Olivas – Route 12*
- *Serra – Routes 10/11*
- *Western Cañada Larga – Routes 6B and 16*
- *Poinsettia – Routes 10/11*

Any of the land use scenarios would emphasize development that could be served by existing alternative transportation and it is anticipated that the type of development envisioned, in combination with implementation of proposed General Plan policies and actions, would enhance alternative transportation mode opportunities under any scenarios. Consequently, conflicts with policies relating to alternative transportation are not anticipated. As discussed in Section 4.14, *Land Use and Planning*, any of the land use scenarios could also be found to be consistent with relevant alternative transportation policies of the Southern California Association of Governments' Regional Comprehensive Plan and Guide.

MITIGATION MEASURES

None required.

SIGNIFICANCE AFTER MITIGATION

Implementation of any of the 2005 General Plan land use scenarios is expected to generally enhance opportunities for the use of alternative transportation.

Impact TC-3 None of the 2005 General Plan land use scenarios would accommodate design features that would create traffic hazards. The placement of new residential development along highly traveled thoroughfares may incrementally increase hazards for pedestrians; however, implementation of proposed policies relating to traffic calming and improving walkability would reduce such impacts to a Class III, *less than significant*, level for any of the General Plan land use scenarios.



By emphasizing intensification and reuse of developed areas of the City, any of the General Plan land use scenarios would accommodate new mixed use and residential development along relatively highly traveled corridors. Among the corridors anticipated to accommodate substantial new mixed use development are Main Street, Thompson Boulevard, Ventura Avenue, and Telegraph Road. Other heavily traveled roads throughout the City may also accommodate new mixed use development, though likely to a lesser degree.

The placement of residences along main travel corridors is expected to generally increase pedestrian activity in these areas, with the potential for increased hazards for pedestrians. However, the 2005 General Plan includes a range of policies and actions specifically intended to enhance the walkability of neighborhoods and corridors throughout the Planning Area. These include Policy 4A and Actions 4.11, 4.12, 4.24, and 4.25 listed under Impact TC-2 as well as the following:

Policy 3E *Ensure the appropriateness of urban form through modified development review.*

Action 3.23 *Develop and adopt a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation.*

Implementation of proposed policies and actions, in combination with continued application of standard safety requirements and ongoing City programs described in the *Setting* (lowering of speed limits, re-striping of streets, neighborhood traffic management and calming) is expected to generally improve overall safety conditions for pedestrians throughout the Planning Area. Implementation of General Plan policies, actions, and ongoing City programs on any future development in any of the potential expansion areas would also minimize traffic-related hazards associated with the development of those areas. Therefore, significant traffic safety impacts are not anticipated for any of the 2005 General Plan land use scenarios.

MITIGATION MEASURES

None required.

SIGNIFICANCE AFTER MITIGATION

Impacts relating to traffic hazards would be less than significant for any of the 2005 General Plan land use scenarios.

<p>Impact TC-4 None of the 2005 General Plan land use scenarios would affect air traffic patterns. Impacts relating to air traffic are considered Class III, less than significant, under any scenario.</p>
--

No airports are located within the Ventura Planning Area. The nearest airports are Oxnard Airport (more than two miles from the southern boundary of the Planning Area), Santa Paula



Airport (more than six miles from the eastern boundary of the Planning Area), and Camarillo Airport (approximately five miles from the southern boundary of the Planning Area). Development within the Ventura Planning Area would not affect air traffic at any of these facilities or at any other airports within the region. Impacts to air traffic would not be significant under any of the General Plan land use scenarios.

MITIGATION MEASURES

None required.

SIGNIFICANCE AFTER MITIGATION

Impacts to air traffic would be less than significant for any of the 2005 General Plan land use scenarios.



4.13 UTILITIES and SERVICE SYSTEMS

Public utilities provided by the City include water services, and wastewater conveyance and treatment facilities. These public utilities are described below. Section 4.8, *Hydrology and Water Quality*, addresses potential impacts to storm drain infrastructure and surface water quality.

4.13.1 Setting

a. Water. This section presents detailed information about the City of Ventura water system as of April 2002, with critical information updated as of the date of this EIR. Facilities discussed include water treatment, wells, reservoirs, pump stations, and pipelines. The City water system consists of approximately 30,000 service connections. The City receives supplemental water from Casitas Municipal Water District and United Water Conservation District. The City water system provides water to residential, commercial, industrial, petroleum recovery, irrigation, and municipal users. Raw water is used in the North Ventura Avenue area for irrigation and injected into the ground for oil recovery. All other customers receive treated potable water.

The western portion of the City obtains water predominantly from Lake Casitas and the Ventura River diversion near Foster Park north of the City. The eastern portion of the City obtains water predominantly from wells drawing on three groundwater basins. Because of an agreement between the Casitas Water District and the U.S. Bureau of Reclamation and the method of financing the Lake Casitas project, water from Lake Casitas cannot be used outside the Casitas District boundaries. Only City-generated water diverted from the Ventura River at Foster Park can be used to service the eastern area of the City.

The 1993 City Water Master Plan provides a detailed analysis of the water system and future needs. The study, which is incorporated by reference, evaluated water quality, supply and storage capacity, the distribution system, system reliability, and operational flexibility. The study identified alternative sources of supply, recommended system improvements, and provided an implementation plan for meeting future demand.

The water system consists of four treatment facilities, 30 tanks and reservoirs (active) on 20 sites, 22 pump stations, and 12 groundwater wells. One of the treatment facilities has been decommissioned. The service area is divided into 14 pressure zones. These zones have been established based on the growth pattern, topography, and physical capability of the water pipelines, storage, and pumping facilities. Figure 4.13-1 shows the location of water distribution facilities, and Table 4.13-1 lists the water treatment facilities and their capacities.

**Table 4.13-1
Water Treatment Facilities**

Treatment Facilities	Capacity	Remarks
Avenue Water Treatment Plant	10 MGD	In Service
Seaward Water Conditioning Plant	6 MGD	Decommissioned
Bailey Water Conditioning Facility	4 MGD	In Service
Saticoy Water Conditioning Facility	4 MGD	In Service

Source: City of Ventura Public Works Department.



Table 4.13-2 shows that City water storage facilities, consisting of tanks and reservoirs, have a total capacity of 49.68 million gallons (MG).

**Table 4.13-2
 Water Storage Facilities**

Reservoir	Status	Zone	Capacity
Power Reservoir	Active	210	15.17 MG
Pistol Range Tank	Active	210	1.0 MG
Hall Canyon Reservoir (2)	Active	210	8.20 MG
Grant Park Reservoir (2)	Active	260	2.20 MG
Hall Canyon Tanks (2)	Active	260	0.65 MG
Bailey Reservoir (3)	Active	330	7.2 MG
Valley Vista Tank (New)	Active	400	1.0 MG
Foothill Tanks (2)	Active	430	1.50 MG
Sexton Tanks (2)	Active	430	5.00 MG
Corbett Tank	Active	430	1.50 MG
Mariano Tanks (2)	Active	460	0.65 MG
Kimball Tank	Active	530	1.00 MG
McElrea Tanks (2)	Active	598	0.25 MG
View Park Tank	Active	597	0.16 MG
Kalorama Tanks (2)	Active	605	0.30 MG
Willis Tank	Active	605	1.0 MG
Ondulando Tank	Active	860	0.40 MG
Nob Hill Tank	Active	1035	0.30 MG
Seneca Tank	Active	400	1.2 MG
Elizabeth Tank	Active	605W	1.0 MG
Total Storage Capacity (Active)			49.68 MG

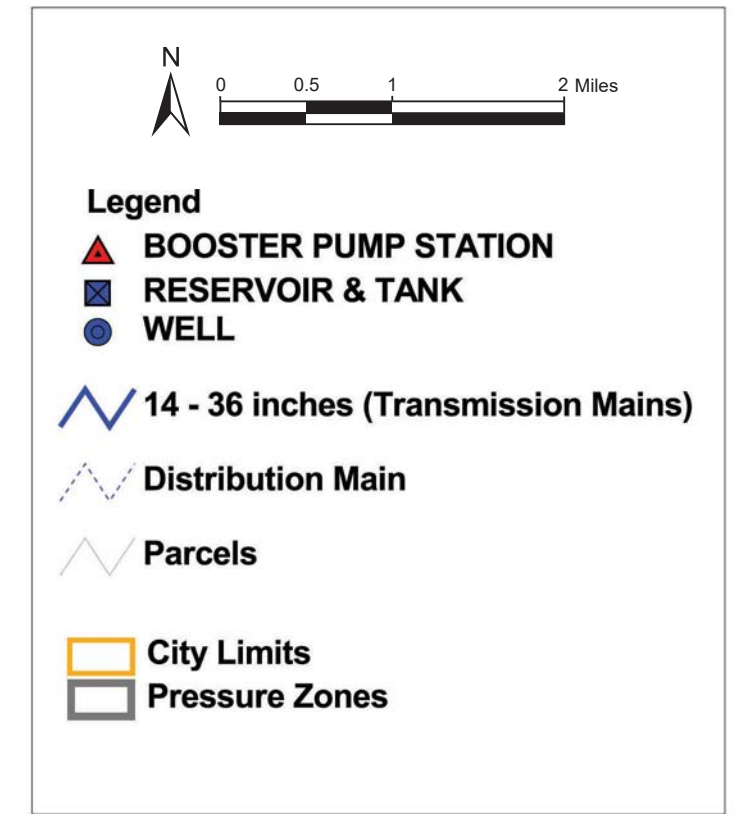
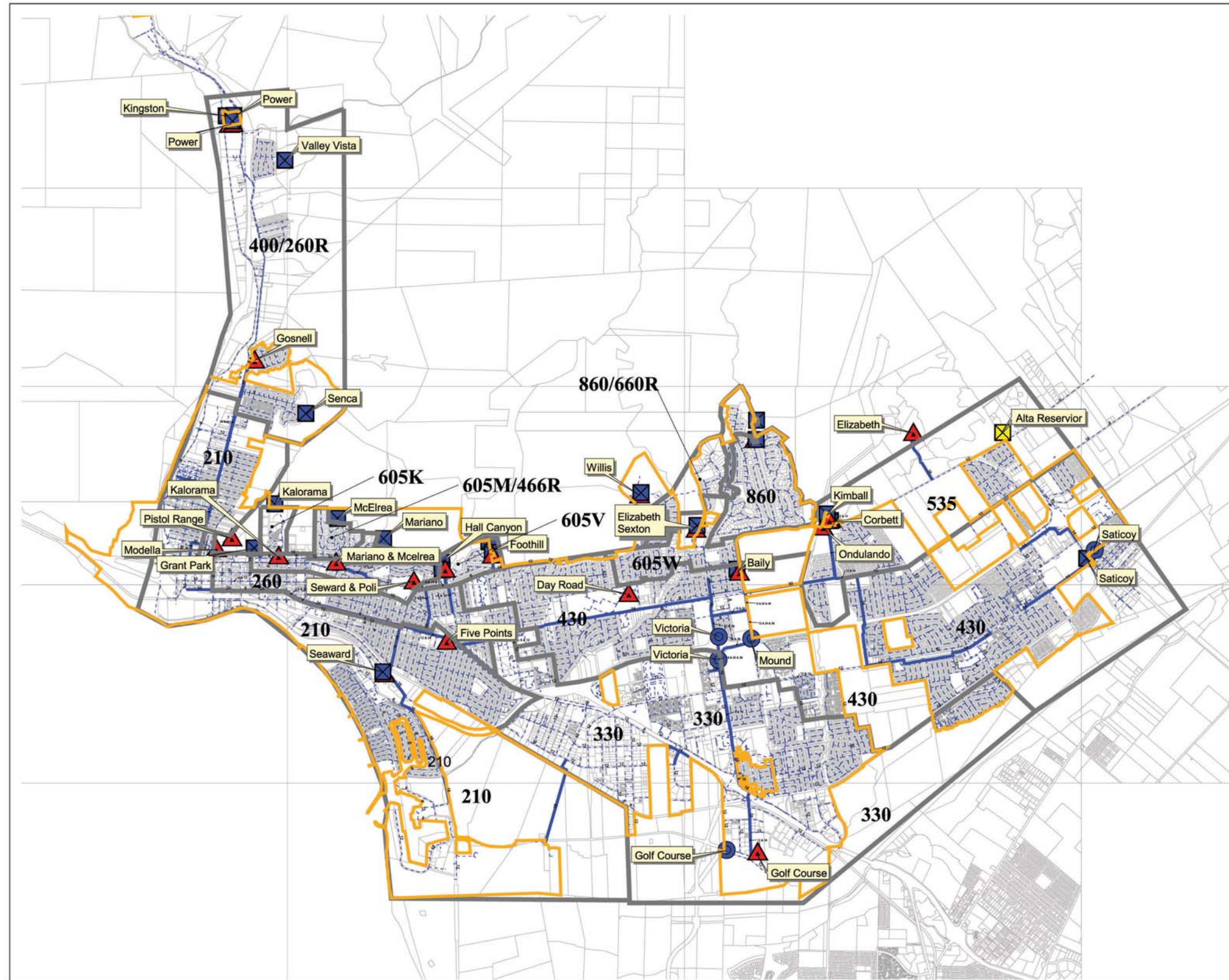
The City's distribution system mains fall into two categories: (1) distribution mains ranging in size from 4-inches to 12-inches in diameter; and (2) transmission mains ranging in size from 14-inches to 36-inches in diameter. Table 4.13-3 provides a breakdown of the composition of the City's distribution system. Figure 4.13-1 shows the locations of water distribution mains.

**Table 4.13-3
 Distribution Mains**

Material	Amount (Percent)	Size (Inches)
Cast Iron – Cement Lined	40	4-36
Ductile Iron	5	4-20
Asbestos Cement	40	6-10
PVC	10	8
Standard Steel	5	12-20

Source: City of Ventura Public Works.





Source: City of San Buenaventura, Department of Public Works and Psomas, 2002.

The map is a product of the City of San Buenaventura, California and Psomas. It was created for illustration purposes only; its accuracy cannot be guaranteed.

Water Distribution Facilities

Figure 4.13-1
 City of Ventura

The City operates and maintains 21 pump stations, eight of which have been recently improved. Table 4.13-4 lists these pump stations.

**Table 4.13-4
 Booster Pump Stations**

Booster Pump Station	Unit No.	Total Capacity (gpm)	Horsepower (Hp)	Zone Supplied
Elizabeth	#1	1,600	75	535
	#2	1,600	75	535
	#3	1,600	75	535
McElrea	#1	400	30	588
	#2	400	30	588
Day Road	#1	540	40	605
	#2	Standby only	40	Standby only
	#3	Standby only	40	Standby only
Foothill	#1	400	40	430A
	#2	440	40	430A
Golf Course ¹	#1	2,000	250	330
	#2	2,000	250	330
	#3	2,000	250	330
	#4	2,000	200	315
Gosnell	#2	1,500	200	Standby only - 400
Hall Canyon ¹	#1	675	20	260
	#2	750	20	260
Kimball ¹	#1	1,000	40	535
	#2	1,000	40	535
Five Points ¹	#2	1,600	100	430
	#3	2,500	200	430
	#4	2,500	200	430
	#5	2,500	200	430
Modella ¹	#1	660	25	260
	#2	660	25	260
	#3	660	25	260
Nob Hill ¹	#1	480	30	1035
	#2	480	30	1035
Ondulando ¹	#1	600	75	860
	#2	600	75	860
Power ¹	#1	7,000	200	210
	#2	7,050	200	210
Seaward & Poli	#1	1,100	100	430
	#2	1,100	100	430
	#3	1,100	100	430
Mariano	#1	590	50	466
	#2	590	50	466
Valley Vista	#1	480	40	400
	#2	480	40	400
	#3	900	75	400
View Park	#1	500	40	605
	#2	500	40	605
Willis	#1	545	50	860
	#2	545	50	860
Bailey	#1	2,400	100	430
	#2	2,400	100	430
	#3	2,400	100	430
Kalorama & Church St.	#1	430	60	605
	#2	430	60	605
330 Zone	#1	2,500	300	330
	#2	2,500	300	330
	#3	2,500	300	330

¹ Improvement made in April 2002.
 Source: City of Ventura Public Works.



The City's system is divided into 14 pressure zones (see Table 4.13-5 and Figure 4.13-1), which range from 210 to 1,035 feet above sea level. These zones were established based on the land use pattern, topography and the ability to optimize system pressure. The pressure zone numbers refer to the storage facility and high water elevations serving that zone. The City does not experience any low pressures.

**Table 4.13-5
 Pressure Zones**

Zone	Area (acres)
400/260R	2,322.0
535	1,695.5
1035	109.7
210	4,338.7
860	402.5
860/660R	220.5
430	5,292.2
605K	77.5
605M/466R	97.5
260	628.0
605V	136.0
330	4,411.2
466/360R	325.4
605W	300.2
Totals	20,356.8

Source: City of Ventura GIS.

The City has five different well groups with a total of 12 wells, as shown in Table 4.13-6. The Golf Course Wells, Victoria Well, and Nye Wells are used extensively. Victoria Well #2 and Saticoy Well #2 located at the Saticoy Water Conditioning facility are the most recent wells added to the system.

Table 4.13-6 Water Wells

Well	Location	Discharge Zone	Unit Number	Horsepower	Quantity (gpm)	(TDH) (ft)
Golf Course	Ventura Golf Course	330	#3	75	2,304	500
			#4	75	2,069	500
			#5	75	2,500	500
			#6	75	2,500	500
Victoria	800 S. Victoria	330	#2	450	2,800	500
Saticoy	Telephone and Wells Road	430	#2	No data Available	No data Available	500
Nye	Foster Park	210	#1A	15	500	37
			#2	10	550	40
			#7	25	1,670	36
			#8	15	1,034	33
Mound	Hill and Telegraph	330	#1	500	2,500	500

Source: City of Ventura Public Works.



There are presently five water sources that provide water to the City water system.

- *Casitas Municipal Water District*
- *Ventura River Surface Water Intake, Subsurface Water and Wells (Foster Park)*
- *Mound Groundwater Basin*
- *Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)*
- *Santa Paula Groundwater Basin*

Table 4.13-7 summarizes historic and projected water supply from these sources, as detailed in the 2000 City Urban Water Management Plan. The historic delivery values shown represent the capacity of available sources. The projected numbers in the table estimate available water supply levels under normal, non-drought conditions. Actual water supply levels in any given year may be significantly higher or lower than these averages.

**Table 4.13-7
 Historic and Projected Water Source Supply Availability
 (Acre Feet)**

Year	Surface Water		Groundwater				Total Water Supply
	Lake Casitas	Ventura River	Mound Basin	Oxnard Plain Basin	Santa Paula Basin	Saticoy Yard Well	
Historic							
1980	7,544	7,276	0	5,198	2,129	0	22,147
1985	9,099	5,493	2,360	6,172	46	0	23,170
1990	6,175	2,859	4,365	5,749	0	0	19,148
1995	1,622	9,042	2,169	2,603	2,594	0	18,030
1996	4,456	7,926	2,789	2,768	1,599	0	19,538
1997	7,089	7,052	213	3,452	2,025	0	19,831
1998	4,328	8,069	802	4,312	1,033	0	18,544
1999	7,061	6,419	3,955	1,621	1,669	0	20,725
2000	5,836	6,779	4,579	2,674	1,698	0	21,566
2001	6,292	5,727	4,030	905	2,006	0	18,960
2002	7,127	5,951	3,720	1,978	1,157	0	19,933
2003	4,874	6,722	5,546	2,898	316	0	20,356
Projected							
2005	8,000	6,700	4,200	4,400	3,000	0	26,300
2010	8,000	6,700	4,200	4,100	3,000	2,262	28,262
2015	8,000	6,700	4,200	4,100	3,000	2,262	28,262
2020	8,000	6,700	4,200	4,100	3,000	2,262	28,262

*Source: City of Ventura Urban Water Management Plan, December 2000
 City of Ventura 2004 Biennial Water Supply Report as amended, September 2004 (see Appendix F).*

The City generally uses its water supplies in the following order: (1) Ventura River; (2) Lake Casitas; and (3) groundwater basins. Water is used in this order to maximize the amount of surface water that would otherwise be lost to runoff before using stored groundwater.



The City also utilizes recycled water supply from the Ventura Water Reclamation Facility to augment its municipal water supply. The tertiary-level treatment plant produces effluent that meets the requirements of Title 22 of the California Administrative Code at an average daily flow to 9.5 million gallons per day. Recycled water is currently used at two golf courses, for landscaping at the Olivas Adobe City Park, and for landscaped medians in the Ventura marina area. Treated effluent is also used for wildlife enhancement in the Santa Clara River estuary. The City recycled water system consists of five miles of pipelines and two pumping facilities. The total recycled water delivery for 1999 was 329 million gallons.

The 1992 City Reclaimed Water Master Plan, which guides future expansion of reclaimed water service, recommends pursuit of landscape irrigation opportunities adjacent to or within reasonable distances of existing reclaimed water distribution systems. A 1999 City review of the Plan noted that implementation of all of the recommended improvements was not justified at that time because the amount of available effluent supply was less than estimated in the Master Plan due to the fact that most of the reclaimed water is required to be discharged into the estuary, and that the proposed expansion of the golf courses currently using reclaimed water would utilize most or all of the estimated available supply. The analysis also found that reclaimed water fees did not generate enough revenue to allow significant expansion and/or upgrades to the existing reclaimed water system. The City Council adopted a reclaimed water policy in 1999 whereby new developments located near existing reclaimed water mains or within the defined reclaimed water focus area, as shown as part of the policy, are required to use reclaimed water in lieu of potable water for irrigation and other uses as appropriate. Each development is required to pay for upgrades to the existing reclaimed water facilities and/or new facilities required to meet their reclaimed water demands.

To enhance system reliability, the City, pursuant to regulations set by the Fox Canyon Groundwater Management Agency has established a water bank for emergency purposes. This water is reserved for significant water shortage such as drought or catastrophic events and is not available for normal use. State Water Project water became available in 1971 through an agreement with the Casitas Water District and the Department of Water Resources that is valid until 2038. However, the City has not yet received delivery of its entitlement, and it is not certain if or when facilities will be constructed to transport State Water Project water to the City.

Water consumption in the City has decreased as a result of successful water conservation efforts. Demand management programs include plumbing retrofits, mandatory conservation ordinances affecting new and existing homes and businesses, water system optimization, and higher cost of water through increasing block rates. Existing and proposed conservation programs are intended to reduce per capita water use through more efficient water consumption by all users.

Table 4.13-8 presents historic and projected water production in the service area. The City does not currently experience water supply shortages and, with the upcoming addition of the Saticoy Yard Well, does not anticipate the need for additional supplies within a 20-year horizon.



**Table 4.13-8
 Historic and Projected Water Production
 (Acre Feet)**

Year	Estimated Population Served	Per Capita Use ⁽¹⁾	Treated Water Production	Raw Water Production	Total Water Production
<i>Historic</i>					
1980	73,774	0.236	17,381	4,766	22,147
1990	94,856	0.177	16,831	2,317	19,148
1995	99,668	0.165	16,428	1,602	18,030
1996	100,482	0.180	18,038	1,500	19,538
1997	101,096	0.178	18,002	1,829	19,831
1998	101,610	0.165	16,775	1,769	18,544
1999	102,224	0.192	19,658	1,067	20,725
2000	103,238	0.198	20,437	1,129	21,566
2001	104,153	0.173	18,071	889	18,960
2002	105,267	0.180	18,965	968	19,933
2003	106,782	0.183	19,510	846	20,356
<i>Projected</i>					
2005	109,465	0.179	19,594	1,000	20,594
2010	115,774	0.179	20,724	1,000	21,724
2015	122,447	0.179	21,918	1,000	22,918
2020	129,504	0.179	23,181	1,000	24,181

Sources: City of Ventura Urban Water Management Plan, Dec. 2000
 City of Ventura 2004 Biennial Water Supply Report as amended, September 2004 (see Appendix F).

(1) Per capita use excludes raw water and oil use.

Water Quality. The following terms are used to describe water quality:

- *Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. Primary MCLs are set as close to the Federal Public Health Goals or State Maximum Contaminant Level Goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.*
- *Primary Drinking Water Standard: MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.*
- *Maximum Contaminant Level Goal: The level of contaminant in drinking water below which there is no known or expected risk to the health; set by EPA.*
- *Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health; set by the California EPA.*



- *Regulatory Action Level (RAL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.*

In late 2002, the City completed changes to its water supply disinfection program for the use of chloramines for disinfection rather than chlorine primarily because the Casitas District also switched to chloramine disinfection and the two methods can't be utilized where the water would be commingled. This process was selected because chloramines have less odor and taste. The City owns and maintains a full scale, state certified laboratory where water quality is monitored. All treatment plants are run by State certified operators who consistently monitor water quality constituents.

In order to ensure tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the California Department of Health Services prescribe regulations that limit the amount of certain contaminants allowed in water provided by public water systems. The City of Ventura treats its water according to the Department's regulations. Table 4.13-9 shows 2001 water quality test results for Ventura. The system meets all primary drinking water standards including state and federal water quality requirements. However, as shown in Table 4.13-9, the average total dissolved solid concentration from groundwater sources was slightly higher than the Maximum Contaminant Level (MCL) for secondary standards.

The Department of Health Services also conducts an annual inspection of the public water systems. Table 4.13-10 shows water quality testing results for the distribution system and wells. An inspection report prepared in 2001 indicated a history of high nitrate levels in the following Eastside well: standby Victoria Well No. 1 (44.3 mg/l). Monthly sampling is required at this well to monitor nitrate. The City obtained additional samples at Victoria Well No. 1 with nitrate results around 10 ppm in June 2001, and 8.1 ppm in January 2002. The MCL is 10 ppm. Since this time, levels have stayed below the MCL but if levels increase above the MCL, the City could make adjustments by blending or wellhead treatment to meet the MCL as mandated by the Department of Health Services. Mound Well No. 1 has experienced increased TDS levels of late, but nothing that would make it infeasible for use.

b. Wastewater. This section presents detailed information from evaluation of the City of Ventura sewer system as of April 2002, with critical information updated as of the date of this EIR. Sewer system components discussed are treatment facilities, lift stations, pipelines and new facilities and services. The majority of residents receive sewer service directly from the City; however, three separate sanitary sewer agencies provide service to specific areas: Montalvo Municipal Improvement District, Saticoy Sanitary Sewer District, and Ojai Valley Sanitary District. Each agency has its own treatment facility. There are a few pockets in the City currently served by individual septic tanks, which typically have been annexed to the City since 1979 and have been slowly connecting to the sewer system as failures of private septic tank systems occur.

The Ventura Water Reclamation Facility, located in the harbor area, treats most of the wastewater for the City. This plant was originally designed with a capacity of 14 mgd and provides tertiary treatment, effluent filtration and chlorination/de-chlorination. The effluent then discharges into the Santa Clara River Estuary. Solids handling consists of thickening, anaerobic digestion and



**Table 4.13-9
 Water Quality Testing, 2001**

Constituent	Units	Maximum Level MCL	Ventura River		Groundwater		CMWD	
			Average	Range	Average	Range	Average	Range
Primary Standards (PDWD)								
Water Clarity								
Turbidity	NTU	5	0.24	0.09-0.24	0.4	0.1-0.4	0.13	0.01-0.13
Radioactive Contaminants								
Gross Alpha	pCi/l	15	3.8	2.1-5.8	6.7	2.7-12.1	2	0.9-2
Gross Beta	pCi/l	50	4	ND-8.0	8	ND-15.8	NA	NA
Radium 226 & 228	pCi/l	5	0.63	ND-1.7	1.1	ND-1.7	NA	NA
Uranium	pCi/l	20	2.4	1.8-3.4	5.1	2.8-8.5	NA	NA
Inorganic Contaminants								
Aluminum	ppb	1000	ND	ND	89	63-114	ND	ND
Arsenic	ppb	50	ND	ND	ND	ND	2	2
Barium	ppm	1	ND	ND	ND	ND	0.1	0.1
Fluoride	ppm	2	0.5	0.4-0.6	0.5	0.5-0.8	0.2	0.2
Nitrate (as N)	ppm	10	0.8	ND-1.3	0.7	ND-2.2	0.4	ND-0.7
Secondary Standards								
Aesthetic Standards								
Color	color	15	ND	ND	4.1	ND-5	2	1-2
Odor	Threshold	3	ND	ND	ND	ND-2	2	1-2
Chloride	ppm	500	28	24-36	67	27-97	11	11-12
Corrosivity	ppm	Non corrosive	0.23	0.21-0.47	0.37	0.13-0.71	0.3	0.3
Iron	ppb	300	ND	ND	ND	ND-200	ND	ND
Total dissolved solids	ppb	1000	498	460-558	1133	994-1392	370	370
Specific conductance	umhos	1600	756	650-800	1560	1376-1800	524	500-560
Sulfate	ppm	500	189	171-197	546	192-710	132	132
Additional Constituents								
pH	units	6.5-8.5	7.7	7.5-7.9	7.5	7.1-8.1	NA	NA
Hardness	ppm	None	334	263-517	587	531-711	225	225
Calcium	ppm	None	81	64-96	159	146-182	NA	NA
Magnesium	ppm	None	27	24-29	46	39-62	NA	NA
Sodium	ppm	None	34	27-38	130	97-166	23	23
Phosphate	ppm	None	0.1	0.1-0.21	0.1	0.07-0.15	NA	NA
Potassium	ppm	None	2.5	2.3-2.9	4.8	4.1-5.4	NA	NA
Total Alkalinity	ppm	None	160	141-187	235	151-289	NA	NA

pCi/l = pico Curies per liter; ppb = parts per billion ; ppm = parts per million



**Table 4.13-10
 Distribution System and Well Testing, 2001**

Constituent	Units	Maximum Level (MCL)	Distribution System Average	Distribution System Range	
Primary Standards					
Disinfection					
Chlorine Residual	ppm	None	1.1	0.2-2.2	
Disinfection By Products					
Total Trihalomethanes	ppb	100	67.8	ND-111	
Total Haloacetic Acids	ppb	60	51.1	5.5-83.9	
Microbiological Contaminants					
Total Coliform Bacteria	NA	5%	0	0	
Fecal Coliform Bacteria	NA	0	0	0	
Constituent	Units	Maximum Level RAL	Samples Collected	Above RAL	90th Percentile
Lead	ppb	15	36	0	ND
Copper	ppm	1.3	36	1	0.72

*ppb = parts per billion
 ppm = parts per million
 ND: Not Detected
 NA: Data Not Available*

dewatering by filter presses prior to land application. Plant flow for 2001 averaged 9.3 mgd and in 2004 averaged just under 9.0 mgd.

A minimum of 5.6 mgd of the effluent is discharged to the Santa Clara Estuary as required by the existing Regional Water Quality Control Broad (RWQCB) Permit. The remaining effluent is either transferred to recycling ponds, where a portion is delivered as reclaimed water, or lost through percolation or evaporation.

Table 4.13-11 shows monthly average wastewater flows for 2001. Peak monthly flow in 2001 occurred in March (10.8 mgd). Peak flow in 2000 occurred in June (12.7 mgd) and in 1999 in September (9.4 mgd).

The reclamation facility operates under a RWQCB permit for production of reclaimed water (issued 1987). In 2002, the RWQCB initiated a review of the City's effluent permit. This review and a new permit are pending.

The Ojai Valley Sanitary District Treatment Plant was constructed in 1963 with a capacity of 1.4 million gallons per day. It was expanded to the current capacity of 3.0 mgd in 1965. A major rehabilitation and upgrade project financed by an EPA Clean Water Construction Grant was carried out in 1982 to bring effluent into compliance with requirements established by the Los



**Table 4.13-11
Wastewater Flows, 2001**

Month	Average Flow (mgd)
January	9.28
February	9.59
March	10.78
April	9.61
May	9.15
June	9.14
July	9.09
August	9.13
September	9.06
October	8.89
November	9.08
December	8.85
Average	9.304
Peak	10.78
Minimum	8.85
Total	111.65

*Source: Ventura Water Reclamation Facility
Annual Report 2001*

Angeles Regional Water Quality Control Board. Reduction of ammonia-nitrogen was the most important of these requirements. Current flows as of 2004 averaged about 2.0 mgd and this treated effluent is discharged to the Ventura River.

The Montalvo Municipal Improvement District Treatment Plant is a secondary treatment plant, with a capacity of 0.36 mgd, and serves the Montalvo Community. The Saticoy Sanitary District Treatment Plant has a capacity of 2.2 million gallons per day and is currently undergoing expansion and upgrading to tertiary treatment.

Table 4.13-12 lists wastewater generation factors applied to new development in Ventura.

The City collection system includes seven major tributary, or planning, areas (see Figure 4.13-2) with a total service area of 31,309 acres: Ventura Avenue; Vista Del Mar; Woolsey Trunk; Pierpont Bay; Olivas-Bristol Trunk; Wells Road Valley; and, Santa Clara River area. The downtown area has sewer pipes that were installed as early as 1905. Some of the most recently installed pipes comprise the southern portion of the sewer system in the Ventura Harbor area.

The City also provides wastewater treatment for tributary collections systems operated by others. These include the North Coast Communities (Ventura County Service Area 29), where the system is owned by the County and operated by the Ventura County Regional Sanitation District, and McGrath State Beach, owned and operated by the State.



**Table 4.13-12
Wastewater Generation Factors**

Land Use	Average Flow
Residential	0.00013 cfs/capita
Industrial	0.0081 cfs/acre
Commercial	0.0061 cfs/acre
Public Structures	0.0061 cfs/acre
Recreation	0.00031 cfs/acre
Hospital	0.039 cfs/100 beds
School	0.031 cfs/1,000 students
College	0.031 cfs/1,000 students

Source: Ventura Standards and Design Manual, 2000.

The City collection system consists of nearly 60 miles of main collector sewer pipeline with about 450 miles of total gravity sewer pipe, 3 miles of force mains, 8,700 manholes, and 14 lift stations, two of which have been abandoned indefinitely. Sewer system lines range in diameter from 4 to 48 inches. Figure 4.13-2 shows the locations of sewage collection and treatment facilities. Table 4.13-13 summarizes the lift station capacities.

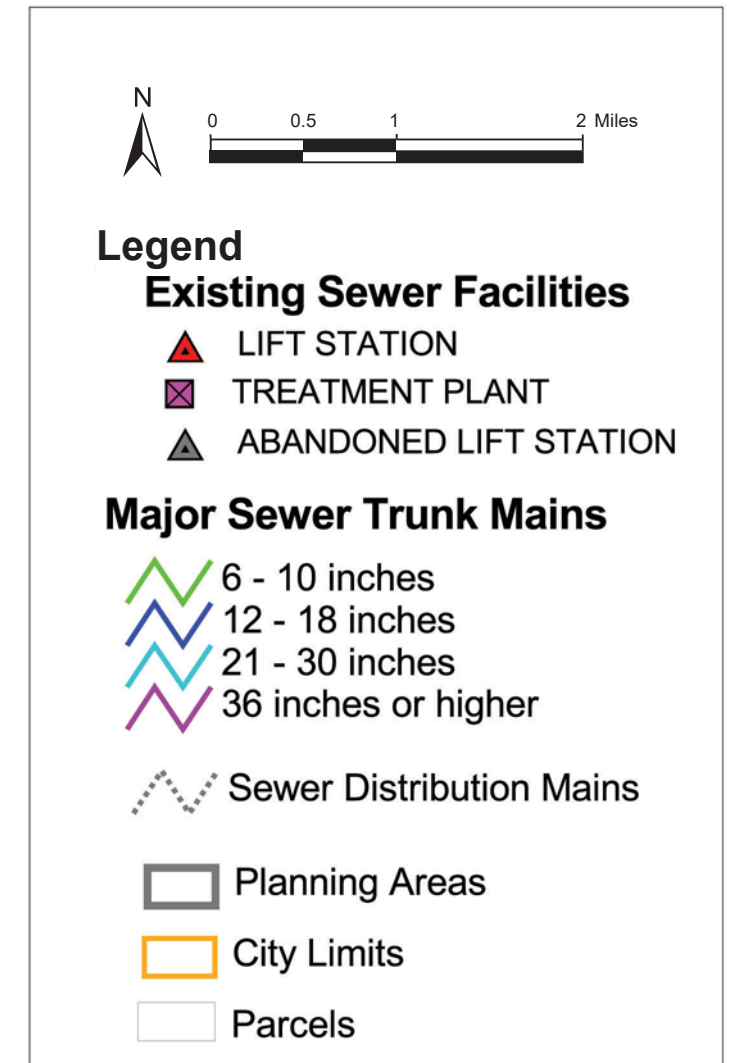
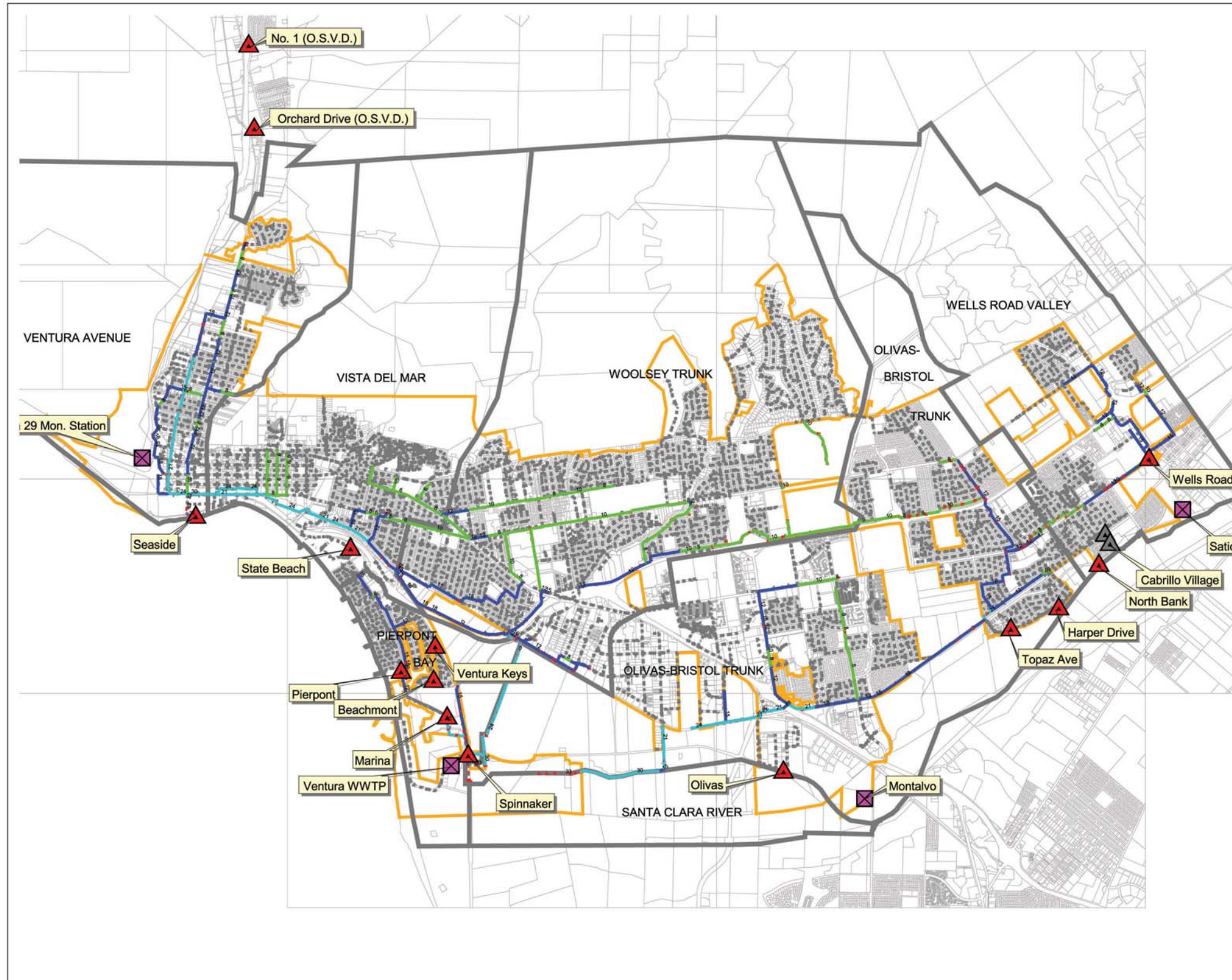
**Table 4.13-13
Lift Station Capacities
(City Facilities Only)**

Facility Name	Capacity (gpm)
Beachmont	200
Cabrillo Village	Data not available – Private Facility
Harper Drive	160
Mammoth Street	Abandoned indefinitely
Marina	275
North Bank	580
Olivas	Abandoned indefinitely
Pierpont	2,400
Seaside	4,200
Ventura Keys	200
Spinnaker	300
State Beach	385
Topaz	271
Wells Road	965

Source: City of Ventura Public Works Department.

The Pierpont Lift Station is in the process of being upgraded to improve reliability performance, and various sewer replacements are being undertaken as part of the City's current Capital





Source: City of San Buenaventura, Department of Public Works and Psomas, 2002.

The map is a product of the City of San Buenaventura, California and Psomas. It was created for illustration purposes only; its accuracy cannot be guaranteed.

Sewage Collection Facilities

Figure 4.13-2
 City of Ventura

Improvement Program. One such project is the North Bank replacement, which is scheduled to be in operation by the end of 2003 and when completed will eliminate the Topaz, Harper and Wells Road Lift Stations as well as the old North Bank Lift Station.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds have been used to determine the impacts to water provision, wastewater treatment, and solid waste disposal.

The 2005 General Plan would result in potentially significant impacts if growth accommodated by the Plan would result in substantial adverse physical impacts associated with provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

Water. The 2005 General Plan would have a significant effect on water supplies if demand associated with projected growth exceeds the available supply, thereby causing water shortages during average or peak demand periods. Impacts related to the proposed 2005 General Plan would be considered substantial if growth under the Plan would:

- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);*
- *Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or*
- *Fail to have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.*

Wastewater. Impacts to the sewer system are considered significant if sewage generated by growth that could be accommodated under the 2005 General Plan would exceed the existing or planned capacity of the sewage collection or treatment system, or require extension of a trunk line with capacity to serve new development. Impacts related to the 2005 General Plan would be considered substantial if growth accommodated under the Plan would:

- *Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or*
- *Result in a determination that the wastewater treatment provider (the City or the Ojai Valley Sanitary District) that it does not have adequate capacity to serve projected demand in addition to existing commitments.*



b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the six 2005 General Plan land use scenarios. A discussion of impacts for each scenario follows.

Impact U-1 Development accommodated under any of the 2005 General Plan land use scenarios would increase water demand, with net increases in demand ranging from about 2,700 acre-feet per year (AFY) to 5,900 AFY. The total estimated water available from Lake Casitas, the Ventura River diversion, and groundwater basins of approximately 28,300 acre-feet per year is sufficient to meet these projected demand increases. Therefore, water supply impacts are considered Class III, *less than significant*, for all six scenarios .

Agriculture Water Credit

There are areas within the City's SOI, such as the McGrath property, that are currently in agricultural use. Although not being served by the City water system, these areas utilize water from private wells drawing from the same groundwater basin as the City and when taken out of agricultural production will increase the available supply that can be extracted from existing City wells or from new wells installed by the City. Although water use will vary depending on such elements as crop type and soil characteristics, the average agricultural irrigation use is assumed to be 2.5 feet per year (30 inches).

The six land use scenarios would accommodate the conversion of varying amounts of agricultural land to urban uses, thus creating an additional source of groundwater for the overall scenario development. This includes both agricultural acreage within the current SOI that is already designated for non-agricultural uses and, for Scenarios 2-6, agricultural lands within the expansion areas under consideration for future conversion. The total acreage, location, and water credit for these agricultural areas for conversion to urban development are discussed below.

Scenario 1 - Intensification/Reuse Only

Under Scenario 1, there are no expansion areas that would be taken out of agriculture; therefore, no credits for additional groundwater sources available for new development in these areas. However, as discussed previously, agricultural lands within the existing SOI that are already designated for non-agricultural uses could be converted under this scenario. Using the agricultural irrigation factor of 2.5 feet per year, the total amount of water credit is 1,278 acre-feet per year (AFY) (see Table 4.13-14). This amount is credited against the total projected water demand calculation for intensification/reuse that could occur under every scenario.

Projected water demands for the various land uses and cumulative totals for Scenario 1 are shown in Table 4.13-15. As indicated in the table, growth accommodated under this Scenario would increase current water demand by 5.18 million gallons per day (mgd) or about 5,806 acre-feet per year (AFY).



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Water Supply and Delivery (Impact U-1)	Net demand increase of 4,528 AFY, resulting in overall demand of approximately 26,028 AFY in 2025. This is within projected supply. System upgrades needed in older parts of the City to improve pressure and fire flow, but can be achieved with significant secondary impacts. Impacts are Class III, less than significant.	Net demand increase of 2,710 AFY, resulting in overall demand of approximately 24,210 AFY in 2025. This is within projected supply. Minor infrastructure extensions needed for expansion areas, but water mains are adjacent; new reservoir needed for North Avenue area. Impacts are Class III, less than significant.	Net demand increase of 3,877 AFY, resulting in overall demand of approximately 25,377 AFY in 2025. This is within projected supply. Minor infrastructure extensions needed for expansion areas, but water mains are adjacent; new reservoir needed for North Avenue area. Impacts are Class III, less than significant.	Net demand increase of 5,035 AFY, resulting in overall demand of approximately 26,535 AFY in 2025. This is within projected supply. Minor infrastructure extensions needed for expansion areas, but water mains are adjacent; new reservoir needed for North Avenue area. Impacts are Class III, less than significant.	Net demand increase of 5,880 AFY, resulting in overall demand of approximately 27,380 AFY in 2025. This is within projected supply. Minor infrastructure extensions needed for expansion areas, but water mains are adjacent; new reservoir needed for North Avenue and Western Cañada Larga areas and possible new well for Western Cañada Larga. Impacts are Class III, less than significant.	Net demand increase of 5,150 AFY, resulting in overall demand of approximately 26,650 AFY in 2025. This is within projected supply. Minor infrastructure extensions needed for expansion areas, but water mains are adjacent; new reservoir needed for North Avenue area. Impacts are Class III, less than significant.
Wastewater Conveyance and Treatment (Impact U-2)	Projected increase in flow of 2.88 million gallons per day (mgd) at VWRP and 0.18 mgd at OVSD plant. Increases are within the capacities of both plants. Sewer line upgrades needed in many older neighborhoods, but can be achieved without significant secondary impacts. Impacts are Class III, less than significant.	Projected increase in flow of 3.72 mgd at VWRP and 0.28 mgd at OVSD plant. Increases are within the capacities of both plants. Sewer line upgrades needed in many older neighborhoods, but can be achieved without significant secondary impacts. Sewer mains adequate for expansion areas. Impacts are Class III, less than significant.	Projected increase in flow of 3.67 mgd at VWRP and 0.33 mgd at OVSD plant. Increases are within the capacities of both plants. Sewer line upgrades needed in many older neighborhoods, but can be achieved without significant secondary impacts. Sewer mains adequate for expansion areas. Impacts are Class III, less than significant.	Projected increase in flow of 3.67 mgd at VWRP and 0.33 mgd at OVSD plant. Increases are within the capacities of both plants. Sewer line upgrades needed in many older neighborhoods, but can be achieved without significant secondary impacts. Sewer mains adequate for expansion areas. Impacts are Class III, less than significant.	Projected increase in flow of 2.98 mgd at VWRP and 1.01 mgd at OVSD plant. Increase at OVSD plant exceeds capacity. Sewer line upgrades needed in many older neighborhoods, but can be achieved without significant secondary impacts. Sewer mains adequate for expansion areas. Impacts are Class II, significant but mitigable.	Projected increase in flow of 3.67 mgd at VWRP and 0.33 mgd at OVSD plant. Increases are within the capacities of both plants. Sewer line upgrades needed in many older neighborhoods. Possible upgrade of SR 126 sewer main needed for Poinsettia area, but can be achieved without significant secondary impacts. Impacts are Class III, less than significant.



**Table 4.13-14 Agriculture Water Credit
(Lands with Non-Agricultural Designations)**

	Acres	Water Demand (acre-feet/ year/acre)	Water Credit (AFY)
Districts			
Saticoy	280	2.5	700
Arundell	75	2.5	188
Auto Center	66	2.5	165
SOI/Other Infill			
101/126 Agriculture	25	2.5	63
Pending Developments			
West Ventura	25	2.5	63
Telephone/Kimball	40	2.5	100
Total	511		1,278

Current water production has totaled approximately 19,000 to 21,500 AFY over the past few years, with the range due to seasonal climate and rainfall variations. Using the higher value to be conservative, adding the projected increase of 5,806 AFY to the current water production (21,500 AFY), and subtracting the 1,278 AFY of agricultural credit results in overall demand of approximately 26,028 AFY in 2025. This represents a net increase of 4,528 AFY.

Projected overall 2025 demand is lower than the long-term projected supply of 28,262 AFY from the City’s 2004 Biennial Water Supply Report and the City’s 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Therefore, water supply impacts associated with this scenario are not considered significant. Additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

Connection fees would be paid by all new developments, and these would cover each project’s “buy-in” to existing City supply, storage and transmission/distribution systems. In addition, developers would be responsible for constructing all local on and off-site distribution improvements necessary to bring the particular development up to current standards. In some areas of the City, particularly older neighborhoods such as Downtown and the Ventura Avenue corridor where substantial intensification is anticipated may require upgrades to older water distribution infrastructure to improve pressure and fire flow. In the upper Ventura Avenue area, providing water service would be predicated on annexation. Distribution system looping would be needed in the upper reaches. In the College area, fire flow will likely be weak in Loma Vista. In the Harbor area, fire flow could require improvements and the Seaward Drive area may need strengthening. Replacement of existing lines, which are located underneath City streets, would involve temporary disruption of traffic as well as temporary noise and air quality impacts. However, such impacts could be reduced to a less than significant level through implementation of standard traffic, noise, and dust controls.



**Table 4.13-15
 Projected Water Demand
 Intensification / Reuse Only (Scenario 1)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	150,000		210,000	70	120
North Avenue	50	25	10,000	50,000	250,000		310,000	105	130
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,000,000		1,325,000	444	545
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	25,000		75,000	23	48
Saticoy	50	25	0		25,000		25,000	9	34
Subtotals (Districts)	2,425	1,223	536,000	700,000	1,750,000	300,000	3,286,000	1,084	2,307
Corridors									
Ventura Avenue	800	404	40,000	100,000	50,000		190,000	57	460
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	50,000	0	570,000	163	1,033
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	1,800,000	300,000	4,101,000	1,316	4,645
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	8,318	4,196	992,377	1,213,214	2,235,133	450,000	4,890,724	1,611	5,806



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Projected water demands for the various land uses and cumulative totals for Scenario 2 are shown in Table 4.13-16. As indicated in the table, growth accommodated under this scenario would increase current water demand by 6.79 mgd, or about 7,611 AFY.

In addition to the 1,278 AFY of agricultural water credit common to all scenarios, Scenario 2 would accommodate the conversion of 1,449 acres of agricultural areas in the North Avenue, Olivas and Serra expansion areas. Using the same assumptions for agricultural water use described under Scenario 1, these areas would generate an agricultural water credit of 3,623 AFY, bringing the total agricultural water use credit to 4,901 AFY. Therefore, it is assumed that any new water requirement for development in this scenario can be reduced or adjusted down by this amount to determine the net demand required from new water sources.

Adding the projected increase of 7,611 AFY to current water production (21,500 AFY), and subtracting the total water credit of 4,901 AFY for current agricultural use results in overall demand of approximately 24,210 AFY in 2025. This represents a net increase of 2,710 AFY.

Projected overall demand in 2025 is lower than the long-term projected supply of 28,262 AFY from the City's 2004 Biennial Water Supply Report and the City's 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Thus, water supply impacts associated with this scenario are not considered significant. As with Scenario 1, additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

As noted in the Scenario 1 discussion, connection fees would be charged to new development to cover City expenses for upgrade and maintenance of storage and transmission/distribution systems. Impacts relating to replacement of water distribution infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of any of the three expansion areas included in this scenario would require extension of water distribution infrastructure. Development of the North Avenue expansion area would require extension of the Valley Vista Reservoir system and an additional reservoir within the development. The Olivas area would require an extension of the 210 Zone and would offer the opportunity to loop systems across U.S. 101, thus adding reliability to the Harbor area. The Serra area would require new east-west pipelines that would strengthen the water systems on either side of this area. As described above, existing water mains are adjacent to all three potential expansion areas and it is anticipated that needed extensions could be achieved without disruption of service or significant secondary environmental impacts.



**Table 4.13-16
 Projected Water Demand
 Intensification/Reuse + North Avenue + Olivas + Serra (Scenario 2)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	200,000		260,000	87	138
North Avenue	50	25	10,000	50,000	400,000		460,000	158	183
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,200,000		1,525,000	515	616
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	50,000		100,000	32	57
Saticoy	50	25	0		75,000		75,000	26	52
Subtotals (Districts)	2,425	1,223	536,000	700,000	2,225,000	300,000	3,761,000	1,251	2,475
Corridors									
Ventura Avenue	800	404	40,000	100,000	100,000		240,000	75	478
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	100,000	0	620,000	181	1,051
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	2,325,000	300,000	4,626,000	1,501	4,830
Expansion Areas									
North Avenue	176	89	18,295				18,295	5	94
Olivas	1,484	749	109,771	439,085			548,856	154	902
Serra	1,042	526	91,476	256,133			347,609	97	623
Canada Larga		0						0	0
Poinsettia		0						0	0
Subtotals (Expansion)	2,702	1,363	219,542	695,218	0	0	914,760	256	1,619
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	11,020	5,558	1,211,919	1,908,432	2,760,133	450,000	6,330,484	2,053	7,611



Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Projected water demands for the various land uses and cumulative totals for Scenario 3 are shown in Table 4.13-17. As indicated in the table, growth accommodated under this scenario would increase current water demand by 6.80 mgd or about 7,618 AFY, almost exactly the same as Scenario 2 and 1,812 AFY more than Scenario 1.

Scenario 3 would accommodate the conversion of the North Avenue and Olivas areas from agriculture to urban development. Using the same rationale and assumptions as described above under the previous scenarios, the combined 985 acres of agricultural land that could be converted in these two expansion areas equates to an agricultural demand of 2,463 AFY. Additionally, there would be the 1,278 AFY agricultural water credit common to all scenarios, as discussed above. Therefore, it is assumed that any new water demand requirement can be reduced or adjusted down by the sum of these two or 3,741 AFY to determine the net demand required from new water sources.

Adding the projected increase of 7,618 AFY to the current water production (21,500 AFY), and subtracting the total water credit of 3,741 AFY for current agricultural use results in overall demand of approximately 25,377 AFY in 2025. This represents a net increase of 3,877 AFY.

Projected overall 2025 demand is lower than the long-term projected supply of 28,262 AFY from the City's 2004 Biennial Water Supply Report and the City's 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Thus, water supply impacts are not considered significant. As with the other scenarios, additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

As noted in the Scenario 1 discussion, connection fees would be charged to new development to cover City expenses for upgrade and maintenance of storage and transmission/distribution systems. Impacts relating to replacement of water distribution infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of either the North Avenue expansion area or the Olivas expansion area would require extension of water distribution infrastructure, as described under Scenario 2. As discussed previously, existing water mains are adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without disruption of service or significant secondary environmental impacts.



**Table 4.13-17
 Projected Water Demand
 Intensification/Reuse + North Avenue + Olivas (Scenario 3)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	200,000		260,000	87	138
North Avenue	50	25	10,000	50,000	400,000		460,000	158	183
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,200,000		1,525,000	515	616
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	50,000		100,000	32	57
Saticoy	50	25	0		75,000		75,000	26	52
Subtotals (Districts)	2,425	1,223	536,000	700,000	2,225,000	300,000	3,761,000	1,251	2,475
Corridors									
Ventura Avenue	800	404	40,000	100,000	100,000		240,000	75	478
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	100,000	0	620,000	181	1,051
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	2,325,000	300,000	4,626,000	1,501	4,830
Expansion Areas									
North Avenue	322	162	36,590	54,886			91,476	26	188
Olivas	2,394	1,208	182,952	640,332			823,284	231	1,438
Serra		0						0	0
Canada Larga		0						0	0
Poinsettia		0						0	0
Subtotals (Expansion)	2,716	1,370	219,542	695,218	0	0	914,760	256	1,626
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	11,034	5,566	1,211,919	1,908,432	2,760,133	450,000	6,330,484	2,053	7,618



Scenario 4 – Intensification/Reuse + North Avenue + Serra

Projected water demands for the various land uses and cumulative totals for Scenario 4 are shown in Table 4.13-18. As indicated in the table, growth accommodated under this scenario would increase current water demand by 6.79 mgd, or about 7,611 AFY. This is almost exactly the same as Scenarios 2 and 3 and 1,805 AFY more than Scenario 1.

Scenario 4 would accommodate the conversion of the North Avenue and Serra expansion areas from agriculture to urban development. Using the same rationale and assumptions as described above under Scenario 2, the total 519 acres of agricultural land that could be converted in these two expansion areas equates to an agricultural demand of 1,298 AFY. Combining this with the agricultural water credit common to all scenarios, as discussed above, equates to a total credit of 2,576 AFY. Therefore, it is assumed that any new water demand requirement for development under this scenario can be reduced or adjusted down by this amount to determine the net demand required from new water sources.

Adding the projected increase of 7,611 AFY to the current water production (21,500 AFY), and subtracting the credit of 2,576 AFY for agricultural land conversion results in overall demand of 26,535 in 2025. This represents a net increase in demand of approximately 5,035 AFY.

Projected overall 2025 demand is lower than the long-term projected supply of 28,262 AFY from the City's 2004 Biennial Water Supply Report and the City's 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Thus, impacts to water supply associated with this scenario are not considered significant. As with the other scenarios, additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

As noted in the Scenario 1 discussion, connection fees would be charged to new development to cover City expenses for upgrade and maintenance of storage and transmission/distribution systems. Impacts relating to replacement of water distribution infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of either the North Avenue expansion area or the Serra expansion area would require extension of water distribution infrastructure, as described under Scenario 2. As discussed previously, existing water mains are adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without disruption of service or significant secondary environmental impacts.



**Table 4.13-18
 Projected Water Demand
 Intensification/Reuse + North Avenue + Serra (Scenario 4)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	200,000		260,000	87	138
North Avenue	50	25	10,000	50,000	400,000		460,000	158	183
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,200,000		1,525,000	515	616
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	50,000		100,000	32	57
Saticoy	50	25	0		75,000		75,000	26	52
Subtotals (Districts)	2,425	1,223	536,000	700,000	2,225,000	300,000	3,761,000	1,251	2,475
Corridors									
Ventura Avenue	800	404	40,000	100,000	100,000		240,000	75	478
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	100,000	0	620,000	181	1,051
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	2,325,000	300,000	4,626,000	1,501	4,830
Expansion Areas									
North Avenue	322	162	36,590	54,886			91,476	26	188
Olivas		0					0	0	0
Serra	2,380	1,200	182,952	640,332			823,284	231	1,431
Canada Larga		0						0	0
Poinsettia		0						0	0
Subtotals (Expansion)	2,702	1,363	219,542	695,218	0	0	914,760	256	1,619
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	11,020	5,558	1,211,919	1,908,432	2,760,133	450,000	6,330,484	2,053	7,611



Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga

Projected water demands for the various land uses and cumulative totals for Scenario 5 are shown in Table 4.13-19. As indicated in the table, growth accommodated under this scenario would increase current water demand by 6.78 mgd or about 7,598 AFY, nearly the same as Scenario 2, 3, and 4 and 1,792 AFY more than Scenario 1.

Scenario 5 calls for the conversion of the North Avenue and Western Cañada Larga areas from agriculture to development. Using the same rationale and assumptions as described above under the previous scenarios, the total 176 acres of agricultural land scheduled for conversion into development in these two expansion areas equates to an annual agricultural demand of 440 acre-feet or 0.39 mgd. Combining this with the agricultural water credit common to all scenarios, as discussed above, equates to a total credit of 1,718 AFY. Therefore, it is assumed that any new water demand requirement for development under this scenario can be reduced or adjusted down by this amount to determine the net demand required from new water sources.

Adding the projected increase of 7,598 AFY to the current water production (21,500 AFY), and subtracting the water credit of 1,718 AFY for agricultural land conversion results in overall 2025 demand of 27,380 AFY. This represents a net increase of 5,880 AFY.

Overall projected 2025 demand is lower than the long-term projected supply of 28,262 AFY from the City's 2004 Biennial Water Supply Report and slightly lower than the City's 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Thus, impacts to water supply associated with this scenario are not considered significant. As with the other scenarios, additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

As noted in the Scenario 1 discussion, connection fees would be charged to new development to cover City expenses for upgrade and maintenance of storage and transmission/distribution systems. Impacts relating to replacement of water distribution infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Water distribution infrastructure needed for development of the North Avenue expansion area is discussed under Scenario 2. The Western Cañada Larga expansion area would also require extension of water distribution infrastructure, including a pump station from the existing Power Reservoir, a new reservoir within the development, and possibly a new well site in or adjacent to the development. Existing water mains are adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without disruption of service or significant secondary environmental impacts.



**Table 4.13-19
 Projected Water Demand
 Intensification/Reuse + North Avenue + W. Canada Larga (Scenario 5)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	200,000		260,000	87	138
North Avenue	50	25	10,000	50,000	400,000		460,000	158	183
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,200,000		1,525,000	515	616
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	50,000		100,000	32	57
Saticoy	50	25	0		75,000		75,000	26	52
Subtotals (Districts)	2,425	1,223	536,000	700,000	2,225,000	300,000	3,761,000	1,251	2,475
Corridors									
Ventura Avenue	800	404	40,000	100,000	100,000		240,000	75	478
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	100,000	0	620,000	181	1,051
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	2,325,000	300,000	4,626,000	1,501	4,830
Expansion Areas									
North Avenue	979	494	91,476	219,542			311,018	87	581
Olivas		0					0	0	0
Serra		0						0	0
Canada Larga	1,728	872	109,771	439,085			548,856	154	1,025
Poinsettia		0						0	0
Subtotals (Expansion)	2,707	1,365	201,247	658,627	0	0	859,874	241	1,606
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	11,025	5,561	1,193,624	1,871,841	2,760,133	450,000	6,275,598	2,037	7,598



Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Projected water demands for the various land uses and cumulative totals for Scenario 6 are shown in Table 4.13-20. As indicated in the table, growth accommodated under this scenario would increase current water demand by 6.79 million mgd or about 7,611 AFY, almost exactly the same as Scenario 2, 3, 4, and 5, and 1,805 AFY more than Scenario 1.

Scenario 6 calls for the conversion of the North Avenue and Poinsettia areas from agriculture to development. Using the same rationale and assumptions as described above under the other scenarios, the total 473 acres of agricultural land that could be converted in these two expansion areas equates to an annual agricultural demand of 1,183 acre-feet or 1.06 mgd. Combining this with the agricultural water credit common to all scenarios, as discussed above, equates to a total credit of 2,461 AFY. Therefore, it is assumed that any new water demand requirement for development on these areas can be reduced or adjusted down by this amount to determine the net demand required from new water sources.

Adding the projected increase of 7,611 AFY to current water production (21,500 AFY), and subtracting the water credit of 2,461 AFY for agricultural land conversion results in overall 2025 demand of 26,650 AFY. This represents a net increase of 5,150 AFY.

Projected overall demand is lower than the long-term projected supply of 28,262 AFY from the City's 2004 Biennial Water Supply Report and also lower than the City's 2000 Urban Water Management Plan projected demand of 27,624 AFY for the year 2020 (five years earlier). Thus, water supply impacts associated with this alternative are not considered significant. As with the other scenarios, additional wastewater reclamation and/or water conservation efforts could further reduce this demand.

As noted in the Scenario 1 discussion, connection fees would be charged to new development to cover City expenses for upgrade and maintenance of storage and transmission/distribution systems. Impacts relating to replacement of water distribution infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Water distribution infrastructure needed for development of the North Avenue expansion area is discussed under Scenario 2. The Poinsettia expansion area would require connection to the existing 430 Zone to the east and west. Existing water mains are adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without disruption of service or significant secondary environmental impacts.



**Table 4.13-20
 Projected Water Demand
 Intensification/Reuse + North Avenue + Poinsettia (Scenario 6)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	200,000		260,000	87	138
North Avenue	50	25	10,000	50,000	400,000		460,000	158	183
Downtown	1,600	807	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000	0			25,000	7	20
Harbor *	300	151	66,000			150,000	216,000	54	205
Arundell	200	101	25,000	300,000	1,200,000		1,525,000	515	616
North Bank	50	25	300,000	50,000	300,000		650,000	204	229
Montalvo	50	25		50,000	50,000		100,000	32	57
Saticoy	50	25	0		75,000		75,000	26	52
Subtotals (Districts)	2,425	1,223	536,000	700,000	2,225,000	300,000	3,761,000	1,251	2,475
Corridors									
Ventura Avenue	800	404	40,000	100,000	100,000		240,000	75	478
Main Street	100	50	15,000	40,000			55,000	15	66
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	126	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	76	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	100,000	0	620,000	181	1,051
SOI/Other Infill									
101/126 Agriculture	200	101					0	0	101
Wells/Saticoy	1,050	530					0	0	530
Pierpont	100	50	30,000				30,000	8	59
Other Neighborhood Centers	100	50						0	50
Second Units	300	151						0	151
Underutilized	250	126						0	126
Vacant	450	227	165,000	50,000			215,000	60	287
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	2,325,000	300,000	4,626,000	1,501	4,830
Expansion Areas									
North Avenue	322	162	36,590	54,886			91,476	26	188
Olivas		0					0	0	0
Serra		0						0	0
Canada Larga		0						0	0
Poinsettia	2,380	1,200	182,952	640,332			823,284	231	1,431
Subtotals (Expansion)	2,702	1,363	219,542	695,218	0	0	914,760	256	1,619
Planned and Pending Developments									
Downtown	50	25	1,072			150,000	151,072	84	110
Ventura Avenue/Westside	238	120	7,086		27,000		34,086	12	132
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718	8,849			11,567	3	5
Telephone Road Corridor	256	129		54,785			54,785	15	144
Montalvo/Victoria	296	149		4,300			4,300	1	151
Saticoy/East End	840	424	7,950	5,600			13,550	4	427
Arundell		0	41,640	42,614	18,080		102,334	30	30
Olivas		0	7,160	7,066	390,053		404,279	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	11,020	5,558	1,211,919	1,908,432	2,760,133	450,000	6,330,484	2,053	7,611



MITIGATION MEASURES

The 2005 General Plan includes the following policies and actions relating to water conservation.

- Policy 5A* Follow an approach that contributes to resource conservation.
- Action 5.1* Require low flow fixtures, leak repair, and drought tolerant landscaping (native species if possible), plus emerging water conservation techniques, such as reclamation, as they become available.
- Action 5.3* Demonstrate low water use techniques at community gardens and city-owned facilities.
- Action 5.4* Update the Urban Water Management plan as necessary in compliance with the State 1983 Urban Water Management Planning Act.
- Policy 5B* Improve services in ways that respect and even benefit the environment.
- Action 5.8* Locate new development in or close to developed areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.
- Action 5.9* Update development fee and assessment district requirements as appropriate to cover the true costs associated with development.
- Action 5.11* Increase emergency water supply capacity through cooperative tie-ins with neighboring suppliers.

Additional mitigation beyond these proposed policies and actions is not required, but the following measure is recommended.

U-1 Water System Analysis. The following action shall be added to the 2005 General Plan:

- Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage requirements for the proposed development in order to determine if there are any system deficiencies or needed improvements for the proposed development.

SIGNIFICANCE AFTER MITIGATION

Impacts related to water supply and reliability would not be significant for any of the six land use scenarios. Implementation of the proposed General Plan policies and action items would further minimize the potential for impacts.



Impact U-2 New development under any of the 2005 General Plan land use scenarios would increase wastewater generation. Projected future wastewater flows to the City's wastewater treatment plant are projected to remain within the current capacity for all six scenarios. Projected flows to the Ojai Valley Sanitary District plant would be within the capacity of the plant for all scenarios except Scenario 5 (Intensification/Reuse + North Avenue + Western Cañada Larga). Therefore, the impacts of Scenarios 1-4 and 6 are considered Class III, *less than significant*, while the impact of Scenario 5 is considered Class II, *significant but mitigable*.

Scenario 1 - Intensification/Reuse Only

As shown in Table 4.13-21, growth accommodated under Scenario 1 is projected to generate an additional 3.06 mgd of wastewater flow. The flow generated from land north of Dakota Street in the Ventura Avenue area is outside of the City's service area and would likely be collected and treated by Ojai Valley Sanitary District (OVSD). The only developments in Scenario 1 that are within this OVSD area and would not flow to the Ventura Wastewater Reclamation Facility (VWRF) are assumed to be the Upper North Avenue and North Avenue districts, which are projected to generate approximately 0.18 mgd. The 1.0 mgd of capacity at the OVSD plant is adequate to meet this flow increase. OVSD should also be advised of the development proposed under this scenario so that they can plan for expansion of their plant if this, along with other development plans in their service area, requires the need for additional capacity, but the small flow projected to flow to the OVSD plant should be able to be accommodated by their existing plant.

The additional flow to the VWRF through 2025 is estimated at 2.88 mgd. The flow at the Ventura Wastewater Reclamation Plant for 2004 averaged just under 9.0 mgd and the rated capacity is 14 mgd, leaving capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow.

Some intensification/reuse development, especially in the Downtown area, may cause localized sewer capacity deficiencies that require upgrades of older, undersized sewer infrastructure, primarily the smaller diameter north-south lines. Intensification/reuse within the Midtown area could cause capacity constraints in the East Thompson and East Main sewers. The Ventura Avenue sewer may also have capacity constraints. In the College area, some 8-inch diameter lines may require upgrading. In the East End, portions of the Victoria Avenue and Telephone Road sewer may require upgrading. In the Harbor area, the Marin Lift Station is currently at capacity and could not handle additional flow with upgrades.

Sewer lines that may need replacement are generally located underneath existing streets; therefore, line replacement would involve temporary traffic disruption as well as temporary noise and air quality impacts. However, such impacts could be reduced to a less than significant level through implementation of standard traffic, noise, and dust controls.



**Table 4.13-21
Wastewater Generation
Intensification/Reuse Only (Scenario 1)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)
Districts									
Upper North Avenue	100	0.022	10,000	50,000	150,000		210,000	0.058	0.080
North Avenue	50	0.011	10,000	50,000	250,000		310,000	0.088	0.099
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011
Harbor	300	0.065	66,000			150,000	216,000	0.006	0.071
Arundell	200	0.043	25,000	300,000	1,000,000		1,325,000	0.372	0.415
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178
Montalvo	50	0.011		50,000	25,000		75,000	0.019	0.029
Saticoy	50	0.011	0		25,000		25,000	0.008	0.018
Subtotals (Districts)	2,425	0.521	536,000	700,000	1,750,000	300,000	3,286,000	0.849	1.370
Corridors									
Ventura Avenue	800	0.172	40,000	100,000	50,000		190,000	0.046	0.218
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018
Subtotals (Corridors)	1,725	0.371	180,000	340,000	50,000	0	570,000	0.129	0.500
SOI/Other Infill									
101/126 Agriculture	200	0.043					0	0.000	0.043
Wells/Saticoy	1,050	0.226					0	0.000	0.226
Pierpont	100	0.022	30,000				30,000	0.007	0.028
Other Neighborhood Centers	100	0.022						0.000	0.022
Second Units	300	0.065						0.000	0.065
Underutilized	250	0.054						0.000	0.054
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	1,800,000	300,000	4,101,000	1.032	2.451
Planned and Pending Developments									
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061
Midtown	34	0.007	13,751				13,751	0.003	0.010
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605
Totals (Intensification + Expansion + Pending)	8,318	1.788	992,377	1,213,214	2,235,133	450,000	4,890,724	1.267	3.056



Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra

Table 4.13-22 shows that the growth accommodated under Scenario 2 through 2025 is projected to generate an additional 4.00 mgd of wastewater flow. The flow generated and treated by developments in the Upper North Avenue and North Avenue districts and the North Avenue expansion area are expected to flow to the OVSD. Future development in these areas is projected to generate approximately 0.28 mgd, which is within the 1.0 mgd of available capacity at the OVSD plant. Nevertheless, the OVSD should be advised of the development and coincident sewage flow proposed under this scenario so that they can plan for expansion of their plant if this, along with other development plans in their service area, requires the need for additional capacity.

The additional flow to the VWRf through 2025 is estimated at 3.72 mgd. As discussed under Scenario 1, the VWRf currently has capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow increase under this scenario and impacts to wastewater treatment facilities would not be significant.

As noted in the Scenario 1 discussion, some intensification/reuse development may cause localized sewer pipeline capacity constraints. Impacts relating to replacement of wastewater infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of the North Avenue, Olivas, or Serra expansion areas would require extension of sewer lines. However, large diameter trunk sewers exist adjacent to all three areas and it is anticipated that needed extensions could be achieved without capacity constraints, disruption of service, or significant secondary environmental impacts.



**Table 4.13-22
Wastewater Generation
Intensification/Reuse + North Avenue + Olivas + Serra (Scenario 2)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)
Districts									
Upper North Avenue	100	0.022	10,000	50,000	200,000		260,000	0.073	0.095
North Avenue	50	0.011	10,000	50,000	400,000		460,000	0.133	0.144
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011
Harbor	300	0.065	66,000			150,000	216,000	0.006	0.071
Arundell	200	0.043	25,000	300,000	1,200,000		1,525,000	0.432	0.475
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178
Montalvo	50	0.011		50,000	50,000		100,000	0.026	0.037
Saticoy	50	0.011	0		75,000		75,000	0.023	0.033
Subtotals (Districts)	2,425	0.521	536,000	700,000	2,225,000	300,000	3,761,000	0.991	1.513
Corridors									
Ventura Avenue	800	0.172	40,000	100,000	100,000		240,000	0.061	0.233
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018
Subtotals (Corridors)	1,725	0.371	180,000	340,000	100,000	0	620,000	0.144	0.515
SOI/Other Infill									
101/126 Agriculture	200	0.043					0	0.000	0.043
Wells/Saticoy	1,050	0.226					0	0.000	0.226
Pierpont	100	0.022	30,000				30,000	0.007	0.028
Other Neighborhood Centers	100	0.022						0.000	0.022
Second Units	300	0.065						0.000	0.065
Underutilized	250	0.054						0.000	0.054
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	2,325,000	300,000	4,626,000	1.189	2.608
Expansion Areas									
North Avenue	176	0.038	18,295				18,295	0.004	0.042
Olivas	1,484	0.319	109,771	439,085			548,856	0.121	0.440
Serra	1,042	0.224	91,476	256,133			347,609	0.076	0.301
Canada Larga		0.000						0.000	0.000
Poinsettia		0.000						0.000	0.000
Subtotals (Expansion)	2,702	0.581	219,542	695,218	0	0	914,760	0.201	0.782
Planned and Pending Developments									
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061
Midtown	34	0.007	13,751				13,751	0.003	0.010
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605
Totals (Intensification + Expansion + Pending)	11,020	2.369	1,211,919	1,908,432	2,760,133	450,000	6,330,484	1.626	3.996



Scenario 3 – Intensification/Reuse + North Avenue + Olivas

Table 4.13-23 shows that the growth accommodated under Scenario 3 through 2025 is projected to generate an additional 4.00 mgd of wastewater flow. The flow generated and treated by developments in the Upper North Avenue and North Avenue districts and the North Avenue expansion area are expected to flow to the OVSD. Future development in these areas is projected to generate approximately 0.33 mgd, which is within the 1.0 mgd of available capacity at the OVSD plant. Nevertheless, the OVSD should be advised of the development and coincident sewage flow proposed under this scenario so that they can plan for expansion of their plant if this, along with other development plans in their service area, requires the need for additional capacity.

The additional flow to the VWRf through 2025 is estimated at 3.67 mgd. As discussed under Scenario 1, the VWRf currently has capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow increase under this scenario.

As noted in the Scenario 1 discussion, some intensification/reuse development may cause localized sewer pipeline capacity constraints. Impacts relating to replacement of wastewater infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of the North Avenue or Olivas expansion areas would require extension of sewer lines. However, as discussed under Scenario 2, large diameter sewer mains exist adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without capacity constraints, disruption of service, or significant secondary environmental impacts.



**Table 4.13-23
Wastewater Generation
Intensification/Reuse + North Avenue + Olivas (Scenario 3)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)
Districts									
Upper North Avenue	100	0.022	10,000	50,000	200,000		260,000	0.073	0.095
North Avenue	50	0.011	10,000	50,000	400,000		460,000	0.133	0.144
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011
Harbor	300	0.065	66,000			150,000	216,000	0.006	0.071
Arundell	200	0.043	25,000	300,000	1,200,000		1,525,000	0.432	0.475
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178
Montalvo	50	0.011		50,000	50,000		100,000	0.026	0.037
Saticoy	50	0.011	0		75,000		75,000	0.023	0.033
Subtotals (Districts)	2,425	0.521	536,000	700,000	2,225,000	300,000	3,761,000	0.991	1.513
Corridors									
Ventura Avenue	800	0.172	40,000	100,000	100,000		240,000	0.061	0.233
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018
Subtotals (Corridors)	1,725	0.371	180,000	340,000	100,000	0	620,000	0.144	0.515
SOI/Other Infill									
101/126 Agriculture	200	0.043					0	0.000	0.043
Wells/Saticoy	1,050	0.226					0	0.000	0.226
Pierpont	100	0.022	30,000				30,000	0.007	0.028
Other Neighborhood Centers	100	0.022						0.000	0.022
Second Units	300	0.065						0.000	0.065
Underutilized	250	0.054						0.000	0.054
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	2,325,000	300,000	4,626,000	1.189	2.608
Expansion Areas									
North Avenue	322	0.069	36,590	54,886			91,476	0.020	0.089
Olivas	2,394	0.515	182,952	640,332			823,284	0.181	0.696
Serra		0.000						0.000	0.000
Canada Larga		0.000						0.000	0.000
Poinsettia		0.000						0.000	0.000
Subtotals (Expansion)	2,716	0.584	219,542	695,218	0	0	914,760	0.201	0.785
Planned and Pending Developments									
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061
Midtown	34	0.007	13,751				13,751	0.003	0.010
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605
Totals (Intensification + Expansion + Pending)	11,034	2.372	1,211,919	1,908,432	2,760,133	450,000	6,330,484	1.626	3.999



Scenario 4 – Intensification/Reuse + North Avenue + Serra

Table 4.13-24 shows that the growth accommodated under Scenario 4 is projected to generate an additional 4.00 mgd of wastewater flow. The flow generated and treated by developments in the Upper North Avenue and North Avenue districts and the North Avenue expansion area are expected to flow to the OVSD. Similar to Scenario 3, future development in these areas is projected to generate approximately 0.33 mgd, which is within the 1.0 mgd of available capacity at the OVSD plant. Nevertheless, the OVSD should be advised of the development and coincident sewage flow proposed under this scenario so that they can plan for expansion of their plant if this, along with other development plans in their service area, requires the need for additional capacity.

Similar to Scenario 3, the additional flow to the VWRP through 2025 is estimated at 3.67 mgd. As discussed under Scenario 1, the VWRP currently has capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow increase under this scenario.

As noted in the Scenario 1 discussion, some intensification/reuse development may cause localized sewer pipeline capacity constraints. Impacts relating to replacement of wastewater infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of the North Avenue or Serra expansion areas would require extension of sewer lines. However, as discussed under Scenario 2, large diameter sewer mains exist adjacent to both areas and it is anticipated that needed extensions could be achieved without capacity constraints, disruption of service, or significant secondary environmental impacts.



**Table 4.13-24
Wastewater Generation
Intensification/Reuse + North Avenue + Serra (Scenario 4)**

	Residential		Non-Residential Development						Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)	
Districts										
Upper North Avenue	100	0.022	10,000	50,000	200,000		260,000	0.073	0.095	
North Avenue	50	0.011	10,000	50,000	400,000		460,000	0.133	0.144	
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470	
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011	
Harbor	300	0.065	66,000			150,000	216,000	0.066	0.071	
Arundell	200	0.043	25,000	300,000	1,200,000		1,525,000	0.432	0.475	
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178	
Montalvo	50	0.011		50,000	50,000		100,000	0.026	0.037	
Saticoy	50	0.011	0		75,000		75,000	0.023	0.033	
Subtotals (Districts)	2,425	0.521	536,000	700,000	2,225,000	300,000	3,761,000	0.991	1.513	
Corridors										
Ventura Avenue	800	0.172	40,000	100,000	100,000		240,000	0.061	0.233	
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034	
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077	
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017	
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066	
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023	
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048	
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018	
Subtotals (Corridors)	1,725	0.371	180,000	340,000	100,000	0	620,000	0.144	0.515	
SOI/Other Infill										
101/126 Agriculture	200	0.043					0	0.000	0.043	
Wells/Saticoy	1,050	0.226					0	0.000	0.226	
Pierpont	100	0.022	30,000				30,000	0.007	0.028	
Other Neighborhood Centers	100	0.022						0.000	0.022	
Second Units	300	0.065						0.000	0.065	
Underutilized	250	0.054						0.000	0.054	
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144	
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581	
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	2,325,000	300,000	4,626,000	1.189	2.608	
Expansion Areas										
North Avenue	322	0.069	36,590	54,886			91,476	0.020	0.089	
Olivas		0.000					0	0.000	0.000	
Serra	2,380	0.512	182,952	640,332			823,284	0.181	0.693	
Canada Larga		0.000						0.000	0.000	
Poinsettia		0.000						0.000	0.000	
Subtotals (Expansion)	2,702	0.581	219,542	695,218	0	0	914,760	0.201	0.782	
Planned and Pending Developments										
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071	
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061	
Midtown	34	0.007	13,751				13,751	0.003	0.010	
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003	
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067	
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065	
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184	
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024	
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120	
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605	
Totals (Intensification + Expansion + Pending)	11,020	2.369	1,211,919	1,908,432	2,760,133	450,000	6,330,484	1.626	3.996	



Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga.

Table 4.13-25 shows that the growth accommodated under Scenario 5 is projected to generate an additional 3.99 mgd of wastewater flow. The flow generated and treated by developments in the Upper North Avenue and North Avenue districts and the North Avenue and Western Cañada Larga expansion areas are expected to flow to the OVSD. Future development in these areas is projected to generate approximately 1.01 mgd, which is essentially equal to the 1.0 mgd of available capacity at the OVSD plant. Impacts are therefore considered potentially significant, though OVSD staff has indicated that they would be able to expand their plant with revenues collected from connection fees as long as they have adequate time to plan, design, permit and construct this plant expansion, which can take on the order of five years. The OVSD should be advised of the level of development and coincident sewage flow proposed under this scenario so that they can plan for expansion of their plant since this, along with other development plans in their service area, would likely require the need for additional capacity.

The additional flow to the VWRP through 2025 is estimated at 2.98 mgd. As discussed under Scenario 1, the VWRP currently has capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow increase under this scenario.

As noted in the Scenario 1 discussion, some intensification/reuse development may cause localized sewer pipeline capacity constraints. Impacts relating to replacement of wastewater infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. Development of the North Avenue or Western Cañada Larga expansion areas would require extension of sewer lines. Lines in the Western Cañada Larga area could most likely gravity flow to the Ojai Valley Sanitary District plant. Large diameter sewer mains exist adjacent to both potential expansion areas and it is anticipated that needed extensions could be achieved without capacity constraints, disruption of service, or significant secondary environmental impacts.



**Table 4.13-25
Wastewater Generation
Intensification/Reuse + North Avenue + W. Canada Larga (Scenario 5)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)
Districts									
Upper North Avenue	100	0.022	10,000	50,000	200,000		260,000	0.073	0.095
North Avenue	50	0.011	10,000	50,000	400,000		460,000	0.133	0.144
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011
Harbor	300	0.065	66,000			150,000	216,000	0.006	0.071
Arundell	200	0.043	25,000	300,000	1,200,000		1,525,000	0.432	0.475
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178
Montalvo	50	0.011		50,000	50,000		100,000	0.026	0.037
Saticoy	50	0.011	0		75,000		75,000	0.023	0.033
Subtotals (Districts)	2,425	0.521	536,000	700,000	2,225,000	300,000	3,761,000	0.991	1.513
Corridors									
Ventura Avenue	800	0.172	40,000	100,000	100,000		240,000	0.061	0.233
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018
Subtotals (Corridors)	1,725	0.371	180,000	340,000	100,000	0	620,000	0.144	0.515
SOI/Other Infill									
101/126 Agriculture	200	0.043					0	0.000	0.043
Wells/Saticoy	1,050	0.226					0	0.000	0.226
Pierpont	100	0.022	30,000				30,000	0.007	0.028
Other Neighborhood Centers	100	0.022						0.000	0.022
Second Units	300	0.065						0.000	0.065
Underutilized	250	0.054						0.000	0.054
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	2,325,000	300,000	4,626,000	1.189	2.608
Expansion Areas									
North Avenue	979	0.210	91,476	219,542			311,018	0.068	0.279
Olivas		0.000					0	0.000	0.000
Serra		0.000						0.000	0.000
Canada Larga	1,728	0.372	109,771	439,085			548,856	0.121	0.492
Poinsettia		0.000						0.000	0.000
Subtotals (Expansion)	2,707	0.582	201,247	658,627	0	0	859,874	0.189	0.771
Planned and Pending Developments									
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061
Midtown	34	0.007	13,751				13,751	0.003	0.010
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605
Totals (Intensification + Expansion + Pending)	11,025	2.370	1,193,624	1,871,841	2,760,133	450,000	6,275,598	1.614	3.985



Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia

Table 4.13-26 shows that the growth accommodated under Scenario 6 is projected to generate an additional 4.00 mgd of wastewater flow. The flow generated and treated by developments in the Upper North Avenue and North Avenue districts and the North Avenue expansion area are expected to flow to the OVSD. Similar to Scenarios 3 and 4, future development in these areas is projected to generate approximately 0.33 mgd, which is within the 1.0 mgd of available capacity at the OVSD plant. Nevertheless, the OVSD should be advised of the development and coincident sewage flow proposed under this scenario so that they can plan for expansion of their plant if this, along with other development plans in their service area, requires the need for additional capacity.

Similar to Scenarios 3 and 4, the additional flow to the VWRf through 2025 is estimated at 3.67 mgd. As discussed under Scenario 1, the VWRf currently has capacity for an additional 5.0 mgd before expansion would be required. Thus, an adequate buffer is available for the projected flow increase under this scenario.

As noted in the Scenario 1 discussion, some intensification/reuse development, especially in the Downtown area, may cause localized sewer pipeline capacity constraints. Impacts relating to replacement of wastewater infrastructure in the older neighborhoods of the City would be similar to those described for Scenario 1 and would be less than significant. The North Avenue area is discussed under Scenario 2. Development of the Poinsettia expansion area would require extension of sewer lines to connect to the Highway 126 sewer and could require replacement of portions of that sewer. Existing large diameter sewer mains are adjacent to the North Avenue expansion area and further downstream of the Poinsettia area. It is anticipated that needed sewer infrastructure extensions could be achieved without significant capacity constraints, disruption of service, or significant secondary environmental impacts.



**Table 4.13-26
Wastewater Generation
Intensification/Reuse + North Avenue + Poinsettia (Scenario 6)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	WW (mgd)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	WW (mgd)	Wastewater (mgd)
Districts									
Upper North Avenue	100	0.022	10,000	50,000	200,000		260,000	0.073	0.095
North Avenue	50	0.011	10,000	50,000	400,000		460,000	0.133	0.144
Downtown	1,600	0.344	100,000	200,000		150,000	450,000	0.126	0.470
Pacific View Mall	25	0.005	25,000	0			25,000	0.006	0.011
Harbor *	300	0.065	66,000			150,000	216,000	0.066	0.071
Arundell	200	0.043	25,000	300,000	1,200,000		1,525,000	0.432	0.475
North Bank	50	0.011	300,000	50,000	300,000		650,000	0.167	0.178
Montalvo	50	0.011		50,000	50,000		100,000	0.026	0.037
Saticoy	50	0.011	0		75,000		75,000	0.023	0.033
Subtotals (Districts)	2,425	0.521	536,000	700,000	2,225,000	300,000	3,761,000	0.991	1.513
Corridors									
Ventura Avenue	800	0.172	40,000	100,000	100,000		240,000	0.061	0.233
Main Street	100	0.022	15,000	40,000			55,000	0.012	0.034
Thompson Boulevard	300	0.065	15,000	40,000			55,000	0.012	0.077
Loma Vista Road	25	0.005	15,000	40,000			55,000	0.012	0.017
Telegraph Road	250	0.054	15,000	40,000			55,000	0.012	0.066
Victoria Avenue	50	0.011	15,000	40,000			55,000	0.012	0.023
Johnson Drive	150	0.032	50,000	20,000			70,000	0.015	0.048
Wells Road	50	0.011	15,000	20,000			35,000	0.008	0.018
Subtotals (Corridors)	1,725	0.371	180,000	340,000	100,000	0	620,000	0.144	0.515
SOI/Other Infill									
101/126 Agriculture	200	0.043					0	0.000	0.043
Wells/Saticoy	1,050	0.226					0	0.000	0.226
Pierpont	100	0.022	30,000				30,000	0.007	0.028
Other Neighborhood Centers	100	0.022						0.000	0.022
Second Units	300	0.065						0.000	0.065
Underutilized	250	0.054						0.000	0.054
Vacant	450	0.097	165,000	50,000			215,000	0.047	0.144
Subtotals (Other Infill)	2,450	0.527	195,000	50,000	0	0	245,000	0.054	0.581
Totals (Intensification/Reuse)	6,600	1.419	911,000	1,090,000	2,325,000	300,000	4,626,000	1.189	2.608
Expansion Areas									
North Avenue	322	0.069	36,590	54,886			91,476	0.020	0.089
Olivas		0.000					0	0.000	0.000
Serra		0.000						0.000	0.000
Canada Larga		0.000						0.000	0.000
Poinsettia	2,380	0.512	182,952	640,332			823,284	0.181	0.693
Subtotals (Expansion)	2,702	0.581	219,542	695,218	0	0	914,760	0.201	0.782
Planned and Pending Developments									
Downtown	50	0.011	1,072			150,000	151,072	0.060	0.071
Ventura Avenue/Westside	238	0.051	7,086		27,000		34,086	0.010	0.061
Midtown	34	0.007	13,751				13,751	0.003	0.010
College (Telegraph/Loma Vista)	4	0.001	2,718	8,849			11,567	0.003	0.003
Telephone Road Corridor	256	0.055		54,785			54,785	0.012	0.067
Montalvo/Victoria	296	0.064		4,300			4,300	0.001	0.065
Saticoy/East End	840	0.181	7,950	5,600			13,550	0.003	0.184
Arundell		0.000	41,640	42,614	18,080		102,334	0.024	0.024
Olivas		0.000	7,160	7,066	390,053		404,279	0.120	0.120
Subtotals (Planned/Pending)	1,718	0.369	81,377	123,214	435,133	150,000	789,724	0.236	0.605
Totals (Intensification + Expansion + Pending)	11,020	2.369	1,211,919	1,908,432	2,760,133	450,000	6,330,484	1.626	3.996



Wastewater Comparison by Scenario

The six scenarios discussed above would have varying impacts on existing wastewater plants as summarized in the Table 4.13-27. Scenario 1 has the lowest wastewater flow and, along with Scenario 5, would provide a substantial buffer (approximately 2.0 mgd) with regard to total capacity at the VWRP. Scenario 3, 4 and 6 are virtually identical in terms of their impacts and Scenario 2 is only slightly higher in its impact on the VWRP but slightly lower in its impact on the OVSD plant. Scenario 5 would have the highest impact on the OVSD plant. Additionally, future water conservation measures implemented by these new developments as well as on-going measures by existing customers could reduce per capita water use inside the home, thus generating less sewage and providing additional wastewater capacity. These flows can be monitored in the future to determine whether they are tracking on or below projections and adjustments made, if necessary, for planning purposes.

**Table 4.13-27
 Projected Wastewater Flow Summary**

	VWRP	OVSD
	(mgd)	(mgd)
Scenario 1	2.85	0.18
Scenario 2	3.72	0.28
Scenario 3	3.67	0.33
Scenario 4	3.67	0.33
Scenario 5	2.98	1.01
Scenario 6	3.67	0.33

MITIGATION MEASURES

The 2005 General Plan includes the following policies and actions relating to minimizing impacts associated with wastewater generation.

- Policy 5B** *Improve services in ways that respect and even benefit the environment.*
- Action 5.8** *Locate new development in or close to developed areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*
- Action 5.9** *Update development fee and assessment district requirements as appropriate to cover the true costs associated with development.*
- Action 5.10** *Utilize existing waste source reduction requirements, and continue to expand and improve composting and recycling options.*
- Action 5.12** *Apply new technologies to increase the efficiency of the wastewater treatment system.*



In addition to the above policy and actions, the following measure is recommended for all six scenarios.

U-2(a) Sewer System Analyses. The following action should be added to the 2005 General Plan:

- Require project proponents to conduct sewer collection system analysis to determine if downstream facilities are adequate to handle the proposed development.

In addition, the following measure is required for Scenario 5.

U-2(b) Ojai Valley Sanitary District Capacity. The following action shall be added to the 2005 General Plan if Scenario 5 or any other scenario that includes both the North Avenue and Western Cañada Larga expansion areas is selected:

- Allow development within the North Avenue expansion area or Western Cañada Larga expansion only when the Ojai Valley Sanitary District has adequate treatment capacity for projected wastewater flows or other mitigation is approved by the City Engineer.

SIGNIFICANCE AFTER MITIGATION

With implementation of the proposed General Plan policies and action items, and above mitigation measures, impacts related wastewater collection and treatment would be less than significant for any of the six land use scenarios.



4.14 LAND USE and PLANNING

This section analyzes the 2005 General Plan's consistency with, and potential environmental impacts resulting from, applicable local, regional, and state land use policies. Consistency with the Ventura County Air Quality Management Plan (AQMP) is discussed in Section 4.3, *Air Quality*. Land use compatibility conflicts associated with growth accommodated under the 2005 General Plan are discussed in Sections 4.1, *Aesthetics and Community Design*, 4.2, *Agriculture*, 4.3, *Air Quality*, 4.7, *Hazards and Hazardous Materials*, and 4.10, *Noise*, 4.11.

4.14.1 Setting

Ventura is subject to the land use regulatory policies of various state and regional agencies. These agencies and the corresponding state and regional policy documents that affect land use planning in Ventura are discussed below.

a. Regulatory Agencies. State, regional, and local agencies with roles in establishing and implementing land use policy in Ventura include the California Coastal Commission, the Southern California Association of Governments, and the Ventura County Local Agency Formation Commission (LAFCO).

California Coastal Commission. The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976. The mission of the Coastal Commission is to protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations.

In partnership with coastal cities and counties, the Coastal Commission plans and regulates the use of land and water within the coastal zone.¹ Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

Southern California Association of Governments (SCAG). The City of Ventura is located within the planning area of the Southern California Association of Governments (SCAG). SCAG functions as the Metropolitan Planning Organization for Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial Counties. The region encompasses a population exceeding 15 million persons in an area of more than 38,000 square miles. As the designated Metropolitan Planning Organization, SCAG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Also functioning as the Metropolitan Transportation Authority, SCAG administers the state-mandated Regional Transportation Plan (RTP), designed to address the regional impact of urban congestion.

¹ The "coastal zone" includes all offshore islands and extends inland generally 1,000 yards from the mean high tide line of the Pacific Ocean. In significant coastal estuarine, habitat, and recreational areas, the coastal zone extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.



Ventura County Local Agency Formation Commission (LAFCO). The Ventura LAFCO was formed and operates according to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code §56000 et seq.). State law provides for LAFCOs to be formed as independent agencies in each county in California. LAFCOs implement state requirements and state and local policies relating to boundary changes for cities and most special districts, including spheres of influence, incorporations, annexations, reorganizations and other changes of organization. In this capacity, the Ventura LAFCO is the boundary agency for cities and most special districts in Ventura County.

b. Applicable Plans and Policies. Plans, regulations, and policies of the above agencies that are relevant to the proposed 2005 General Plan are described below.

California Coastal Act. The California Coastal Act of 1976 (Public Resources Code 30000 et. seq.) establishes policies guiding development and conservation along the California coast. Coastal Act policies fall into six general categories: (1) public access; (2) recreation; (3) marine environment; (4) land resources; (5) development; and (6) industrial development. Specific policies and their relevance to the 2005 General Plan are discussed under Impact LU-2, beginning on page 4.14-10.

The Coastal Act requires local jurisdictions that are located (wholly or partly) in the coastal zone to prepare a Local Coastal Program (LCP) for the portion of the local jurisdiction that lies within the Coastal Zone. The LCP consists of a Land Use Plan (such as this General Plan) and an Implementation Plan (i.e., Zoning Regulations). The Coastal Commission must approve (i.e., “certify”) a City’s LCP in order to ensure that the LCP is consistent with, and achieves the objectives of, the Coastal Act. As the LCP is being updated as part of the 2005 General Plan, the LCP will require certification by the Coastal Commission.

Regional Comprehensive Plan and Guide. SCAG’s Regional Comprehensive Plan and Guide (RCPG) contains a general overview of federal, state, and regional plans applicable to the southern California region and serves as a comprehensive planning guide for future regional growth. The primary goals of the RCPG are to improve the standard of living, enhance the quality of life, and promote social equity. The RCPG was adopted in 1994 by the member agencies of SCAG to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use in their decision making. It includes input from each of the 13 subregions that make up the Southern California region and includes Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura Counties.

Regional Transportation Plan (RTP). SCAG's RTP is a long range transportation plan that looks ahead 20+ years and provides a vision for the future of the regional multi-modal transportation system. The RTP identifies major challenges as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from growth that is anticipated in the region.

Growth Vision Report. In an effort to provide local decision-makers with the tools they need to plan more effectively for the six million new residents projected to live in Southern California by 2030, SCAG undertook a growth visioning initiative called *Southern California*



Compass. The objective of this effort was to develop a comprehensive new vision for Southern California over the next 30 years by taking a more all-encompassing, inclusive approach to planning at both the local and regional levels. The SCAG Growth Vision Report begins with a general discussion of the challenges facing Southern California as it prepares to accommodate an estimated 6.3 million additional people by 2030. It studies historical trends in demographics, housing, jobs, and other key aspects essential to understanding how the region will evolve and grow. Looking forward, the report explores how emerging trends and conditions will affect future growth in the region. It also discusses the challenges of continuously developing and refining the Growth Vision.

Guidelines for Orderly Development. The Guidelines for Orderly Development make Ventura County unique in the State in terms of County/City development issues. Originally adopted in 1969 by the Ventura LAFCO, Ventura County, and each of the cities in the County, the Guidelines for Orderly Development are statements of local policies which provide that urban development should occur, whenever and wherever practical, within incorporated cities.

4.14.3 Impact Analysis

a. Methodology and Significance Thresholds. The discussion of land use impacts analyzes the proposed 2005 General Plan's consistency with applicable policies of the various state and regional plan's for the purposes of assessing the proposed project's environmental impacts related to land use.

The proposed 2005 General Plan is a citywide plan intended to provide for the orderly development of the community over the next 20 years. As such, it would not physically divide an established community. Therefore, the proposed 2005 General Plan would result in a potentially significant land use impact if it would:

- *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including SCAG's Regional Comprehensive Plan and Guide and the California Coastal Act) adopted for the purpose of avoiding or mitigating an environmental effect*
- *Conflict with an applicable habitat conservation plan or natural community conservation plan*

Although the analysis that follows evaluates consistency with various regulatory policies, it should be noted that each individual agency (California Coastal Commission, SCAG, Ventura County LAFCO) ultimately has the discretion to determine consistency of the 2005 General Plan with the policies, plans, and/or programs that fall within that agency's purview.

b. Project Impacts and Mitigation Measures. The following matrix provides a summary comparison of impacts for each of the EIR scenarios. A detailed discussion of each environmental impact follows.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
State and LAFCO Boundary Adjustment Policies (Impact LU-1)	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.	Generally consistent with applicable policies; LAFCO will determine consistency of individual future adjustments on a case-by-case basis. Impacts are Class III, less than significant.
California Coastal Act (Impact LU-2)	Consistent with Coastal Act policies. Impacts are Class III, less than significant.	Generally consistent with Coastal Act policies, but possible conversion of Prime agricultural land inconsistent with policies relating to the maintenance of Prime agricultural land within the coastal zone. Impacts are Class I, unavoidably significant.	Impacts similar to Scenario 2 and Class I, unavoidably significant, due to possible conversion of Olivas area Prime agricultural land.	Consistent with Coastal Act policies. Impacts are Class III, less than significant.	Consistent with Coastal Act policies. Impacts are Class III, less than significant.	Consistent with Coastal Act policies. Impacts are Class III, less than significant.
SCAG Regional Comprehensive Plan and Guide (RCPG) (Impact LU-3)	Generally consistent with RCPG policies. Impacts are Class III, less than significant.	Generally consistent with RCPG policies. Impacts are Class III, less than significant.	Generally consistent with RCPG policies. Impacts are Class III, less than significant.	Generally consistent with RCPG policies. Impacts are Class III, less than significant.	Generally consistent with RCPG policies. Impacts are Class III, less than significant.	Generally consistent with RCPG policies. Impacts are Class III, less than significant.
SCAG Regional Transportation Plan (RTP)	Generally consistent with RTP policies.	Generally consistent with RTP policies. Impacts are Class	Generally consistent with RTP policies. Impacts are Class	Generally consistent with RTP policies. Impacts are Class	Generally consistent with RTP policies. Impacts are Class	Generally consistent with RTP policies.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
(Impact LU-4)	Impacts are Class III, less than significant.	III, less than significant.	III, less than significant.	III, less than significant.	III, less than significant.	Impacts are Class III, less than significant.
SCAG Growth Visioning Report (Impact LU-5)	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.	Generally consistent with Growth Visioning Report policies. Impacts are Class III, less than significant.



Impact LU-1 No boundary adjustments are being sought at this time and all of the General Plan scenarios emphasize intensification and reuse over expansion of the City. Annexations and Sphere of Influence adjustments could be sought at some point in the future under any of the scenarios and certain possible annexations/Sphere of Influence adjustments could potentially conflict with relevant State and LAFCO policies. However, because any conflicts would need to be resolved prior to LAFCO approval of any boundary adjustment, impacts can be reduced to a Class III, *less than significant*, level for all six scenarios.

The State of California possesses the exclusive power to regulate boundary changes, which means that no local government has the right to change its own boundary without State approval. The Legislature has prescribed a “uniform process” for boundary changes for both cities and special districts that is now embodied in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.). This Act delegates the Legislature’s boundary powers to local agency formation commissions (LAFCOs).

The Ventura LAFCO is responsible for reviewing and approving proposed jurisdictional boundary changes in Ventura County, including the annexation and detachment of territory to and/or from cities and most special districts, incorporations of new cities, formations of new special districts, and consolidations, mergers, and dissolutions of existing districts. In addition, LAFCOs must review and approve contractual service agreements, conduct service reviews, and determine spheres of influence for each city and district.

In addition to the Cortese-Knox-Hertzberg Act, the Ventura LAFCO has adopted local policies that it considers in its review of projects. The LAFCO also enforces the County’s Guidelines for Orderly Development. A complete listing of policies that LAFCO considers in its review of proposed boundary changes can be found in the LAFCO website (www.ventura.lafco.ca.gov).

No adjustments to the City’s corporate boundaries or Sphere of Influence (SOI) are proposed at this time. However, all of the 2005 General Plan scenarios could accommodate the development of lands that are outside the current City boundaries and SOI. Specific analysis of individual proposals would be needed at the time such possible future boundary adjustments are proposed, but boundary adjustment policies are discussed below as they relate to the 2005 General Plan.

Conformance with Local Plans and Policies. Unless exceptional circumstances are shown, LAFCO will not approve a proposal unless it is consistent with the applicable general plan and any applicable specific plan. No boundary adjustments are being sought at this time. Although boundary adjustments may be sought in the future under any of the EIR scenarios, it is anticipated that such adjustments would be consistent with the 2005 General Plan, regardless of which of the EIR scenarios is adopted.



LAFCO will not approve a proposal unless it is consistent with ordinances requiring voter approval. Scenarios 2-6 all includes potential expansion areas that are subject to voter approval. No land use designated or boundary adjustment is being sought at this time for any of the expansion areas. If such adjustments are sought at some point in the future, they will be sought only after voter approval of a land use designation change for the property in question.

Guidelines for Orderly Development. LAFCO encourages proposals that involve urban development or that result in urban development to include annexation to a city wherever possible. All of the EIR scenarios emphasize intensification/reuse over expansion of the City's boundaries and no boundary adjustments are being sought at this time. Nevertheless, all of the scenarios would accommodate development in lands that are outside the current corporate boundaries and the SOI. Development of such areas could be found to be in conflict with the Guidelines for Orderly Development, particularly with respect to the North Avenue and Western Cañada Larga expansion areas, which are not contiguous with the existing City corporate boundary. However, no development would occur until such time as the property in question is annexed and, if necessary, included in the SOI. Such adjustments could be made only with LAFCO approval and, in the case of the expansion areas, voter approval under SOAR. Given that future boundary adjustments would only be made at such time as they are deemed consistent with the Guidelines for Orderly Development, any of the scenarios could be found to be consistent with the Guidelines.

Greenbelts. LAFCO will not approve a proposal for a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. Scenarios 1, 4, 5, and 6 do not include any lands that are subject to existing Greenbelt Agreements. However, the Olivas expansion area that is included in Scenarios 2 and 3 is within the Oxnard-Ventura Greenbelt. As such, the Olivas area could be brought into the SOI and annexed to the City only if it is removed from the Greenbelt. Such an amendment to the Greenbelt Agreement could be made only with the consent of the City of Oxnard. Moreover, approval of a land use designation change could only be made with voter approval under the SOAR Ordinance.

Agricultural and Open Space Preservation. LAFCO will approve a proposal for a change of organization that is likely to result in the conversion of Prime agricultural land or open space land only if it finds that the proposal will lead to planned, orderly, and efficient development. For a development to be deemed planned, orderly, and efficient, all of the following criteria must be met: (1) the territory involved is contiguous with lands developed with an urban use or that have received approvals for urban development; (2) the territory is likely to be developed within 5 years and has been pre-zoned for non-agricultural use; (3) insufficient non-Prime agricultural land or vacant land exists within the existing boundaries of the agency that is planned and developable for the same general type of use; (4) the territory is not subject to voter approval for the extension of services or changing of land use designations; and (5) the proposal will have no significant adverse effects on the integrity of other Prime agricultural or open space lands.

All of the EIR scenarios emphasize intensification and reuse of existing urban lands prior to the development of agricultural lands. Nevertheless, as discussed in Section 4.2, Agricultural Resources, any of the six scenarios would potentially accommodate the conversion of some Prime agricultural lands if the City's planning objectives cannot be met through intensification



and reuse. All of the areas that could potentially be converted are contiguous with existing urban uses and, in many instances, are surrounded by urban uses. Although the North Avenue, Olivas, Serra, and Poinsettia expansion areas are subject to voter approval under the SOAR Ordinance, voter approval would have to be received prior to any LAFCO action. In addition, it is anticipated that inclusion within the SOI and/or annexation would not be sought unless development were planned within five years. In the case of large developments that could potentially be accommodated under Scenarios 2, 3, 4, and 6, development and annexation may need to be phased. Any of the agricultural lands that could be converted under Scenarios 1-6 could be found to be consistent with LAFCO's agricultural and open space preservation policies, though LAFCO's determination would need to be at the time of individual proposals based upon current (at that time) circumstances and the nature of the proposals.

School Capacity. LAFCO will not favor a change of organization where any affected school district certifies that there is no sufficient existing school capacity to serve the territory involved. As discussed in Section 4.11, Public Services, many VUSD schools are at or near capacity and would be over capacity in 2025 with the growth projected under any of the EIR scenarios. Scenario 1 would only accommodate a minor SOI adjustment that would not bring any residential development, though the annexation of individual properties that may be sought in the future under Scenario 1 could generate new VUSD students. The expansion areas included in Scenarios 2, 3, 4, and 6 include sufficient acreage to accommodate new schools that would be needed to serve the areas. However, the expansion areas included in Scenario 5 may lack sufficient land to accommodate the development of new schools. The impacts of individual developments on schools will need to be addressed on a case-by-case basis as such impacts depend upon the nature of the project and the circumstances for the VUSD at the time of the individual application.

Annexation of Unincorporated Island Areas. Any approval of a proposal for a change of organization for an area of 40 acres or more will be conditioned to provide that the proceedings will not be completed until and unless a subsequent proposal is filed with LAFCO initiating proceedings for the change of organization of all unincorporated island areas that meet the provisions of Government Code Section 56375.3. This policy means that LAFCO will not approve annexations of 40 acres or more unless the City has filed an application to annex all of the island areas in the City, which include eight separate islands in the Montalvo area totaling about 55 acres. Therefore, no additional annexations will be completed until an application for annexation of these island areas has been filed.

Mitigation Measures. No mitigation is required. Individual boundary adjustment proposals will need to be addressed by the City and the Ventura LAFCO on a case-by-case basis.

Significance After Mitigation. As the City is not seeking any boundary adjustments at this time, no inconsistencies would occur with respect to any of the six scenarios. Certain areas that may be considered for future annexation and/or inclusion within the SOI would not be eligible under current conditions; however, it is assumed that boundary adjustments would not be sought until such time as such adjustments could be found to be consistent with state and local requirements.



Impact LU-2 Scenarios 1, 4, 5, and 6 could be found to be consistent with applicable policies of the California Coastal Act. Impacts would be Class III, *less than significant*. However, Scenarios 2 and 3 would potentially accommodate the conversion of Prime agricultural land within the Olivas expansion area, which is within the Coastal Zone. Such conversion could be found inconsistent with California Coastal Act policies relating to the maintenance of Prime agricultural land within the coastal zone. Impacts for these two scenarios would be Class I, *unavoidably significant*.

The coastal zone boundary with the Ventura Planning Area is shown on Figure 4.14-1. Areas within the existing City limits that are located within the Coastal Zone generally include Emma Wood State Beach, the majority of the Downtown District, the southwestern portion of the Catalina neighborhood, San Buenaventura State Beach Park, Pierpont Keys, Ventura Harbor, and the open space areas located south/southeast of the Ventura Harbor that extend to the southern City limits and include a portion of McGrath State Beach. As intensification and reuse could occur within these areas of the City under Scenarios 1-6, these areas are included in the following policy consistency analysis. Moreover, the Olivas expansion area, which is roughly bisected by the Coastal Zone boundary, is the only expansion area under consideration that is located within the Coastal Zone. As Scenarios 2 and 3 include the Olivas expansion area, the following discussion includes an analysis of the Olivas expansion area under Scenarios 2 and 3 as well.

The following analysis assesses the proposed project's consistency with applicable policies of the Coastal Act that were adopted for the purpose of avoiding or mitigating an environmental effect. The final determination of the proposed 2005 General Plan's consistency with the Coastal Act ultimately resides with the Coastal Commission as a part of the certification process for the City of Ventura's Local Coastal Program (LCP). The LCP component relevant to the DEIR is the land use plan. The Coastal Commission will review the land use plan component of the LCP for consistency with the Coastal Act.

Article 2 – Public Access. Article 2 of the Coastal Act provides a number of policies designed to ensure the public's constitutionally endowed right of access to coastal resources. More specifically, Article 2 coastal access policies include, but are not limited to, the following: (1) access must be provided to coastal resources (Section 30210); (2) new development shall not interfere with existing public access to coastal resources (Section 30211); and (3) public access shall be provided in specific situations involving new development between the nearest public roadway and the shoreline (Section 30212).

The 2005 General Plan does not include substantial future development near the coast that would prevent public access to coastal resources. None of the six development scenarios include development that would hinder access to the coast and some future developments in the Downtown and Harbor areas may enhance coastal access. In particular, possible future hotel development in the Downtown area and planned improvements to Harbor facilities in accordance with the Ventura Harbor Master Plan could generally improve public access to the



coast. Public access would continue to be provided at Emma Woods State Beach, San Buenaventura State Beach Park, the Pierpont Keys, Ventura Harbor, and McGrath State Beach under each of the scenarios. The 2005 General Plan includes following policies and actions relating to coastal access:

Action 3.4 *Require all shoreline development (including anti-erosion or other protective structures) to provide public access to and along the coast, unless it would duplicate adequate access existing nearby, adversely affect agriculture, or be inconsistent with public safety, military security, or protection of fragile coastal resources.*

Policy 6A *Expand the park and trail network to link shoreline, hillside, and watershed areas.*

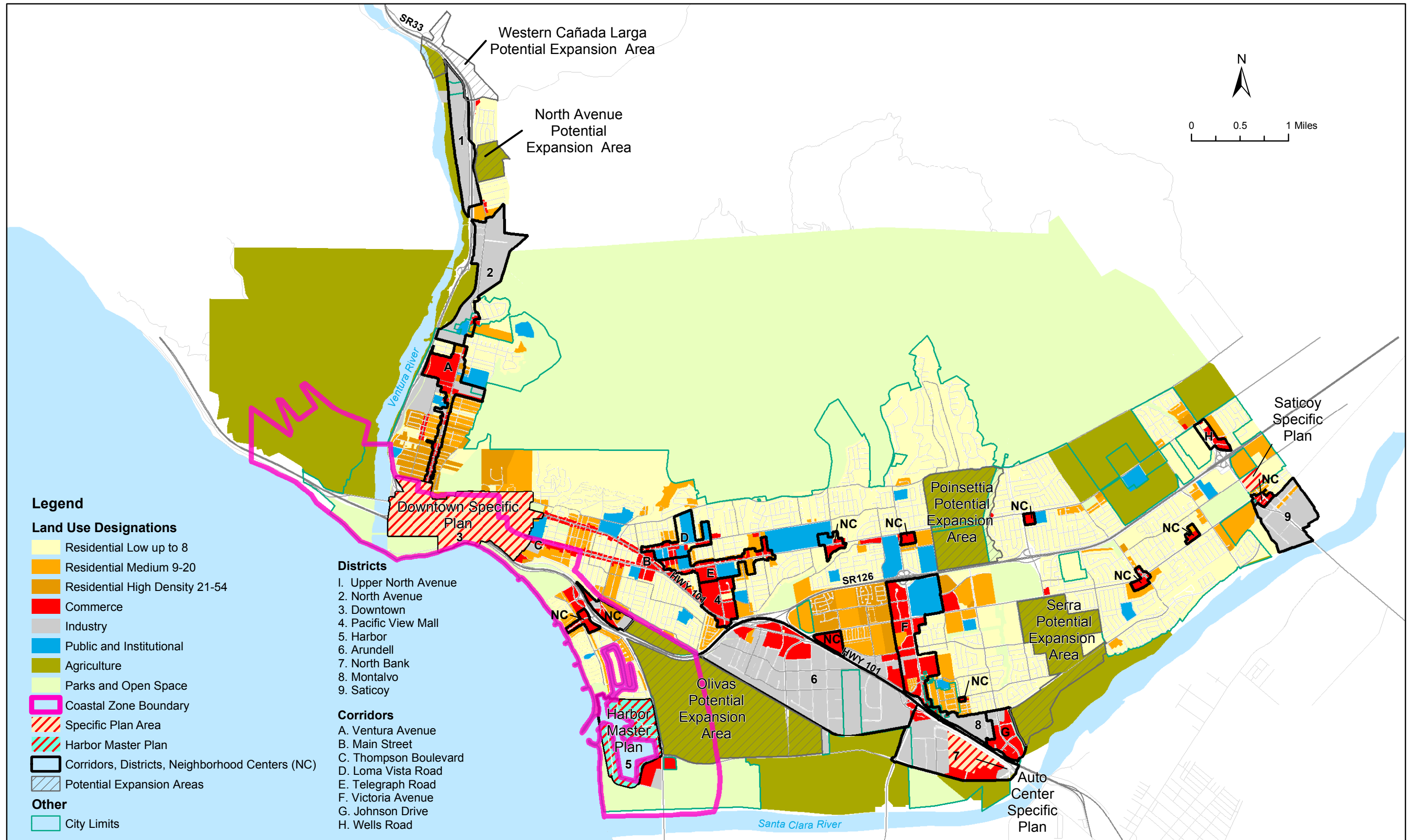
With implementation of Action 3.4 and Policy 6A, development under Scenarios 1-6 could be found to be consistent with the public access requirements of the Coastal Act.

Article 3 – Recreation. Article 3 of the California Coastal Act includes a number of policies designed to protect and enhance coastal-related recreational activities and facilities. Article 3 includes, but is not limited to, policies regulating the following recreational activities and facilities: (1) coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas (Section 30220); (2) oceanfront land suitable for recreational use (Section 30221); (3) private lands suitable for visitor-serving commercial recreational facilities (Section 30222); and (4) facilities designed to enhance recreational boating use of coastal waters (Section 30224). Scenarios 1-6 would all maintain the existing parks and recreational facilities located within the City limits, which include Emma Wood State Beach, the Promenade, San Buenaventura State Beach Park, beaches adjacent to the Pierpont Keys, and McGrath State Beach. These areas, which include biking and pedestrian paths, day-use facilities, camping facilities, boating facilities, the Ventura Pier, and the Channel Islands National Monument, would continue to facilitate coastal recreational activities. The Ventura Harbor would continue to provide facilities that provide for public and commercial recreational boating activities.

Action 3.4, discussed above, would require new development to provide access to coastal resources for recreational activities. Therefore, Scenarios 1-6 could be consistent with the requirements of the Coastal Act recreational policies and impacts would be less than significant.

Article 4 - Marine Environment. Article 4 of the Coastal Act is designed to maintain, enhance, and restore marine resources. More specifically, Article 4 includes, but is not limited to, policies intended to achieve the following: (1) maintenance of the biological productivity and quality of coastal waters, streams, wetlands, estuaries, and lakes (Section 30231); (2) provisions for diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes where there is no feasible less environmentally damaging alternative (Section 30233); (3) protection of commercial fishing and recreational boating facilities (Section 30234); and, (4) development of water supply and flood control projects within rivers and streams using the best mitigation measures feasible (Section 30236).





Source: City of Ventura Planning Department, August 2004.

Coastal Zone Boundary
 Figure 4.14-1
 City of Ventura

As discussed in Section 4.4, *Biological Resources*, Ventura maintains a diverse range of coastal biological habitats including coastal strand habitat, rocky shore habitat, salt and fresh water estuaries/marshes, and coastal sage scrub habitat. Moreover, man-made revetments located at the Harbor, Pierpont, Fairgrounds, and Beachfront Promenade require maintenance activities that include filling and dredging of open coastal waters. Finally, the Ventura Pier and Ventura Harbor provide important recreational and commercial fishing and boating facilities.

The 2005 General Plan includes the following resource protection policies and actions aimed at the preservation and enhancement of marine resources.

- Policy 1A** *Reduce beach and hillside erosion and threats to coastal ecosystem health.*
- Action 1.1** *Adhere to the policies and directives of the California Coastal Act in reviewing and permitting any proposed development in the Coastal Zone.*
- Action 1.2** *Prohibit non coastal-dependent energy facilities within the Coastal Zone, and require any coastal-dependent facilities including pipelines and public utility structures to avoid coastal resources (including recreation, habitat, and archaeological areas) to the extent feasible, or to minimize any impacts if development in such areas is unavoidable.*
- Action 1.3** *Work with the State Department of Parks and Recreation, Ventura County Watershed Protection Agency, and the Ventura Port District to determine and carry out appropriate methods for protecting and restoring coastal resources, including by supplying sand at beaches under the Beach Erosion Authority for Control Operations and Nourishment (BEACON) South Central Coast Beach Enhancement program.*
- Action 1.4** *Require new coastal development to provide non-structural shoreline protection that avoids adverse impacts to coastal processes and nearby beaches.*
- Action 1.5** *Collect suitable material from dredging and development, and add it to beaches as needed and feasible.*
- Action 1.11** *Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or "natural" coastal areas.*
- Action 1.19** *Require projects near watercourses, shoreline areas, and other sensitive habitat areas to include surveys for State and/or federally listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species.*
- Action 1.20** *Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species.*

These policies and actions would provide protection and restoration of environmentally sensitive habitat, including coastal waters, wetlands, and estuaries. With the proposed 2005



General Plan policies and actions, Scenarios 1-6 could be found consistent with Coastal Act policies relating to the marine environment.

The 2005 General Plan does not include any policies or actions that would restrict commercial fishing or recreational boating. It includes the following actions aimed at improving boating opportunities:

Action 6.18 *Offer programs that highlight natural assets, such as surfing, sailing, kayaking, climbing, gardening, and bird watching.*

Action 6.19 *Provide additional boating and swimming access as feasible.*

The 2005 General Plan includes the following actions aimed at applying appropriate approaches to flood control:

Action 1.6 *Support continued efforts to decommission Matilija Dam to improve the sand supply to local beaches.*

Action 1.10 *Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.*

Action 1.16 *Comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures that limit impacts to aquatic ecosystems and that preserve and restore the beneficial uses of natural watercourses and wetlands in the city.*

With implementation of the above policies and actions, the 2005 General Plan could be found to be consistent with the requirements of the Coastal Act recreational policies and impacts would be less than significant.

Article 5 - Land Resources. Article 5 of the Coastal Act applies to development and local regulatory actions that involve environmentally sensitive habitat (Section 30240), the maintenance or conversion of agricultural lands (Section 30241-30243), and archaeological or paleontological resources (Section 30244). Section 30240 limits development within environmentally sensitive habitat areas to uses dependent on resources found within those areas. In addition, Section 30240 limits development adjacent to environmentally sensitive habitat areas, parks, and recreational areas to activities that will not degrade, or be incompatible with, such habitat and recreation areas. The 2005 General Plan includes policies and actions that direct the City to monitor the condition of environmentally sensitive habitat and regulate future development on, or adjacent to, such areas under Scenarios 1-6. Therefore, Scenarios 1-6 could be found to be consistent with the environmentally sensitive habitat policies of the Coastal Act and impacts would be less than significant.

Section 30241 of the Coastal Act is designed to maintain the maximum amount of Prime agricultural land in production to protect the agricultural economy and to avoid conflicts between agricultural and urban land uses. In addition, Section 30242 states that lands suitable for agricultural use shall not be converted to non-agricultural uses unless:



- *Continued or renewed agricultural use is infeasible;*
- *Conversion would preserve Prime agricultural land; or*
- *Conversion would allow for the concentration of new residential, commercial, or industrial development located contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources (Section 30250)*

As discussed in Section 4.2, *Agriculture*, Scenarios 2 and 3 include an estimated 876 acres of prime agricultural land within the Olivas expansion area, approximately half of which is located within the coastal zone and subject to Coastal Act policies regulating the conversion of agricultural lands. The Olivas expansion area currently has an Agricultural Use designation under the 1989 Comprehensive Plan and this designation would remain under any of the 2005 General Plan land use scenarios. However, Scenarios 2 and 3 would accommodate the possible future conversion of Prime farmland within the coastal zone by identifying the Olivas area as an area for possible future expansion.

As discussed in Section 4.2, *Agriculture*, the Olivas expansion area is subject to the City's SOAR initiative and would require approval by a majority of voters in order to change from an agricultural to a non-agricultural land use designation. Pursuant to the procedures outlined in the Coastal Act (Section 30241.5) for determining the economic viability of existing agricultural uses, an economic feasibility evaluation would be required to demonstrate that the conversion of agricultural lands is warranted due to conflicts with urban uses, or because the conversion of agricultural lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development. The conversion of agricultural lands within the Olivas expansion area to urban uses could be considered to be a logical way to accommodate future regional population and economic growth, as well as housing needs. Development of the Olivas expansion area would be adjacent to existing urban development and public services located to the north and west in the Preble and Pierpont Keys neighborhoods, would connect the Midtown and Arundell areas to Ventura Harbor, and would not be located within an area marked by steep slopes and high fire hazards. Development of this area could also potentially fulfill other Coastal Act objectives, such as improving coastal access and restoring the channelized Arundell Barranca to a more natural condition. Nevertheless, the conversion of Prime farmland within the Olivas area to a non-agricultural use could be found to be inconsistent with Section 30241 of the Coastal Act.

Section 30244 of the Coastal Act states, "Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required." As discussed in Section 4.5, *Cultural and Historic Resources*, Scenarios 1-6 could include development within the vicinity of areas of known archaeological sensitivity. However, due to previous ground disturbance related to existing urban development within the existing City limits and agricultural activities within the Olivas expansion area, it is unlikely that significant archaeological or paleontological resources are present within areas of possible future development. As discussed in Section 4.5, the 2005 General Plan includes several policies aimed at the preservation and protection of



archaeological resources. Therefore, Scenarios 1-6 could all be found to be consistent with the requirements of this policy.

Article 6 - Development. Article 6 of the Coastal Act, which applies to new development in the Coastal Zone, includes, but is not limited to, policies and regulations intended to: (1) locate new residential, commercial, or industrial development (with the exception of certain new hazardous industrial development and visitor-serving facilities) such that the new development is contiguous with, or in close proximity to, existing developed areas able to accommodate the new development (Section 30250); (2) protect scenic and visual qualities of coastal areas (Section 30251); (3) minimize adverse impacts to life and property (Section 30253); and (5) establish coastal-dependent development as a priority on or near the shoreline (Section 30255).

The proposed 2005 General Plan does not include site- or project-specific proposals for new development under Scenarios 1-6; however, the 2005 General Plan include various policies and actions to which future new development would be subject. As discussed above under Impact LU-1, LAFCO Policy 2, Policy 3C of the 2005 General Plan would encourages the utilization of available land in the City prior to allowing expansion outside of the existing City limits under Scenarios 1-6. Moreover, as discussed in Section 4.1, *Aesthetics and Community Design*, the 2005 General Plan includes the following policy and actions that would preserve and enhance the visual qualities of new development within the Coastal Zone:

- Policy 3A** *Sustain and complement cherished community characteristics.*
- Action 3.3** *Require preservation of public view sheds and solar access.*
- Action 3.4** *Require all shoreline development (including anti-erosion or other protective structures) to provide public access to and along the coast, unless it would duplicate adequate access existing nearby, adversely affect agriculture, or be inconsistent with public safety, military security, or protection of fragile coastal resources.*
- Action 3.5** *Establish land development incentives to upgrade the appearance of poorly maintained or otherwise unattractive sites, and enforce existing land maintenance regulations.*

With implementation of the proposed design-related policies and actions of the 2005 General Plan, Scenarios 1-6 could be found consistent with the scenic and visual resource policies of the Coastal Act and impacts would be less than significant.

Section 30253 of the Coastal Act provides for the minimization of adverse impacts relating (but not limited) to the following: geologic, flood, and fire hazards; stability and structural integrity of buildings and structures – especially those on beaches, bluffs, and cliffs; and, air quality. A discussion of the proposed 2005 General Plan’s potential to create adverse impacts under Scenarios 1-6 can be found in Section 4.3, *Air Quality*, 4.6, *Geologic Hazards*, 4.7, *Hazards*, and 4.8, *Hydrology and Water Quality*. None of the land use scenarios are expected to create unavoidably significant geologic, flood, or fire impacts, or adversely affect beaches, bluffs, or cliffs. The impact of any of the land use scenarios to regional air quality is identified as unavoidably significant because population projections for the City exceed those contained in the Ventura



County AQMP. However, as discussed in Section 4.3, this is primarily because the population projections in the AQMP have not been updated to reflect current conditions. In a general sense, the emphasis on intensification and reuse of existing developed areas within the City is expected to reduce future air pollutant emissions as compared to continued low density suburban development at the urban fringe. Therefore, any of the land use scenarios could be found to be consistent with Coastal Act Section 30253.

Article 7 - Industrial Development. Article 7 includes policies that apply to coastal-dependent industrial development, including refineries and petrochemical facilities, thermal electric generating plants, and offshore oil transportation. The existing Ventura Water Reclamation Facility, located in the Ventura Harbor area, is the only area within the coastal zone that would have an industrial land use designation according to the 2005 General Plan; however, sewage treatment facilities are not regulated pursuant to Article 7 of the Coastal Act. Therefore, Scenarios 1-6 would be consistent with Article 7 of the Coastal Act.

MITIGATION MEASURES

With implementation of the proposed policies and actions of the 2005 General Plan, development under Scenarios 1, 4, 5, and 6 could be found consistent with all applicable Coastal Act policies. However, the possible conversion of prime agricultural lands to urban uses within the Olivas expansion area that could occur under Scenarios 2 and 3 could be found to be inconsistent with Coastal Act policies relating to the maintenance of Prime agricultural lands. Implementation of Policy 3C and associated actions would minimize the premature conversion of productive agriculture land to non-agricultural uses.

SIGNIFICANCE AFTER MITIGATION

Implementation of the policies and actions mentioned above would minimize the premature conversion of Prime agricultural lands within the Olivas expansion area to non-agricultural uses. Nevertheless, Scenarios 2 and 3 could be found to be inconsistent with Coastal Act policies discouraging the conversion of Prime agricultural land to non-agricultural uses due to the inclusion of the Olivas expansion area.

Impact LU-3	Scenarios 1-6 could be found to be consistent with SCAG Regional Comprehensive Plan and Guide (RCPG) Growth Management, Air Quality, Outdoor Recreation, and Water Quality policies. Impacts would be Class III, <i>less than significant</i>, for any of the six 2005 General Plan land use scenarios.
--------------------	--

SCAG's Regional Comprehensive Plan and Guide (RCPG) serves as a framework for decision-making with respect to regional growth and changes that can be anticipated during the next 20 years and beyond. The RCPG provides a general view of regional plans that will affect local governments, responses to significant issues facing Southern California, and a summary of how the region will meet certain federal and state requirements with respect to Transportation, Growth Management, Air Quality, Housing, Hazardous Waste Management, and Water



Quality Management. Relevant goals and policies contained within the Growth Management, Air Quality, and Open Space chapters are discussed below, with cross-references to sections of this EIR that are applicable to specific issue areas. RCPG Policies relating to population and housing are discussed in Section 4.15, *Population and Housing*.

Growth Management

The RCPG includes, but is not limited to, Growth Management goals that seek to develop urban forms that minimize public and private development costs, enable firms to be more competitive, and stimulate the regional economy. The following policies are intended to guide efforts toward achievement of these goals.

- 3.03 *The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.*

Environmental impacts associated with public services, public facilities, transportation, and utilities for the 2005 General Plan are discussed in Sections 4.11, *Public Services*, 4.12, *Transportation and Circulation*, and, 4.13, *Utilities and Service System*; SCAG could use the analysis provided in each of those sections for Scenarios 1-6 to implement the region's growth policies. Therefore, Scenarios 1-6 could be found to be consistent with RCPG Policy 3.03.

- 3.05 *Encourage patterns of urban development and land use, which reduce costs of infrastructure construction and make better use of existing facilities.*
- 3.09 *Support local jurisdictions' efforts to minimize the costs of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.*
- 3.10 *Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.*

As discussed above under Impact LU-1, Scenarios 1-6 would be subject to Policy 3C and associated actions, which encourage reuse and intensification within existing urban areas prior to development of expansion areas outside of the existing City limits. This compact land use pattern is intended to utilize existing infrastructure to the maximum extent feasible and minimize costs associated with significant infrastructure extensions. Although the 2005 General Plan is not a budgeting document, several policies and actions provide general guidance for the funding of public services and facilities. Similarly, although the 2005 General Plan does not address specific procedural requirements for permitting development, it includes a range of policies and actions intended to foster economic vitality. Scenarios 1-6 could be found to be consistent with the requirements of RCPG Policies 3.5, 3.9, and 3.10.

- 3.12 *Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.*



- 3.13 *Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.*
- 3.16 *Encourage development in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.*
- 3.18 *Encourage planned development in locations least likely to cause environmental impact.*

The 2005 General Plan includes numerous policies and actions that encourage reliance on transit facilities, reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and facilitate walking and biking. Among these are:

- Action 3.25** *Establish first priority growth areas to include the districts, corridors, and neighborhood centers as identified on the General Plan Diagram; and second priority areas to include vacant undeveloped land when a community plan has been prepared for such (within the City limits).*
- Action 4.6** *Require new development to be designed with interconnected transportation modes and routes.*
- Action 4.15** *Encourage the placement of facilities that house or serve elderly, disabled, or socioeconomically disadvantaged persons in areas with existing public transportation services and pedestrian and bicycle amenities.*
- Action 4.16** *Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes.*
- Action 4.29** *Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.*

As discussed under Impact LU-1, Scenarios 1-6 would be subject to Policy 3C and associated actions, which encourage new development, reuse, or intensification within existing urban areas prior to development of expansion areas outside of the existing City limits.

Finally, development that could occur under Scenarios 1-6 would be subject to a number of policies and actions that encourage development in locations least likely to cause environmental impacts. As discussed under Impact LU-1, Scenarios 1-6 would include adjustments to the existing SOI such that the northern boundary would be coterminous with the existing northern City limits, thereby removing the hills above the City from the SOI. In doing so, Scenarios 1-6 would remove the possibility for urban development within the foothills area, which is marked by high fire hazards, steep slopes, and sensitive biological resources. Although any of the six scenarios would accommodate the conversion of Prime agricultural land to non-agricultural uses within potential expansion areas, these areas would be located adjacent to urban, developed areas with existing public services, utilities, and infrastructure, the expansion of which could result in fewer environmental impacts than that which would likely occur in order to accommodate growth within the existing SOI (i.e., in the hillsides above the current City limits). Therefore, Scenarios 1-6 could be found to be consistent with RCPG Policies 3.12, 3.13, 3.16, and 3.18.



- 3.20 *Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*
- 3.21 *Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*
- 3.22 *Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

The potential impacts of Scenarios 1-6 relating to biological resources, cultural and archaeological resources, noise, seismic hazards, and emergency response plans are discussed in detail in Sections 4.4, *Biological Resources*, 4.5, *Cultural and Historic Resources*, 4.10, *Noise*, 4.6, *Geologic Hazards*, and 4.7, *Hazards and Hazardous Materials* (respectively). As discussed in those sections, Scenarios 1-6 would be subject to a number of policies and actions that would protect and enhance important biological habitats (e.g., wetlands, riparian habitat, and sensitive species), avoid impacts to cultural and archaeological resources, protect noise-sensitive uses, minimize exposure to hazards resulting from seismic events, and provide adequate resources for emergency response plans. Therefore, Scenarios 1-6 could be found to be consistent with SCAG Policies 3.20, 3.21, and 3.22.

- 3.23 *Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*

As discussed under Impact LU-1, Scenarios 1-6 would involve an adjustment to the SOI boundary that would remove the foothills to the north of the City from the SOI, which is an area marked by steep slopes and high fire hazards. Moreover, as discussed in detail in Sections 4.6, *Geologic Hazards*, 4.7, *Hazards and Hazardous Materials*, and 4.8, *Hydrology and Water Quality*, Scenarios 1-6 would be subject to a number of policies and actions that would discourage or avoid development within areas with steep slopes or subject to high fire, flood, or seismic hazards. Therefore, Scenarios 1-6 could be found to be consistent with RCPG Policy 3.23.

Air Quality

The Air Quality chapter of the RCPG discusses SCAG's air quality planning responsibilities and also describes plans and policies developed by regional, state, and federal air agencies. Specific air quality impacts of the proposed project and consistency with the Ventura County APCD AQMP are discussed in Section 4.3, *Air Quality*. The following core actions described in the RCPG that are related to the 2005 General Plan include:

- 5.07 *Determine specific programs and associated actions needed (e.g. indirect source rules, enhanced use of telecommunications, provision or community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.*
- 5.11 *Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider*



air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.

Scenarios 1-6 would be subject to a number of policies and actions designed to reduce reliance on automobiles and improve air quality within the Ventura County portion of the South Central Coast Air Basin, without reliance on command and control regulations. However, as discussed in Section 4.3, *Air Quality*, population projections for Scenarios 1-6 exceed those of the Air Quality Management Plan (AQMP) for Ventura County and would likely result in an increase in air pollutant emissions within the Ventura County portion of the South Central Coast Air Basin that exceed AQMP standards.

The significance of air quality impacts associated with individual projects will depend upon the characteristics of the projects and the availability of feasible mitigation measures. As discussed in Section 4.3, *Air Quality*, mitigation measures for future construction activities, as well as compliance with the Ventura County APCD Transportation Control Measures, would reduce impacts to air quality resulting from possible development under Scenarios 1-6.

As discussed in Section 4.3, *Air Quality*, although the policies and actions would reduce impacts to air quality, impacts under Scenarios 1-6 would remain significant. However, this EIR analyzes land use, economic, air quality, and transportation relationships in order to ensure consistency and minimize conflicts of the 2005 General Plan with other governmental plans and programs. Therefore, the 2005 General Plan could be found to be consistent with RCPG Policies 5.07 and 5.11.

Open Space

The purpose of the Open Space and Conservation Chapter is to assist local governments in planning for local and regional open space. The Chapter recommends alternative approaches, and strategies that can be useful to local officials as they address future open space needs in their community and ensure a high quality of life and equity for Southern California residents. The following actions described in the RCPG that are related to the 2005 General Plan include:

Outdoor Recreation

- 9.01 *Provide adequate land resources to meet the outdoor recreation needs of the present and future residents in the region and to promote tourism in the region.*
- 9.02 *Increase the accessibility to open space lands for outdoor recreation.*
- 9.03 *Promote self-sustaining regional recreation resources and facilities.*

As discussed in Section 4.11, *Public Services*, Scenarios 1-6 would increase demand for recreational facilities and programs. The expansion areas included in Scenarios 2, 3, 4, and 6 all provide sufficient acreage to meet expansion area needs and at least partially address the current shortage of park space based on the City's 10 acres/1,000 residents standard. Scenarios 1 and 5 do not include additional acreage that could specifically set aside for parks. Nevertheless, continued collection of required park fees and required parkland dedication in conjunction with new development, in combination with implementation of the parks and recreation policies and action items proposed in the 2005 General Plan, could provide parks to



meet future needs. Therefore, any of the six scenarios could be found to be consistent with these RCPG policies.

Public Health and Safety

- 9.04 *Maintain open space for adequate protection of lives and properties against natural and man-made hazards.*
- 9.05 *Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipment.*
- 9.06 *Minimize public expenditure for infrastructure and facilities to support urban type uses in areas where public health and safety could not be guaranteed.*

As discussed under Impact LU-1, Scenarios 1-6 would involve an adjustment to the SOI boundary that would remove the hillside areas to the north of the City from the SOI. This area is marked by steep slopes and high fire hazards. Moreover, as discussed in detail in Sections 4.6, *Geologic Hazards*, 4.7, *Hazards and Hazardous Materials*, and 4.8, *Hydrology and Water Quality*, Scenarios 1-6 would be subject to a number of policies and actions that would discourage or avoid development within areas with steep slopes and high fire, flood, and seismic hazards. Therefore, Scenarios 1-6 could be found consistent with SCAG Policies 9.04-9.06.

Resource Protection

- 9.08 *Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.*

As discussed in Section 4.4, *Biological Resources*, Scenarios 1-6 would be subject to a number of policies and actions that would protect and enhance important biological habitats (e.g., wetlands, riparian habitat, and sensitive species). Therefore, Scenarios 1-6 could be found consistent with SCAG Policy 9.08.

Water Quality

The Water Quality chapter is intended to provide a regional perspective on current water quality issues and the plans and programs for addressing these issues, and to better clarify the relationship between water quality and other regional concerns. The following actions described in the RCPG Water Quality chapter that are related to the 2005 General Plan include:

- 11.07 *Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*

Scenarios 1-6 would all be subject to the 2005 General Plan policies and actions. The feasibility of using water reclamation techniques for individual development projects would be required at the time at which specific proposals for development are submitted to the City for review. Although it cannot be predicted with any certainty whether reclaimed water will be available



for future project sites under Scenarios 1-6, the City will continue to seek ways to conserve water resources. Scenarios 1-6 could be found consistent with SCAG Policy 11.07.

MITIGATION MEASURES

With implementation of the policies and actions of the 2005 General Plan, Scenarios 1-6 could be found to be consistent with RCPG policies. No mitigation measures would be required.

SIGNIFICANCE AFTER MITIGATION

Any of the 2005 General Plan land use scenarios could be found to be consistent with applicable policies of the RCPG.

Impact LU-4 Scenarios 1-6 could be found to be consistent with the Southern California Association of Governments' Regional Transportation Plan (RTP). Impacts would be Class III, *less than significant*, for any of the six land use scenarios.

The SCAG 2004 Regional Transportation Plan (RTP) links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The goals of the RTP relevant to the 2005 General Plan include:

- *Maximize mobility and accessibility for all people and goods in the region.*
- *Ensure travel safety and reliability for all people and goods in the region.*
- *Preserve and ensure a sustainable regional transportation system.*
- *Maximize the productivity of our transportation system.*
- *Protect the environment, improve air quality and promote energy efficiency.*
- *Encourage land use and growth patterns that complement our transportation investments.*

These goals are supported by the policies listed below. A discussion of the 2005 General Plan's consistency with each of the policies follows.

Policy 1: Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.

Table 4.14-1 identifies the RTP performance indicators, which are used to identify transportation investments to achieve RTP goals.



**Table 4.14-1
Regional Performance Indicators**

Performance Indicator	Purpose
Mobility	Increase mobility within the region.
Accessibility	Increase accessibility within the region.
Reliability	Reduce variability in travel time.
Safety	Increase safety by reducing accident rates.
Cost-Effectiveness	Ensure benefits of RTP investments exceed investment costs.
Productivity	Increase the efficiency of transportation infrastructure and provided services.
Sustainability	Sustain current system performance.
Preservation	Maintain current conditions.
Environmental	Reduce air emissions.
Environmental Justice	Avoid disproportionate impacts to any ethnic group.

Although overall traffic levels are likely to increase under Scenarios 1-6, the 2005 General Plan includes policies and actions that would at least partially attenuate likely increases in traffic and could be found consistent with the performance indicators and goals of the RTP. As discussed under Impact LU-1, development under Scenarios 1-6 would be subject to Policy 3C of the proposed 2005 General Plan, thereby promoting new development that focuses on intensification and reuse of existing lands within the existing City limits and SOI prior to expansion. In addition, as discussed under Impact AQ-1 in Section 4.3, *Air Quality*, recent research indicates that infill development reduces vehicle miles traveled (VMT) and associated air pollutant emissions as compared to development on sites in the periphery of metropolitan areas, also known as "greenfield" sites. A 1999 simulation study conducted for the U.S. Environmental Protection Agency comparing infill development to greenfield development found that infill development results in substantially less VMT per capita and generates fewer emissions of most air pollutants and greenhouse gases (see Table 4.3-5 in Section 4.3). Similarly, a 1991 study presented to the California Energy Resources Conservation and Development Commission found that a doubling of residential densities is associated with a 20-30% reduction in per capita VMT.

A reduction in VMT would be consistent with the RTP performance indicators as it is likely to result in the following:

- *A reduction in congestion on busy roadways and intersections, thereby reducing travel time and delays, as well as variability in travel time*
- *A reduction in automobile accident rates*
- *A reduction in maintenance costs resulting from wear and tear on existing*



- infrastructure*
- *A reduced need to construct new roadways or expand existing roadways, thereby resulting in a more efficient use of existing roadways*
 - *A reduction in air emissions*

New development also would be subject to various 2005 General Plan transportation policies and actions aimed at strengthening and balancing vehicle, bicycle, pedestrian, and transit connections in the City and surrounding region. With implementation of the 2005 General Plan policies and actions, Scenarios 1-6 could be found to be consistent with the Regional Performance Indicators of SCAG RTP Policy 1.

Policy 2: Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.

Policy 3: RTP land use and growth strategies that are different from currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and sub-regions.

Policy 4: High Occupancy Vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy #1.

As discussed under Impact LU-3, the 2005 General Plan includes a number of policies and actions designed to ensure the safety, adequate maintenance, and efficiency of operations on the portion of the multi-modal transportation system that lies within the City of Ventura. By promoting intensification and reuse prior to expansion as well as mixed-use and pedestrian-oriented urban development, implementation of the 2005 General Plan would result in a diverse, safe, and efficient transportation system that minimizes the need for system expansion investments. Moreover, the growth projections, policies, and actions under Scenarios 1-6 are generally consistent with RTP land use and growth strategies and, therefore, would not require significant changes to the RTP implementation plan. Finally, none of the scenarios under consideration for the 2005 General Plan include HOV gap closures. Therefore, Scenarios 1-6 could be found to be consistent with SCAG RTP Policies 2-4.

MITIGATION MEASURES

With implementation of the proposed 2005 General Plan policies and actions, Scenarios 1-6 could all be found to be consistent with the SCAG 2004 RTP. No mitigation is required.

SIGNIFICANCE AFTER MITIGATION

Any of the six land use scenarios could be found to be consistent with applicable goals and policies of the Regional Transportation Plan.



Impact LU-5 Scenarios 1-6 could all be found to be consistent with the Southern California Association of Governments' Growth Visioning Report. Impacts would be Class III, *less than significant*, for any of the six 2005 General Plan land use scenarios.

SCAG has prepared the Growth Visioning Report to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. The following principles are guidelines for promoting and sustaining for future generations the region's mobility, livability, and prosperity. A discussion of the 2005 General Plan's (and each scenario's) consistency with these principles follows.

Principle 1: Improve mobility for all residents

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.
- Encourage transit-oriented development.
- Promote a variety of travel choices.

As discussed above under Impacts LU-1 LU-2, LU-3, and LU-4, Scenarios 1-6 would be subject to a number of policies and actions that would: (1) include transportation investments and land use decisions that are mutually supportive; (2) provide mixed-use development that would locate housing and jobs near one another; (3) encourage transit-oriented development; and (4) promote new development that would facilitate a variety of travel choices, including automobile, bicycle, pedestrian, and mass-transit forms of transportation. Therefore, Scenarios 1-6 could all be found to be consistent with SCAG's Growth Visioning Report Principle 1.

Principle 2: Foster livability in all communities

- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote "people scaled," walkable communities.
- Support the preservation of stable, single-family neighborhoods.

As discussed under Impact LU-1, Scenarios 1-6 would encourage intensification and reuse development within the existing urban areas of the City before development occurs outside of the existing City limits, and would promote development that meets the goals for single-family housing identified in the Housing Element. Moreover, as discussed under Impact LU-2, Coastal Act Article 6, and Impact LU-4, Scenarios 1-6 would be subject to a number of 2005 General Plan policies and actions that promote mixed-use development, as well as building and streetscape layout and design that promote walkable communities and development at a human scale.

Principle 3: Enable prosperity for all people

- Support educational opportunities that promote balanced growth.
- Ensure environmental justice regardless of race, ethnicity or income class.



- *Support local and state fiscal policies that encourage balanced growth.*
- *Encourage civic engagement.*

As discussed under Impact LU-1, Scenarios 1-6 would be subject to Action 3.10, which promotes a mix of housing to meet the needs of the community, as identified in the Housing Element. Moreover, as discussed in Section 4.11, *Public Services*, Scenarios 1-6 would be able to provide adequate school and library facilities for projected population growth through 2025. Finally, the 2005 General Plan has been a product of multiple public workshops and hearings where citizens were given the opportunity to participate in the planning process. With implementation of this goal and the supporting policies and actions, Scenarios 1-6 could be found to be consistent with SCAG's Growth Visioning Report Principle 3.

Principle 4: Promote sustainability for future generations

- *Focus development in urban centers and existing cities.*
- *Develop strategies to accommodate growth that uses resources efficiently, eliminates pollution and significantly reduces waste.*
- *Utilize "green" development techniques.*

As discussed under Impact LU-1, Scenarios 1-6 would be subject to various policies and actions that encourage new development, reuse, or intensification within existing urban areas prior to development outside of the existing City limits. Moreover, as discussed in Section 4.11, *Public Services*, Scenarios 1-6 would be subject to 2005 General Plan policies and actions that promote waste source reduction, recycling, and "green" development techniques. Therefore, Scenarios 1-6 could be found to be consistent with SCAG's Growth Visioning Report Principle 4.

MITIGATION MEASURES

With implementation of the 2005 General Plan policies and actions, Scenarios 1-6 could be found to be consistent with SCAG's Visioning Report. No mitigation is required.

SIGNIFICANCE AFTER MITIGATION

Any of the six land use scenarios for the 2005 General Plan could be found to be consistent with SCAG's Visioning Report.



4.15 POPULATION AND HOUSING

This section analyzes the 2005 General Plan's potential environmental impacts related to population and housing.

4.15.1 Setting

a. Current Population, Housing, and Employment. Since its incorporation in 1866, the City of Ventura has grown from a small settlement of less than 1,000 residents to a city of over 104,000 residents in 2004. Ventura's population grew most dramatically during the 1950s and 1960s, and has slowed since 1970; the number of City residents increased by 27% in the 1970s and 24% in the 1980s, in contrast to 76% and 99% in the 1950s and 1960s, respectively (City of San Buenaventura 2000-2006 Housing Element, 2004). The California Department of Finance (2004) estimated the City of Ventura's 2004 population at 104,952.

A variety of housing types are currently available in Ventura, including single-family homes, town homes, apartments, condominium developments, and mobile homes. According to the California Department of Finance, *City/County Population and Housing Estimates* (2004), in 2004 the City of Ventura had approximately 40,880 dwelling units, which consisted of the following: approximately 26,476 single family dwelling units; approximately 11,781 units within multi-family buildings; and, approximately 2,623 mobile homes.

Local and regional economic forces play a pivotal role in shaping the City's physical character and determining its tax and employment bases. Efforts to attract and retain businesses that can thrive in Ventura depend largely on the ability to find appropriate and affordable sites. The city's climate, location, and prominent visibility and accessibility along U.S. 101 and SR 126 appeal to a variety of commercial and industrial enterprises; however, the limited supply of larger parcels is a constraint for many companies. Major employers within the City of Ventura include local government (e.g., the County of Ventura, Ventura County Health Care Agency, and the City of Ventura), the Ventura Unified School District, Community Memorial Hospital, Ventura College, Southern California Edison, Bank of America, and Meditech Health Services, Incorporated.

b. Regulatory Setting.

2000-2006 Housing Element. The 2000-2006 Housing Element is one of nine elements of Ventura's Comprehensive Plan, which identifies and analyzes existing and projected housing needs and includes a statement of goals, policies, and scheduled programs for the preservation, improvement, and development of housing. The Housing Element identifies strategies and programs that focus on: (1) maintaining and improving existing housing and neighborhoods; (2) providing a range of housing types and adequate housing sites; (3) assisting in the provision of affordable housing; (4) removing governmental and other constraints to housing production and affordability; and (5) promoting fair and equal housing opportunities.

Pursuant to Government Code §65300.5, the policies, data, assumptions, and projections (e.g., for population, housing, and jobs) provided in the proposed 2005 General Plan must be consistent with those found in the Housing Element. Unlike other elements of the proposed



2005 General Plan, which cover a 20-year time period, Government Code §65588 dictates that the Housing Element must be updated at least once every five years and, thus, the current Housing Element covers the period extending from 2000 to 2006. The geographic area covered by the Housing Element encompasses only the current City limits, while unincorporated areas within the City's planning area are covered by the Ventura County Housing element.

Residential Growth Management Program (Municipal Code Chapter 24R.115). In order to assist in implementing the Land Use Element of the 1989 Comprehensive Plan, the City Council adopted a Residential Growth Management Program (RGMP), which provides an allocation schedule for the review and evaluation of residential growth in the City of Ventura's Planning Area. The allocation schedule, which is adopted by resolution of the City Council at least once each year, is based on population data from the California Department of Finance and identifies how many dwelling units are potentially available for allocation in four categories of projects (i.e., "Larger Projects," "Downtown Projects," "Public Benefit Projects," and "Exempt Projects," as defined in the Municipal Code, §24R.115.210).

The RGMP allocation schedule specifies: (1) the overall number of dwelling units available through the year 2010 for Downtown and Exempt Projects; (2) the number of units available during two-year cycles for Larger Projects; and (3) allocations from the Larger Projects or Downtown Projects categories for Public Benefit Projects. The RGMP provides specific criteria for evaluating projects to determine eligibility for an allocation.

Southern California Association of Governments (SCAG). As discussed in Section 4.14, *Land Use*, the City of Ventura is located within the planning area of the Southern California Association of Governments (SCAG). SCAG functions as the Metropolitan Planning Organization for Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial Counties, and is responsible for implementing the Regional Comprehensive Plan and Guide (RCPG), Regional Transportation Plan (RTP), and the Growth Visioning Report (GVR), each of which addresses regional issues associated with population growth, housing, and employment.

4.15.2 Impact Analysis

a. Methodology and Significance Thresholds. Impacts relating to population and housing are considered significant if growth accommodated under the 2005 General Plan would:

- *Induce substantial population growth either directly or indirectly*
- *Create an imbalance of jobs and housing in the City*
- *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere*
- *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere*

For purposes of analysis, "substantial" population growth is defined as growth exceeding SCAG or Ventura County APCD population projections for the City. "Substantial" displacement would occur if allowed land uses would displace more residences than would be accommodated through growth accommodated by the General Plan.



b. Project Impacts and Mitigation Measures. The matrix on the following page provides a summary comparison of impacts for each of the EIR scenarios. A detailed discussion of each environmental impact follows.

Impact PH-1 **Scenarios 1-6 would not result in the displacement of substantial numbers of people or housing. Any displacement would be more than offset by new housing that would be accommodated under the 2005 General Plan. Impacts would be Class III, less than significant, for any of the General Plan land use scenarios.**

Scenarios 1-6, which are described in detail in Section 2.0, *Project Description*, all emphasize the intensification and reuse of lands that are already developed with urban uses. By emphasizing reuse of developed lands, any of the scenarios would have the potential to displace existing housing or people. However, the 2005 General Plan does not re-designate any areas currently designated for and developed with housing under the 1989 Comprehensive Plan to a non-residential use. Moreover, the focal points for growth in the City under all six scenarios would be the nine districts and eight corridors shown on Figures 2-3 through 2-8 in Section 2.0, *Project Description*. All of these districts and corridors are designated for and primarily occupied by commercial and industrial uses, with only a limited amount of existing housing. Consequently, the primary displacement would be of existing commercial and industrial uses rather than housing or people. Limited housing is present within several of the districts and corridors, notably the Downtown district and the Ventura Avenue, Main Street, and Thompson Boulevard corridors. It is possible that such housing could be displaced; however, the intent of the 2005 General Plan is to accommodate additional housing and mixed use development in these areas. Under any scenario, it is anticipated that the development of new housing would more than offset the minimal displacement of housing that could occur within the districts and corridors. For Scenario 1, it is anticipated that a net increase of about 8,300 housing units would occur citywide through 2025. For Scenarios 2-6, it is estimated that a net increase of about 11,000 housing units would occur citywide over that same time frame.

All of the expansion areas under consideration for Scenarios 2-6 are primarily in agricultural use or open grazing land. Housing within all of the expansion areas is limited to isolated farmhouses. As such, substantial displacement of people or housing would not occur as a result of development of any of the expansion areas.

MITIGATION MEASURES

No significant impacts relating to displacement would occur under any scenario. Mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Impacts relating to the displacement of people and housing would be less than significant for any of the six scenarios.



Summary Comparison of Impacts for EIR Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Displacement (Impact PH-1)	No substantial displacement of population or housing; Scenario 1 would accommodate substantially more new housing than would be displaced. Impacts are Class III, less than significant.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas are agricultural and include little existing housing.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas are agricultural and include little existing housing.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas are agricultural and include little existing housing.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas are agricultural and open space and include little existing housing.	Impacts similar to Scenario 1 and Class III, less than significant. Expansion areas are agricultural and include little existing housing.
SCAG Growth Projections (Impact PH-2)	Projected 2025 population (126,153 persons) exceeds SCAG projection of 123,645 persons. Though emphasis on intensification/reuse minimizes population-related impacts, exceedance of regional forecast is a Class I, unavoidably significant, impact.	Projected 2025 population (133,160 persons) exceeds SCAG projection of 123,645 persons. Though emphasis on intensification/reuse minimizes population-related impacts, exceedance of regional forecast is a Class I, unavoidably significant, impact.	Impacts identical to Scenario 2 and Class I, unavoidably significant.	Impacts identical to Scenario 2 and Class I, unavoidably significant.	Impacts identical to Scenario 2 and Class I, unavoidably significant.	Impacts identical to Scenario 2 and Class I, unavoidably significant.
SCAG Visioning Report – Housing Needs (Impact PH-3)	Scenario 1 provides for a variety of housing types, thus complying with SCAG policy. Impact is Class III, less than significant.	Scenario 2 provides for a variety of housing types. Impact is Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.
Jobs/Housing Balance (Impact PH-4)	Growth projections result in jobs/housing ratio of 1.41 jobs/dwelling unit. This is considered a balanced ratio. Impacts are Class III, less than significant.	Growth projections result in jobs/housing ratio of 1.45 jobs/dwelling unit. This is considered a balanced ratio. Impacts are Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.	Impacts similar to Scenario 2 and Class III, less than significant.



Impact PH-2 Proposed General Plan policies implement most SCAG policies relating to growth. However, growth accommodated under Scenarios 1-6 exceeds SCAG’s Regional Comprehensive Plan and Guide and Ventura County AQMP population forecasts. This is largely because regional growth forecasts have not been updated to reflect current conditions in the City. Nevertheless, exceedance of regional forecasts is considered a Class I, *unavoidably significant*, impact of any of the six scenarios.

SCAG’s Regional Comprehensive Plan and Guide (RCPG) serves as a framework for decision-making with respect to regional growth anticipated during the next 20 years. The RCPG includes growth management goals that seek to develop urban forms that minimize public and private development costs, enable firms to be more competitive, and stimulate the regional economy. These are discussed below.

3.01 *The population, housing, and jobs forecasts, which are adopted by SCAG’s Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.*

The SCAG population, housing, and job forecasts, which are based on the RTP Population, Household, and Employment (April 2004) forecasts for the Ventura Council of Governments (VCOG) subregion and the City of Ventura are shown in Table 4.15-1.

**Table 4.15-1
 SCAG Population, Household, and Employment Forecasts for the
 Ventura Council of Governments (VCOG) Subregion**

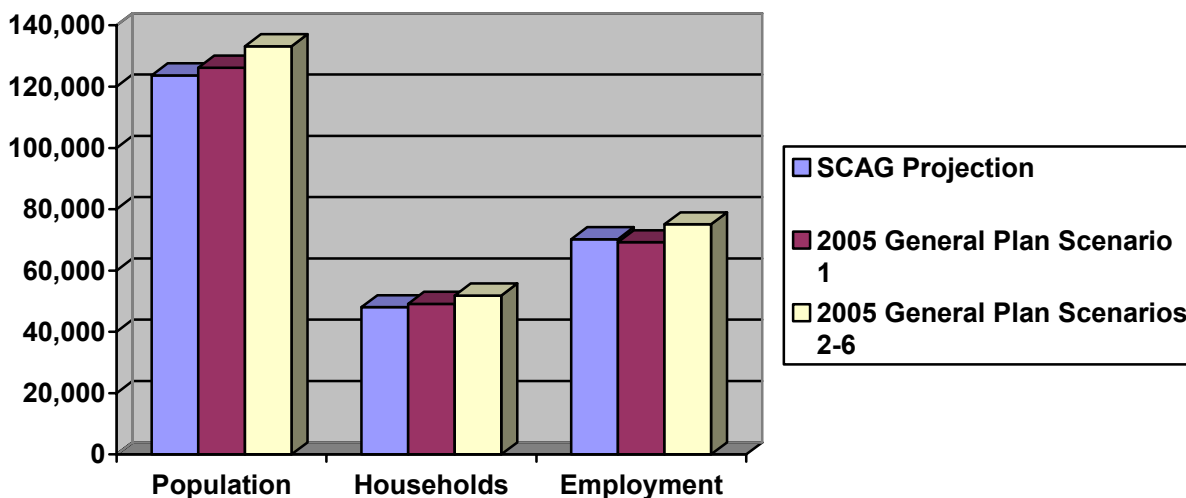
VCOG Subregion	2000	2005	2010	2015	2020	2025
Population	758,054	821,045	865,149	897,295	929,181	960,025
Household	244,476	260,357	275,352	289,318	303,596	317,831
Employment	337,247	346,770	381,680	403,000	424,470	445,193
City of Ventura	2000	2005	2010	2015	2020	2025
Population	101,002	109,087	116,959	119,247	121,488	123,645
Household	38,573	40,711	44,053	45,355	46,696	48,034
Employment	58,900	59,717	62,703	65,237	67,787	70,238

Source: Jeffrey M. Smith, AICP, Senior Regional Planner Intergovernmental Review, SCAG (2/18/04).



Figure 4.15-1 compares SCAG’s projected 2025 population, housing, and employment totals for the City to the projections used for this EIR. Table 4.15-2 compares SCAG population, housing, and employment growth rate projections to those used in this EIR.

**Figure 4.15-1
SCAG Population, Housing, and Employment Projections**



SCAG projects a citywide population of 123,645 in 2025, which represents an annual growth rate of 0.78%. Both of the growth scenarios considered in this EIR assume higher average annual growth rates. For Scenario 1, an annual growth rate of 0.88% is assumed, which would result in a 2025 population of 126,153. For Scenarios 2-6, a 1.14% annual growth rate is assumed, which would result in a 2025 population of 133,160. Because 2005 General Plan growth projections are higher than SCAG’s forecasts, the population impact of any of the six land use scenarios could be found to be outside SCAG regional growth forecasts.

The exceedance of SCAG’s population growth forecast is considered a significant population impact. It should be noted, however, that SCAG’s growth forecast for the City assumes a slowdown in population growth in Ventura after 2015. From 2005-2010, SCAG actually forecasts a higher annual growth rate (1.4% annually) than is projected for any of the General Plan land use scenarios. By comparison, SCAG projects only a 0.35% growth rate for the City from 2020-2025. This rate is lower than the current annual “natural” growth rate (births minus deaths) for the area (which is about 0.6%). In addition, it should be recognized that the projections used in this EIR have been developed for analytical purposes only; actual growth rates may be higher or lower than the projections used for this analysis. It is important to recognize that growth could occur in the City regardless of whether or not the 2005 General Plan is adopted as the 1989 Comprehensive Plan that currently applies in the City could accommodate similar levels of growth as could be accommodated under any of the 2005 General Plan land use scenarios. To that end, one of the fundamental purposes of the 2005



**Table 4.15-2
 Comparison of Population, Housing, and Employment Growth Projections**

	Population			Households			Employment		
Current (2004) Estimates	104,952			40,880			54,732		
	SCAG Projection	2005 General Plan Scenario 1 Projection	2005 General Plan Scenarios 2-6 Projection	SCAG Projection	2005 General Plan Scenario 1 Projection	2005 General Plan Scenarios 2-6 Projection	SCAG Projection	2005 General Plan Scenario 1 Projection	2005 General Plan Scenarios 2-6 Projection
2025 Estimate	123,645	126,153	133,160	48,034	49,138	51,867	70,238	69,211	75,060
Projected Growth (2004-2025)	18,693	21,201	28,208	7,154	8,258	10,987	15,506	14,479	20,328
Annual % Growth	0.78%	0.88%	1.14%	0.77%	0.88%	1.14%	1.19%	1.12%	1.51%

Employment forecasts for the 2005 General Plan scenarios are from Stanley R. Hoffman Associates, 2003. Estimated growth from 2004-2025 is based upon the 2025 projections and the 2004 population, housing, and employment estimates shown in Tables 2-3 and 2-4 in Section 2.0, Project Description.



General Plan is to direct future development in such a way as to minimize the impacts of growth by, among other things, emphasizing the intensification and reuse of already developed areas, thus minimizing pressure to develop agricultural and undeveloped lands at the City's periphery, notably in the hillsides above the City.

- 3.24 *Encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluated in the Regional Housing Needs Assessment.*
- 3.27 *Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.*

As stated above, Scenario 1 would accommodate an estimated 8,258 new dwelling units, bringing the citywide total to approximately 49,136 units by 2025. Scenarios 2-6 could accommodate an estimated 10,987 new dwelling units, for a total of approximately 51,867 units citywide by 2025. Any of the six scenarios would be subject to the following policies, and actions that would complement existing Housing Element goals, policies, and actions (2000-2006 Housing Element, Chapter 2) in providing affordable housing and housing equally to all members of society:

- Policy 3C** *Maximize use of land in the city before considering expansion.*
- Action 3.14** *Utilize infill development to accommodate the targeted number and type of housing units described in the Housing Element.*
- Action 3.15** *Adopt new development code provisions to ensure compliance with Housing Element objectives.*
- Action 3.16** *Renew and modify greenbelt agreements as necessary to direct development to already urbanized areas.*
- Action 3.17** *Continue to support the Guidelines for Orderly Development as a means of implementing the General Plan, and encourage adherence to these Guidelines by all the cities, the County of Ventura, and the Local Agency Formation Commission (LAFCO); and work with other nearby cities and agencies to avoid sprawl and preserve the rural character in areas outside the urban edge.*

The 2000-2006 Housing Element sets programs and initiatives for providing housing at affordable rates. The 2000-2006 Housing Element contains housing programs for preserving existing housing, assisting homebuyers, rehabilitating rental units, and facilitating the development of second units and non-traditional housing which will encourage the development of affordable housing in the City.

As discussed in Section 4.3, *Air Quality*, the 2005 General Plan includes numerous policies and actions aimed at reducing vehicle miles traveled and improving access to alternative transportation modes.



Section 4.11, *Public Services*, addresses the 2005 General Plan's potential environmental impacts under Scenarios 1-6 relating to education, recreational facilities, law enforcement, and fire protection. As discussed in Section 4.11, Scenarios 1-6 would not result in significant impacts relating to education, law enforcement, and fire protection. In addition, 2005 General Plan policies are specifically intended to help provide equal access to recreational resources. Therefore, Scenarios 1-6 could be found to be consistent with SCAG RCPG Policies 3.20 and 3.27.

MITIGATION MEASURES

The 2005 General Plan includes various policies that encourage mixed use and infill development and would be expected to reduce vehicle miles traveled (VMT) and associated air pollutant emissions as compared to continued low density development at the City's periphery. Additional mitigation beyond restricting growth to SCAG forecasts is not available.

SIGNIFICANCE AFTER MITIGATION

Scenarios 1-6 could be found to be inconsistent with SCAG Policy 3.01 because citywide population growth projections for any of the six scenarios exceed SCAG forecasts. Though 2005 General Plan policies, in combination with mitigation measures recommended elsewhere in this EIR, would reduce the environmental effects associated with population growth to the degree feasible, the potential exceedance of SCAG's population forecast cannot be avoided outside of implementing a growth control policy that restricts growth to SCAG forecast levels.

<p>Impact PH-3 The 2005 General Plan could be found to be consistent with the Southern California Association of Governments Growth Visioning Report. Impacts would be Class III, less than significant, for any of the six land use scenarios.</p>
--

As discussed in detail in Section 4.14, *Land Use*, SCAG has prepared the Growth Visioning Report (GVP) to provide a framework for local and regional decision-making that improves the quality of life for all SCAG residents. Principle 3 of the GVP, which is related to potential population and housing impacts under Scenarios 1-6, states:

Principle 3: Enable prosperity for all people

- *Provide, in each community, a variety of housing types to meet the housing needs of all income levels.*

As discussed under Impact PH-2, SCAG RCPG Policies 3.24 and 3.27, the land use changes accommodated by the 2005 General Plan under Scenarios 1-6 encourage intensification and reuse development that would provide a variety of housing types and would complement the 2000-2006 Housing Element programs that encourage the preservation, redevelopment, and development of rental, assisted living, mobile home, and alternative housing types. Therefore, Scenarios 1-6 could be found to be consistent with Principle 3 of SCAG's GVP.



Though not a significant impact, it should be noted that because Scenario 1 would not accommodate development of any of the expansion areas, it may restrict the types of housing available as compared to Scenarios 2, 3, 4, and 6. By focusing almost exclusively on intensification and reuse within developed areas of the City and, in particular, in the districts and corridors identified on Figure 2-3 in Section 2.0, *Project Description*, it is likely that implementation of Scenario 1 would result in a higher proportion of multiple family housing than would occur under the other scenarios. To a lesser degree, implementation of Scenario 5 may also emphasize multiple family housing in the future by restricting the amount of land available for future single family residential development.

MITIGATION MEASURES

Impacts would be less than significant for any of the six scenarios. No mitigation measures are required.

SIGNIFICANCE AFTER MITIGATION

Impacts relating to consistency with SCAG’s Growth Visioning Report would be less than significant for any of the six 2005 General Plan land use scenarios.

Impact PH-4 Any of the 2005 General Plan land use scenarios would provide for a balance of jobs and housing through 2025. Impacts relating to jobs/housing balances would be Class III, *less than significant*, for any of the six land use scenarios.

Table 4.15-3 compares the current (2004) ratio of jobs and housing in Ventura to the projected ratios in 2025 under each of the 2005 General Plan land use scenarios. As indicated, the current ratio is estimated at 1.34 jobs per residential unit. Under either land use scenario, the number of jobs relative to housing is projected to rise slightly by 2025.

**Table 4.15-3
 Current and Projected Future Jobs/Housing Ratios**

2004 Citywide Ratio of Jobs to Housing		1.34 jobs/unit
Projected 2025 Citywide Ratio of Jobs to Housing	Scenario 1	1.41 jobs/unit
	Scenarios 2-6	1.45 jobs/unit

Ratios are based on estimates of employment and housing in Table 4.15-2.

According to the California Employment Development Department (EDD), the current (January 2005) workforce in Ventura County is about 415,250 (www.labormarketinfo.edd). The California Department of Finance estimates the current (2004) number of housing units in the County at 264,583. This suggests that a “balance” of jobs and housing in the Ventura County



region is about 1.57 jobs/residential unit (415,250 divided by 264,583) as there are about 1.57 workers per housing unit countywide. The current ratio of jobs and housing in the City is roughly equivalent to the countywide ratio and would get incrementally closer to this countywide “balanced” ratio under either growth scenario. Any of the land use scenarios would accommodate residential and non-residential development that would maintain a balance of jobs and housing in the City. Thus, significant impacts are not anticipated for any of the six land use scenarios.

MITIGATION MEASURES

Impacts related to the jobs/housing balance would be less than significant for any of the six scenarios. Mitigation is not required.

SIGNIFICANCE AFTER MITIGATION

Significant impacts relating to the jobs/housing balance are not anticipated under any of the six 2005 General Plan land use scenarios.



5.0 OTHER CEQA-REQUIRED DISCUSSIONS

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4.0, *Environmental Impact Analysis*. These additional issues include: (1) the potential to induce growth; and (2) significant and irreversible impacts on the environment.

5.1 GROWTH INDUCING EFFECTS

Section 15126.2(d) of the *CEQA Guidelines* requires that EIRs discuss the potential for projects to induce population or economic growth, either directly or indirectly. CEQA also requires a discussion of ways in which a project may remove obstacles to growth.

As discussed in Section 2.0, *Project Description*, it is anticipated that between about 8,300 residential units (Scenario 1) and 11,000 residential units (Scenarios 2-6) could be added within the Ventura Planning Area through 2025 under the 2005 General Plan. This number of units would accommodate about 21,000-28,000 new residents in Ventura, which would bring the City's population to between about 126,000 and 133,000. Such growth represents an approximately 20-27% increase in population over the 20-year timeframe of the 2005 General Plan. As discussed in Sections 4.3, *Air Quality*, and 4.15, *Population and Housing*, the 2025 population projections considered in this EIR exceed the forecasts upon which SCAG's Regional Transportation Plan and the Ventura County APCD's Air Quality Management Plan are based. The exceedance of these forecasts is largely because the SCAG and APCD forecasts have not been updated to reflect current City conditions and planning policies. In addition, it is not expected that the level of population growth projected for the City would hinder attainment of state or federal air quality standards. Nevertheless, the exceedance of regional growth forecasts is identified as an unavoidably significant impact of any of the six land use scenarios.

The 2005 General Plan also includes various policies and actions intended to attract businesses to the City and any of the land use plans would accommodate economic and job growth through 2025. As discussed in Section 2.0, citywide job growth through 2025 is projected to range from about 14,000 to 20,000 jobs, which represents growth of about 26-37% over the current level of employment in the City. As discussed in Section 4.15, such job growth is similar to SCAG forecasts for the City. The economic growth that could be accommodated under the 2005 General Plan would have economic benefits in terms of jobs and City tax revenues, but would contribute to various environmental effects, including increased traffic, noise, and air pollution.

It is the specific purpose of the 2005 General Plan to accommodate the orderly development of Ventura. Therefore, by its nature, the General Plan is intended to reduce the potential for uncontrolled growth and associated environmental impacts. This intent would be reinforced by the anticipated future relocation of the Sphere of Influence (SOI) boundary to exclude the hillside areas above the City, which are currently designated for residential development under the 1989 Comprehensive Plan.

The 2005 General Plan is specifically intended to focus future development in certain areas of the Planning Area - primarily, in the districts and corridors shown on Figures 2-3 through 2-8 in



Section 2.0 and other areas already designated for urban development under the 1989 Comprehensive Plan. Plan implementation could therefore induce growth in these areas. This is expected to result in an overall intensification of land use within the districts and corridors, with the potential for compatibility conflicts relating to traffic, aesthetics, and noise. However, incorporation of appropriate design techniques on future developments is expected to minimize the potential for conflicts. In addition, by focusing on the intensification and reuse of already urbanized areas of the community, it is anticipated that implementation of any of the General Plan land use scenarios would reduce the potential for growth pressure in undeveloped areas at the periphery of the City. This would be expected to generally reduce the potential for impacts relating to such issues as biological resources, regional traffic, and air quality as compared to continued low density development on agricultural or open space lands. The reuse of industrial properties in certain areas of the City, particularly along Ventura Avenue, also offers the opportunity to remediate existing soil contamination and generally enhance aesthetic conditions.

Depending upon the land use scenario selected, the 2005 General Plan could potentially accommodate the future development of certain agricultural lands within the Planning Area that are currently designated for continued agricultural or open space use. These include the North Avenue, Olivas, Serra, Western Cañada Larga, and Poinsettia expansion areas. Inclusion of one or more of these areas on the General Plan land use map as an area for possible future development would indicate the intent to consider future conversion of these areas to non-agricultural uses. As discussed in Section 4.2, *Agriculture*, the conversion of agricultural lands within the expansion areas would be considered an unavoidably significant impact to agricultural resources. However, because all of the areas are to retain their current land use designations, a future General Plan amendment would be needed prior to conversion to another use. Such an amendment would require voter approval under the SOAR Ordinance. Annexation of any of these areas to the City would also require the approval of the Ventura County Local Agency Formation Commission (LAFCO).

Development of any of the expansion areas would require the extension of infrastructure to serve new development. Two of the expansion areas under consideration – Serra and Poinsettia – are essentially surrounded by urban areas on all sides. The Poinsettia area is also entirely within the current SOI and most of the Serra area is also within the SOI. As such, extension of infrastructure to these areas would not expand the geography of the area that is already planned to receive City services. The Olivas area is outside the SOI, but is between the urbanized Midtown and Arundell communities and Ventura Harbor. The North Avenue and Western Cañada Larga expansion areas are near the Planning Area's northern periphery and the Western Cañada Larga area is outside the current SOI. These areas would require expansion of City services, which may accommodate additional growth in areas between the current northern City limit and the expansion areas. However, road and other infrastructure are available to serve all three areas. With implementation of policies and actions proposed in the 2005 General Plan, in combination with additional actions recommended in this EIR, service and infrastructure needs could be met for all of the expansion areas. Moreover, it is a specific goal of any of the General Plan land use scenarios to accommodate new industrial park development in the North Avenue area.



5.2 IRREVERSIBLE ENVIRONMENTAL EFFECTS

The CEQA *Guidelines* require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decisionmakers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed development.

Construction activity that would be accommodated under any of the 2005 General Plan land use scenarios would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to the City of Ventura or the General Plan. The addition of new residential and non-residential development in the City through 2025 would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. Increasingly efficient building fixtures and automobile engines, as well as implementation of policies included in the 2005 General Plan, are expected to offset the demand to some degree. It is not anticipated that growth accommodated under the General Plan would significantly affect local or regional energy supplies.

As discussed in Section 4.2, *Agriculture*, implementation of any of the General Plan land use scenarios would accommodate the conversion of Prime agricultural lands to non-agricultural uses. Scenario 1 (Intensification/Reuse) would have the least impact to agriculture and would limit conversion to lands already designated for non-agricultural uses. Scenarios 2-6 would all also accommodate the possible future conversion of agricultural lands that are currently designated "Agricultural Use," though any future change in land use designation would require a public vote under the SOAR Initiative. For Scenarios 2 and 3, the possible conversion of agricultural land within the Olivas expansion area may also conflict with California Coastal Act policy since that expansion area is within the coastal zone. Impacts to agriculture are considered unavoidably significant for any of the six land use scenarios. Though any of the six land use scenarios are expected to generally enhance visual conditions in much of the City, this conversion of agricultural land that is highly visible from important view corridors (including U.S. 101, SR 126, and SR 33) is also considered an unavoidably significant aesthetic impact of any of the six scenarios.

Growth accommodated under any of the land use scenarios would require an irreversible commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. As discussed in Sections 4.11 and 4.13, impacts to public services and utilities generally can be reduced to a less than significant level with implementation of policies included in the 2005 General Plan and additional actions recommended in this EIR. However, because the lifespan of solid waste disposal facilities that currently serve the City is less than the 20-year timeframe of the General Plan, the availability of solid waste disposal facilities cannot be assured. This is considered an unavoidably significant impact under any of the six scenarios.

The additional vehicle trips associated with growth through 2025 would incrementally increase local traffic and noise levels and regional air pollutant emissions. As discussed in Section 4.10,



Noise, implementation of proposed policies and actions, in combination with the additional recommended action, could reduce the noise impacts associated with future growth to a less than significant level. As discussed in Section 4.12, *Transportation/Traffic*, proposed intersection level of service performance standards could be met at all locations for Scenarios 1, 3, 4, 5, and 6 with implementation of recommended circulation improvements and 2005 General Plan policies and actions. However, for Scenario 2, the proposed performance standard of D could not be achieved at the Johnson Drive/North Bank Drive intersection even with implementation of feasible improvements; therefore, the impact at that location would be unavoidably significant under Scenario 2. As discussed in Section 4.3, *Air Quality*, the continued collection of transportation demand management (TDM) fees on new development for implementation of regional air pollution programs could reduce the air pollutant emissions associated with individual future development projects to below significance thresholds. However, because the projected increase in population through 2025 exceeds SCAG and Ventura County APCD forecasts, growth accommodated under the General Plan is outside the parameters of the Ventura County AQMP and SCAG's Regional Transportation Plan. Although the 1989 Comprehensive Plan could potentially accommodate similar levels of population growth, this is considered a significant effect of implementation of the any of the 2005 General Plan scenarios.



6.0 ALTERNATIVES

As required by Section 15126.6 of the State *CEQA Guidelines*, this EIR examines a range of alternatives to the 2005 General Plan. Included in this analysis are two versions of the CEQA-required “no project” alternative (no further development and growth in accordance with the 1989 Comprehensive Plan), one alternative that addresses possible impacts if all expansion areas were developed, and four alternative plans that would address issues raised in NOP responses or impacts associated with one or more of the General Plan scenarios described in Section 2.0, *Project Description*, and analyzed in Section 4.0, *Environmental Impact Analysis*. The alternatives are listed below:

- *No Project (no further development)*
- *No Project (1989 Comprehensive Plan)*
- *Restricted Growth (0.78% annual growth rate)*
- *No Important Farmland Conversion*
- *Upper North Avenue District Housing*
- *Intensification/Reuse + Minor Map Clean-up*
- *All Expansion Areas*

Table 6-1 provides a summary comparison of the development characteristics of the four alternatives. A more detailed description of the various alternatives is included in the impact analysis for each alternative.

As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

6.1 NO PROJECT (NO FURTHER DEVELOPMENT)

6.1.1 Description

This version of the “no project” alternative assumes that no further residential or non-residential development would occur in the City and that environmental conditions would not change. No new roadway infrastructure improvements, parks, or other City facilities would be constructed. It is assumed that the current population (approximately 105,000) would not change, though it should be recognized that the City cannot in reality control whether or not population growth occurs. Absent additional housing, any population growth in the City would be accommodated through increasing the number of persons per household.

6.1.2 Impact Analysis

Implementation of this alternative would not result in any physical changes as it would not accommodate any new development. As such, it would not have any of the positive changes anticipated to occur as a result of development under the 2005 General Plan or any of the significant adverse effects associated with new development. This alternative would avoid the unavoidably significant impacts of the 2005 General Plan relating to aesthetics, exceedance of the Ventura County AQMP and SCAG population forecasts, solid waste disposal facilities, traffic (Scenario 2 only), inconsistency with the Guidelines for Orderly Development (Scenario



**Table 6-1
 Comparison of Alternatives' 2025 Development Characteristics**

Characteristic	Alternative						
	No Project (no further development)	No Project (1989 Comprehensive Plan)	Restricted Growth (0.78% Annual Growth)	No Important Farmland Conversion	Upper North Avenue Housing	Intensification/ Reuse + Minor Map Cleanup	All Expansion Areas
Estimated Annual Population Growth Rate	0%	1.14%	0.78%	0.88%	1.14%	1.14%	1.6%
Projected 2025 Population	105,000	133,160	123,645	126,153	133,160	126,153	146,329
Projected New Housing Units in 2025	0	11,000	7,200	8,300	11,000	8,300	16,100
Expansion Areas Included	None	None, but development accommodated in hillsides	None	None	North Avenue, Western Cañada Larga	None	North Avenue, Olivas, Serra, Western Cañada Larga, Poinsettia



5 only), and inconsistency with the California Coastal Act policy regarding conversion of Prime farmland (Scenarios 2 and 3 only). On the other hand, this alternative would not address any of the infrastructure deficiencies in the City or address possible impacts relating to regional traffic growth, which the City does not control. Failure to provide additional housing and non-residential development could result in overcrowded conditions within the existing housing stock and lack of jobs for local residents.

6.2 NO PROJECT (1989 COMPREHENSIVE PLAN)

6.2.1 Description

This version of the “no project” alternative is assumed to be growth accommodated through 2025 under the 1989 Comprehensive Plan. The land use map for the 1989 Comprehensive Plan is shown on Figure 2-2 in Section 2.0, *Project Description*. This map works in conjunction with the current zoning map.

Based on recent observed growth rates (see section 2.5.5), it is presumed that the 1989 Comprehensive Plan would accommodate a level of growth and development through 2025 similar to that which could occur under Scenarios 2-6. The difference between Scenarios 2-6 and continued implementation of the 1989 Comprehensive Plan would be not in how much growth could occur, but rather where and how growth might occur. The key differences between the 1989 Comprehensive Plan land use map and the 2005 General Plan land use map are as follows:

- *The 1989 Comprehensive Plan land use map does not include the districts, corridors, or neighborhood centers that are part of all six 2005 General Plan land use scenarios. The districts, corridors, and neighborhood centers may be less of a focal point for future development under this scenario and live/work housing would not be allowed within industrial districts. However, this alternative does include the Downtown Specific Plan designation, which calls for a mix of uses in the Downtown area. In addition, because the current Zoning Code allows multi-family residential development within commercially zoned areas, many of the areas anticipated to be the focal point of future intensification and reuse (e.g., Ventura Avenue, Main Street, and Thompson Boulevard corridors) could also undergo similar intensification under the 1989 Comprehensive Plan.*
- *The 1989 Comprehensive Plan land use map designates the North Avenue, Olivas, Serra, and Poinsettia expansion areas as Agricultural Use and does not contemplate their conversion to non-agricultural use. The Western Cañada Larga expansion area is outside the current SOI and also is not contemplated for conversion. Therefore, it is anticipated that all of these areas would remain in their current agricultural/open space use.*
- *The 1989 Comprehensive Plan land use map includes over 3,000 thousand acres of hillside land above the City within the SOI and designates the entire area as Hillside Planned Residential, a designation that could accommodate residential development at varying densities. Although the hillside area is subject to voter approval under Measure P, residential development could be approved in any portion of this area (similar to the voter approval needed for four of the five expansion areas under the SOAR Ordinance).*



It is assumed that the 1989 Comprehensive Plan could accommodate about 11,000 residential units and a similar amount of non-residential development as could be accommodated under Scenarios 2-6 of the 2005 General Plan. It is anticipated that 8,300 units would be built within the general boundaries of the SOI included in 2005 General Plan Scenario 1 and that the remaining 2,700 units would be built in the hillsides above the City rather than in one or more of the expansion areas.

6.2.2 Impact Analysis

Aesthetics

This alternative would convert a similar amount of agricultural land as would be converted under 2005 General Plan Scenario 1 and less agricultural land than would be converted under Scenarios 2-6. Impacts to freeway view corridors may be lower from some vantage points, depending upon the 2005 General Plan scenario selected. However, this alternative would accommodate up to 2,700 residences in the hillsides above the City. Although development could be partially hidden from view, it is anticipated that grading and development in the hillsides would have unavoidably significant visual impacts.

Agriculture

Impacts relating to agricultural conversion would be similar to those of 2005 General Plan Scenario 1. An estimated 674 acres of Prime, Unique, and Statewide Importance farmlands could be converted. Impacts would be unavoidably significant, but this alternative would involve less agricultural conversion than would occur under Scenarios 2-6. On the other hand, the compatibility conflicts relating to agricultural-urban interface associated with the expansion areas – the Serra and Poinsettia areas, in particular – would remain under this alternative.

Air Quality

Long-term air quality impacts would be generally similar to those of 2005 General Plan Scenarios 2-6. Overall vehicle miles traveled and associated air pollutant emissions may be incrementally higher due to increased travel distances. In addition, construction activity in the hillsides could generate greater amounts of construction-related dust.

Biological Resources

By accommodating development in the hillsides, this alternative would have greater potential to disturb sensitive plant and animals species and habitats than any of the six 2005 General Plan land use scenarios. In addition, development in the hillsides would likely have substantially greater impacts to wildlife movement. This alternative would be expected to have unavoidably significant biological resource impacts.

Cultural Resources

By potentially accommodating substantial hillside development, this alternative may have somewhat greater potential to disturb as yet undiscovered cultural resource remains than the 2005 General Plan scenarios. However, as with the 2005 General Plan, implementation of



appropriate historic and archaeological resource policies could avoid significant impacts to cultural resources.

Geologic Hazards

By potentially accommodating substantial hillside development, this alternative would potentially entail greater levels of grading and associated topographical changes than could occur under the 2005 General Plan land use scenarios. Adding up to 2,700 residences in the hillsides above the City would also increase the potential for property damage associated with landslides, mudslides, and seismic activity.

Hazards and Hazardous Materials

Impacts relating to hazards would be similar to those of the 2005 General Plan land use scenarios. It is presumed that standard practices to address soil and groundwater contamination issues would continue to be implemented and that the City would continue to pursue funding for remediation of brownfield sites. Though potential impacts relating to industrial-residential compatibility associated with the 2005 General Plan land use scenarios can be addressed on a case-by-case basis, this alternative would be expected to reduce the potential for such conflicts since live/work residential components would not be allowed within industrially-designated properties.

Hydrology and Water Quality

Hydrology and water quality impacts would be similar to those associated with the 2005 General Plan land use scenarios and could be addressed through standard engineering practices. Development in the hillsides would, however, be subject to greater erosion potential than development that could be accommodated under the 2005 General Plan.

Mineral Resources

Similar to the 2005 General Plan scenarios, this alternative would not create conflicts with existing mineral resource extraction activity. This alternative would not create compatibility conflicts with oil production in the North Avenue area as residential development would not be allowed within industrially designated areas.

Noise

Overall increases in noise and exposure to noise would be similar to those associated with General Plan Scenarios 2-6. However, the hillside areas that would accommodate 2,700 units under this alternative are not subject to significant noise constraints, whereas all of the expansion areas under consideration are subject to noise constraints associated with roadways and/or railroads. Therefore, although implementation of proposed 2005 General Plan policies and actions, in combination with the additional action recommended in this EIR, could achieve City noise standards, the potential for noise conflicts associated with future development may be incrementally lower under this alternative.



Public Services

The overall increase in demand for public services would be about the same as under Scenarios 2-6. Impacts relating to police protection service, solid waste, libraries would be the same as those described for Scenarios 2-6 in Section 4.11, *Public Services*. Solid waste impacts would be unavoidably significant.

With respect to fire protection, a new fire station in the North Avenue area likely would not be needed; however, a new station in or adjacent to the hillsides likely would be needed. The addition of up to 2,700 residences in the hillside areas above the City, which have high wildland fire risk, would also substantially increase the risk of fire-related property damage and loss of life as compared to the 2005 General Plan land use scenarios.

Similar to 2005 General Plan Scenario 2, this alternative provides ample acreage to meet future citywide school and park needs as the hillside areas include more than 3,000 acres. The possible locations of future park facilities may not be convenient for current City residents, but this alternative would not have the land constraints for new facilities that would occur under 2005 General Plan Scenarios 1 and 5.

Transportation and Circulation

Overall traffic increases would be similar to those associated with 2005 General Plan Scenarios 2-6. It is generally anticipated that planned enhancements to the circulation system would generally achieve the City's level of service standards. The roadway that may experience significantly greater impacts under this alternative is Foothill Road, which would likely accommodate much of the traffic generated by hillside residential development. It is anticipated that service levels on Foothill Road would drop below City standards if this alternative were implemented, possibly warranting widening or other capacity enhancements.

Utilities and Service Systems

Although the increase in urban water demand would be similar to Scenarios 2-6, this alternative would convert undeveloped hillside land (which currently does not consume water) rather than irrigated agricultural land. Thus, it would receive less agricultural water credit and net 2025 demand within Planning Area would be somewhat higher than for Scenarios 2-6. Nevertheless, it is anticipated that future water demand would remain within the City's projected water supplies. As with Scenarios 2, 3, 4, and 6, this alternative would not be expected to result in wastewater generation increases exceeding local treatment plant capacity.

Land Use and Planning

Like 2005 General Plan Scenarios 2-6, this alternative would generally be consistent with most regional land use plans and policies. This alternative would not pose the potential conflict with Coastal Act policies pertaining to the preservation of Prime farmland that would occur under 2005 General Plan Scenarios 2 and 3. On the other hand, this alternative could be found to be inconsistent with SCAG Regional Comprehensive Plan and Guide policies (which were adopted after the 1989 Comprehensive Plan) relating to developing compact communities, preservation



of biological resources, and focusing development in areas that are not subject to significant geologic or wildland fire hazards.

Population and Housing

Population and housing growth would be similar to that of General Plan Scenarios 2-6. The 2025 population is projected to exceed SCAG and Ventura County AQMP forecasts. Like the 2005 General Plan scenarios, it is anticipated that implementation of this alternative would maintain a balance of jobs and housing.

6.3 RESTRICTED GROWTH (0.78% ANNUAL GROWTH RATE)

6.3.1 Description

This alternative envisions a slower population growth rate than would occur under Scenarios 1-6. The 0.78% annual growth rate would result in a 2025 population of 123,645, which is equivalent to SCAG's 2025 population forecast for the City. The purpose of considering this growth rate is to assess an alternative that would be consistent with the growth projections upon which SCAG's Regional Transportation Plan and the Ventura County AQMP are based.

It is assumed that this alternative would not include any of the expansion areas under consideration. The land use map would be identical to the Scenario 1 map (see Figure 2-3 in Section 2.0, *Project Description*). Therefore, agricultural lands within the proposed SOI that are currently designated for non-agricultural uses could be converted under this alternative.

6.3.2 Impact Analysis

Aesthetics

This alternative would convert a similar amount of agricultural land as would be converted under 2005 General Plan Scenario 1 and less agricultural land than would be converted under Scenarios 2-6. Impacts to freeway view corridors would be about the same as those of Scenario 1. The overall intensity of development in the districts and corridors may be incrementally lower than under Scenario 1, but the overall magnitude of change would be about the same as would occur under any of the General Plan scenarios.

Agriculture

Impacts relating to agricultural conversion would be similar to those of 2005 General Plan Scenario 1. An estimated 674 acres of Prime, Unique, and Statewide Importance farmlands could be converted. Impacts would be unavoidably significant, but this alternative would involve less agricultural conversion than would occur under Scenarios 2-6. As with Scenario 1, the compatibility conflicts relating to agricultural-urban interface associated with the expansion areas – the Serra and Poinsettia areas, in particular – would remain under this alternative.

Air Quality

The overall increase in air pollutant emissions associated with this alternative would be generally similar to, but slightly lower than what would occur under 2005 General Plan Scenario 1. Overall vehicle miles traveled and associated air pollutant emissions would be incrementally lower due to the reduction in population growth. Because the projected population growth associated with this alternative would be within SCAG and Ventura County APCD forecasts, this alternative would be consistent with the Ventura County AQMP. Therefore, the unavoidably significant impact relating to the potential inconsistency with the AQMP would not occur under this alternative.

Biological Resources

This alternative's impacts to biological resources would be similar to those of 2005 General Plan Scenario 1. Implementation of proposed General Plan policies and actions would reduce biological resource impacts to a less than significant level.

Cultural Resources

This alternative's impacts to cultural resources would be similar to those of 2005 General Plan Scenario 1. Implementation of proposed 2005 General Plan policies and actions would reduce cultural resource impacts to a less than significant level.

Geologic Hazards

This alternative's impacts related to geologic hazards would be similar to those of 2005 General Plan Scenario 1. Implementation of proposed 2005 General Plan policies and actions would reduce geologic hazard impacts to a less than significant level.

Hazards and Hazardous Materials

This alternative's impacts related to hazardous materials would be similar to those of 2005 General Plan Scenario 1. Implementation of proposed 2005 General Plan policies and actions would reduce impacts relating to hazardous materials to a less than significant level.

Hydrology and Water Quality

This alternative's impacts related to hydrology and water quality would be similar to those of 2005 General Plan Scenario 1. Implementation of proposed 2005 General Plan policies and actions would reduce impacts to hydrological conditions and water quality to a less than significant level.

Mineral Resources

Similar to the 2005 General Plan scenarios, this alternative would not create conflicts with existing mineral resource extraction activity. Residential development in the North Avenue community could create conflicts with oil extraction activity, though implementation of



proposed 2005 General Plan policies/actions and appropriate safety and noise controls on a case-by-case basis would reduce potential impacts to a less than significant level.

Noise

Overall increases in noise and exposure to noise would be similar to, but slightly lower than, those associated with 2005 General Plan Scenario 1. The overall potential for exposure to noise would be incrementally lower since overall population growth would be lower. As with the 2005 General Plan scenarios, noise impacts could be addressed through implementation of 2005 General Plan policies/actions, the additional action recommended in this EIR, and incorporation of noise attenuation features into new development on a case-by-case basis.

Public Services

The overall increase in demand for public services would be similar to, but slightly lower than, that of 2005 General Plan Scenario 1 since the population increase through 2025 would be about 13% lower. The new station near Ventura Harbor would be needed, but a new fire station in the North Avenue area likely would not be needed. An estimated 23 new police officers would be needed to maintain the current officers/residents ratio and expansion of the police department headquarters would be needed.

The citywide increase in solid waste generation sent to landfills through 2025 is estimated at 74 tons per day for this alternative. This is within the currently available capacity of area landfills. However, because Toland Road and Simi Valley landfills are projected to close by 2027, alternate disposal facilities or methods will be needed.

Growth accommodated under this alternative would generate an estimated 3,024 new students at the VUSD (assuming 7,200 new housing units) and generate demand for an estimated 187 acres of parks based on the 10 acres/1,000 residents standard. Continued collection of school and park impact fees would reduce school and park impacts to less than significant under CEQA. However, it should be noted that, similar to 2005 General Plan Scenario 1, this alternative does not include large tracts of land that could be used for the development of new parks and schools.

Transportation and Circulation

Overall traffic increases would be about 13% lower than under 2005 General Plan Scenario 1 and traffic impacts would be commensurately lower. It is generally anticipated that planned enhancements to the circulation system would continue to achieve the City's level of service standards.

Utilities and Service Systems

Overall water demand and wastewater generation would be about 13% than that associated with 2005 General Plan Scenario 1. Similar to Scenario 1, it is anticipated that projected water supplies and the current capacity of the City's wastewater treatment plant would be adequate to serve development anticipated under this alternative.



Land Use and Planning

Like 2005 General Plan Scenario 1, this alternative would generally be consistent with most regional land use plans and policies. This alternative would not pose the potential conflict with the Guidelines for Orderly Development associated with Scenario 5 or the potential conflict with Coastal Act policies pertaining to the preservation of Prime farmland that would occur under Scenarios 2 and 3.

Population and Housing

Population and housing growth would be about 13% lower than under 2005 General Plan Scenario 1. The 2025 population would not exceed SCAG and Ventura County AQMP forecasts; therefore, the significant impact associated with exceedance of these forecasts that would occur under any of the 2005 General Plan scenarios would not occur. However, some form of growth control, such as the City's current RGMP would have to be established to keep population growth within these forecasts. As with the 2005 General Plan scenarios, implementation of this alternative would be expected to maintain a balance of jobs and housing, with a concomitant reduction in the overall number of jobs generated. Like Scenario 1, this alternative would be expected to accommodate mainly medium to high density multiple family housing, with new single family housing primarily limited to remnant agricultural properties in the Saticoy and Thille communities.

6.4 NO IMPORTANT FARMLAND CONVERSION

6.4.1 Description

Under this alternative, no agricultural lands within the Planning Area would be converted to a non-agricultural use. Therefore, none of the expansion areas would be included and all lands within the Planning Area that are have important farmlands (Prime, Statewide Importance, or Unique) and are currently in agricultural use, but designated for a non-agricultural use would be redesignated "Agricultural Use" and retained in agriculture. A total of approximately 674 acres would be redesignated. Affected areas include more than 300 acres in the Saticoy area, the 75-acre McGrath property in the Arundell community, a 25-acre agricultural property in the Thille community near the U.S. 101/SR 126 interchange, and other smaller agricultural lands throughout the Planning Area.

This alternative is essentially a derivative of 2005 General Plan Scenario 1. Its purpose is to provide an alternative that eliminates the unavoidably significant impact of the 2005 General Plan with respect to agricultural land conversion. It is assumed that the citywide growth rate would be 0.88% annually, similar to that described for Scenario 1. Thus, an estimated 8,300 residences are assumed to be added by 2025. Because the overall amount of land available for future development would be lower than under Scenario 1, it is assumed that greater levels of intensification would occur within the districts, corridors, and neighborhood centers.



6.4.2 Impact Analysis

Aesthetics

No agricultural land would be converted under this scenario. Impacts to views from freeways and other corridors would therefore be lower from some vantage points. By retaining all agricultural lands, it is anticipated that this alternative would eliminate the unavoidably significant aesthetic impacts relating to visual character of alteration of views. On the other hand, this alternative would be expected to result in higher intensity development in some parts of the City than would occur under the 2005 General Plan. Though careful site design would minimize potentially negative aesthetic effects, this alternative would be expected to create a somewhat more urban character in the districts and corridors.

Agriculture

No agricultural land within the Planning Area would be converted under this alternative. Thus, the unavoidably significant impact relating to agricultural land conversion would be eliminated. On the other hand, the compatibility conflicts relating to existing agricultural-urban interface that are present in portions of the community would remain, whereas conversion of agricultural lands that are surrounded by urban uses, as could occur under any of the 2005 General Plan scenarios, would eliminate many of the current conflicts.

Air Quality

Long-term air quality impacts would be generally similar to those of 2005 General Plan Scenario 1. Population growth projected for this alternative exceeds the growth forecast upon which the Ventura County AQMP is based. Overall vehicle miles traveled and associated air pollutant emissions may be incrementally lower than under Scenario 1 due to the generally higher density development and lower travel distances. On the other hand, the higher intensity of development may increase traffic congestion and associated emissions in certain parts of the City, notably Downtown and the Ventura Avenue corridor.

Biological Resources

By concentrating development in already developed areas, this alternative would largely avoid impacts to biological resources. The agricultural lands that would be preserved under this alternative generally do not have high biological resource value. Impacts would be similar to, but slightly lower than, those of 2005 General Plan Scenario 1.

Cultural Resources

The agricultural areas to be preserved under this alternative do not include known historic resources. Because they have been disturbed by agricultural activity, they are not expected to include significant archaeological resources. Nevertheless, because the agricultural lands in Saticoy are within an area of archaeological significance, the potential to disturb archaeological resources would be incrementally lower than under 2005 General Plan Scenario 1. As with the 2005 General Plan, implementation of appropriate historic and archaeological resource policies could avoid significant impacts to cultural resources.



Geologic Hazards

Geologic hazard impacts would be similar to those of 2005 General Plan Scenario 1. Compliance with 2005 General Plan policies/actions and UBC requirements on new development would reduce impacts to a less than significant level.

Hazards and Hazardous Materials

Impacts relating to hazards would be similar to those of the 2005 General Plan land use scenarios. It is presumed that standard practices to address soil and groundwater contamination issues would continue to be implemented and that the City would continue to pursue funding for remediation of brownfield sites.

Hydrology and Water Quality

Hydrology and water quality impacts generally would be similar to those associated with the 2005 General Plan land use scenarios and could be addressed through standard engineering practices and compliance with federal, state, and local runoff control requirements. However, leaving additional land in agricultural use may reduce the City's ability to control sedimentation and water quality as compared to General Plan Scenario 1.

Mineral Resources

Impacts relating to mineral resources would be similar to those of the 2005 General Plan scenarios. The agricultural lands that would be preserved under this scenario do not include any mineral resource extraction activity.

Noise

Overall increases in noise and exposure to noise would be similar to that associated with General Plan Scenario 1. The slightly higher intensity of development anticipated for the districts and corridors may incrementally increase noise levels on some roads and expose more new residences to urban noise. However, implementation of proposed 2005 General Plan policies/actions, the additional action recommended in this EIR, and incorporation of appropriate noise attenuation features on new development could achieve City noise standards.

Public Services

The overall increase in demand for public services would be about the same as under 2005 General Plan Scenario 1. Impacts relating to police protection service, solid waste, libraries would be the same as those described for Scenario 1 in Section 4.11, *Public Services*. With respect to fire protection, a new fire station in the North Avenue area likely would not be needed under this alternative.

Continued collection of school and park impact fees would reduce school and park impacts to less than significant under CEQA. However, it should be noted that, similar to 2005 General Plan Scenario 1, this alternative does not include large tracts of land that could be used for the development of new parks and schools.



Transportation and Circulation

Overall traffic increases would be similar to those associated with 2005 General Plan Scenario 1. Planned enhancements to the circulation system would generally achieve the City's level of service standards, though the anticipated higher intensity of development in districts, corridors, and neighborhood centers may increase overall congestion along main City thoroughfares. On the other hand, the generally more compact development associated with this alternative may reduce overall vehicle miles traveled and increase transit use to some degree.

Utilities and Service Systems

Future urban water demand would be similar to that of Scenario 1. However, because an additional 674 acres of agricultural lands would remain in agricultural production, the net increase in Planning Area water demand would be about 1,278 AFY higher than for Scenario 1. Nevertheless, water demand would remain within projected future supply. Wastewater treatment plant capacity impacts would be similar to those of Scenario 1. No exceedance of plant capacity is anticipated.

Land Use and Planning

Like 2005 General Plan Scenarios 1, this alternative would generally be consistent with most regional land use plans and policies. This alternative would not pose the potential conflicts with the Guidelines for Orderly Development that would occur under Scenario 5 or with the Coastal Act policies pertaining to the preservation of Prime farmland that would occur under Scenarios 2 and 3.

Population and Housing

Population and housing growth would be similar to that of General Plan Scenario 1. The 2025 population is projected to exceed SCAG and Ventura County AQMP forecasts. It is anticipated that, like the 2005 General Plan scenarios, implementation of this alternative would maintain a balance of jobs and housing. To an even greater degree than under Scenario 1, this alternative would likely emphasize high density multiple family housing to meet future housing needs rather than single family housing since new housing development would be restricted almost exclusively to districts, corridors, and neighborhood centers.

6.5 UPPER NORTH AVENUE DISTRICT HOUSING

6.5.1 Description

This alternative is a variation of 2005 General Plan Scenario 5, the Intensification/Reuse + North Avenue + Western Cañada Larga scenario. As discussed in Section 2.0, *Project Description*, the two expansion areas included in Scenario 5 do not provide sufficient acreage to accommodate a mix of housing types or to accommodate parks, schools, or other public facilities.

Consequently, this alternative considers a more realistic scenario in which some of the development that would occur within the North Avenue and Western Cañada Larga areas would instead occur within the Upper North Avenue District, adjacent to the Brooks Institute



and on the Petrochem Refinery site. This would entail changing the land use designation for these areas from Industrial to Residential.

It is anticipated that the Upper North Avenue District would accommodate the following development under this alternative in addition to the level of development anticipated for that area under Scenario 5:

- 300,000 square feet of office/retail development adjacent to Brooks Institute
- 300 units of student/rental housing adjacent to Brooks Institute
- 750 residences on the Petrochem site

Because this amount of development would be accommodated within the Upper North Avenue District, it is assumed that the amount of development within the North Avenue and Western Cañada Larga expansion areas would be reduced commensurately. This would leave the following amount of development within the two expansion areas combined:

- 1,650 residences
- Approximately 250,000 square feet of office/retail development

Other than this change, this alternative would be the same as 2005 General Plan Scenario 5.

6.5.2 Impact Analysis

Aesthetics

This alternative would convert a similar amount of agricultural land as would be converted under Scenario 5. The overall intensity of development within the North Avenue and Western Cañada Larga expansion areas would be lower under this alternative and more commensurate with the intensity of existing development in the area. This alternative would increase the intensity of development within the Upper North Avenue District, which may be considered an adverse effect. However, the visibility of most of this area from the SR 33 corridor is relatively low and implementation of this alternative would be expected to improve the visual character of the Petrochem site.

Agriculture

Impacts relating to agricultural conversion would be similar to those of 2005 General Plan Scenario 5. An estimated 681 acres of Prime, Unique, and Statewide Importance farmlands could be converted. Impacts would be unavoidably significant, but this alternative would involve less agricultural conversion than would occur under Scenarios 2, 3, 4, or 6.

Air Quality

Long-term air quality impacts would be generally similar to those of Scenarios 2-6. As with all of the 2005 General Plan Scenarios, projected population growth under this alternative exceeds the Ventura County AQMP forecast and therefore could be found to be inconsistent with the AQMP. The higher intensity of development in the North Avenue area as compared to 2005



General Plan Scenarios 1-4 and 6 may incrementally increase the transport of pollutants to the Ojai Valley.

Biological Resources

By reducing the overall intensity of development in the North Avenue and Western Cañada Larga areas as compared to 2005 General Plan Scenario 5, this alternative would incrementally reduce the potential for impacts to riparian resources in these areas, including Cañada Larga and Manuel Creeks. On the other hand, development intensity in these areas would remain higher than would occur under Scenarios 1-4 and 6. In addition, this alternative could accommodate greater levels of human activity adjacent to the biologically sensitive Ventura River, with increased potential for impacts to riparian resources and associated sensitive species (e.g., Least Bell's vireo, steelhead trout).

Cultural Resources

The areas subject to future development are the same as those of 2005 General Plan Scenario 5. As with the 2005 General Plan scenarios, implementation of appropriate historic and archaeological resource policies could avoid significant impacts to cultural resources.

Geologic Hazards

Geologic hazard impacts would be similar to those of 2005 General Plan Scenario 5. Residential development in the Upper North Avenue area would potentially be subject to liquefaction and expansive soil hazards. However, compliance with 2005 General Plan policies/actions and UBC requirements on new development would reduce impacts to a less than significant level.

Hazards and Hazardous Materials

Hazard impacts would be similar to those of 2005 General Plan Scenario 5. This alternative could potentially increase safety conflicts relating to the placement of residential development in proximity to oil production in the Upper North Avenue area. On the other hand, redevelopment of the Petrochem refinery site would eliminate an existing brownfield. Compliance with 2005 General Plan policies and standard safety requirements on new development would reduce impacts relating to hazardous materials to a less than significant level.

Hydrology and Water Quality

Residential development within the Upper North Avenue District would be within the 100-year flood zone and would therefore be subject to the requirements of FEMA and the City's Floodplain Ordinance. Placing residential development within the Upper North Avenue district adjacent to the Ventura River would incrementally increase the potential for water quality impacts within the river. However, possible impacts could be addressed on a case-by-case basis through compliance with standard engineering practices and runoff control requirements. Overall, hydrology and water quality impacts would be somewhat greater than those associated with 2005 General Plan Scenario 5, but could be reduced to a less than significant level.



Mineral Resources

Similar to the 2005 General Plan scenarios, this alternative would not create conflicts with existing mineral resource extraction activity. This alternative could potentially increase compatibility conflicts with oil production in the Upper North Avenue area by adding accommodating residential development. However, as discussed under “Hazards and Hazardous Materials,” compliance with 2005 General Plan policies and standard safety requirements on new development would reduce such conflicts to a less than significant level.

Noise

Overall increases in noise and exposure to noise would be similar to those associated with General Plan land use scenarios 2-6. Residential development within the Upper North Avenue area would be subject to noise from SR 33 and potentially from area industrial activity. However, implementation of 2005 General Plan actions and incorporation of appropriate noise attenuation on a case-by-case basis could achieve City noise standards.

Public Services

The overall increase in demand for public services would be about the same as under Scenarios 2-6. Impacts relating to police protection service, solid waste, libraries would be the same as those described for Scenarios 2-6 in Section 4.11, *Public Services*. A new fire station would likely be needed in the North Avenue area.

Continued collection of school and park impact fees would reduce school and park impacts to less than significant under CEQA. As compared to 2005 General Plan Scenario 5, this alternative would have somewhat more acreage available within the North Avenue and Western Cañada Larga expansion areas for schools and parks.

Transportation and Circulation

Overall traffic increases would be similar to those associated with 2005 General Plan Scenario 5. Feasible improvements such as those described for Scenario 5 in Section 4.12, *Transportation and Circulation*, are available to meet proposed traffic system performance standards. New residential development in the Upper North Avenue District would be expected to utilize the Cañada Larga and Shell Road interchanges on SR 33. With improvements to the Shell Road interchange identified in Section 4.12, these two interchanges have adequate capacity to accommodate traffic flows associated with Scenario 5 and would maintain extra capacity to meet the additional demand associated with this alternative.

Utilities and Service Systems

Overall water demand and wastewater generation would be similar to that associated with 2005 General Plan Scenario 5. Water supplies would be adequate to serve projected growth. No impact to the Ventura wastewater treatment plant is anticipated. The capacity of the Ojai Valley Sanitary District Plant could be exceeded, but impacts to that facility can be mitigated through implementation of a measure similar to Measure U-2(b) in Section 4.13, *Utilities*, which



allows development of the North Avenue area only at such time as adequate treatment capacity is available at the Ojai Valley Sanitary District plant.

Land Use and Planning

Like 2005 General Plan Scenarios 2-6, this alternative would generally be consistent with most regional land use plans and policies. This alternative would pose the same potential conflict with the Guidelines for Orderly Development associated with Scenario 5, but would not pose the potential conflict with Coastal Act policies pertaining to the preservation of Prime farmland that would occur under Scenarios 2 and 3.

Population and Housing

Population and housing growth would be similar to that of General Plan Scenarios 2-6. The 2025 population is projected to exceed SCAG and Ventura County AQMP forecasts. As with the 2005 General Plan scenarios, implementation of this alternative would be expected to maintain a balance of jobs and housing in the City.

6.6 INTENSIFICATION/REUSE + MINOR MAP CLEAN-UP

6.6.1 Description

This alternative is a variation of 2005 General Plan Scenario 15, the Intensification/Reuse Only scenario. The purpose of this alternative is to address three minor map clean-up issues identified following receipt of City Council direction on the recommended 2005 General Plan land use map. The first of these involves the re-designation of approximately five acres along the south side of Rosal Lane in the unincorporated area of Saticoy (APNs 90-142-11, 90-142-14, 90-143-13, and 90-143-17) that are designated "Industrial" on the draft General Plan land use map, but are designated "Residential Two Family" in the County of Ventura's Saticoy Area Plan. To achieve consistency with the Saticoy Area Plan, these lots would be redesignated "Residential Medium Density" under this alternative. The second change involves properties located on the Westside between Ramona (north), Simpson Street (south) and straddling Sheridan Way. This map change would include changing the proposed land use designation from low to high density residential to be consistent with the neighborhood and existing uses on the properties. A third change involves properties located in the Simpson Historic District located to the south of Simpson Street in generally the same area. The land use map would be changed from high to medium density, which is consistent with existing development in the Simpson Historic District and would generally allow 2 units per parcel.

Other than the three changes described above, this alternative is identical to 2005 General Plan Scenario 1. An estimated 8,300 residential units are projected to be added through 2025.

6.6.2 Impact Analysis

Other than issues pertaining to land use compatibility (aesthetics, noise, hazards), this alternative's impacts would be identical to those of Scenario 1. Re-designation of the five-acre area in Saticoy may incrementally increase the potential for compatibility conflicts with existing and future industrial uses in the area as properties to the south are designated "Industrial."



However, potential conflicts relating to lighting, noise, and hazards can be addressed through appropriate design, including, if necessary, the construction of solid block walls between residential and industrial uses. In addition, it should be noted that the properties along the north side of Rosal Lane, immediately across the street, are designated “Residential Medium Density.” As such, developing the site along the south side of Rosal Lane with residential uses may reduce the potential for compatibility conflicts for those properties. In addition, the inclusion of additional residential land within the Saticoy district may provide a better mix of jobs and housing within the primarily industrial district. This re-designation would not create any significant environmental effects.

The two land use map changes in the West Ventura area would reflect the current development within the affected properties as well as the type of development in the surrounding area. The change to high density residential for the properties between Ramona and Simpson Street could theoretically allow for higher density development in the future; however, because such development would be consistent with the character of the area, no significant impacts would occur.

6.7 ALL EXPANSION AREAS

6.7.1 Description

This alternative includes all of the five expansion areas considered in the six 2005 General Plan land use scenarios. As such, it includes an estimated 1,977 acres of expansion areas. Because this alternative includes more land than any of the General Plan scenarios, it is presumed that it would accommodate more overall growth through 2025. It is assumed that the growth within the North Avenue, Olivas, Serra, and Poinsettia expansion areas would be similar to that assumed for Scenarios 3, 4, and 6 and that development in the Western Cañada Larga area would be similar to the North Avenue area. Overall expansion area development is assumed to be as follows:

- North Avenue – 300 residences
- Olivas – 2,400 residences
- Serra – 2,400 residences
- Western Cañada Larga – 300 residences
- Poinsettia – 2,400 residences

This results in a combined total of 7,800 expansion area residences. When added to the 8,300 intensification/reuse units, it is assumed that this alternative could accommodate about 16,100 new residences through 2025. This number of units would accommodate an estimated 41,377 additional residents, bringing the citywide population to 146,329. This represents an average annual growth rate of about 1.6%. It is assumed that non-residential growth would increase commensurately.



6.7.2 Impact Analysis

Aesthetics

This alternative would convert more agricultural land than would be converted under any of the General Plan scenarios and increase the overall intensity of development within the Plannin Area. As such, the overall change in the aesthetic character of the community would be greater. Aesthetic impacts would be greater than for Scenarios 1-6 and unavoidably significant.

Agriculture

Implementation of this alternative could convert nearly 2,500 acres of Prime, Statewide Importance, and Unique farmlands. Impacts relating to agricultural conversion would be greater than those of the General Plan scenarios and would be unavoidably significant. On the other hand, conversion of additional agricultural lands may reduce the potential for conflicts relating to the interface between agricultural and urban uses.

Air Quality

The overall increase in air pollutant emissions associated with this alternative would slightly higher than what would occur under the General Plan scenarios. Overall vehicle miles traveled and associated air pollutant emissions would be incrementally higher due to the increased population growth. As with Scenarios 1-6, the projected population growth associated with this alternative would exceed SCAG and Ventura County APCD forecasts, but to an even greater degree.

Biological Resources

This alternative's overall impacts to biological resources would be similar to those of 2005 General Plan scenarios, though the increased population and level of development may incrementally increase the potential for indirect impacts. Implementation of proposed General Plan policies and actions would reduce biological resource impacts to a less than significant level.

Cultural Resources

This alternative's impacts to cultural resources would be similar to those of the General Plan scenarios. Implementation of proposed 2005 General Plan policies and actions would reduce cultural resource impacts to a less than significant level.

Geologic Hazards

This alternative's impacts related to geologic hazards would be similar to those of the General Plan scenarios. Implementation of proposed 2005 General Plan policies and actions would reduce geologic hazard impacts to a less than significant level.



Hazards and Hazardous Materials

This alternative's impacts related to hazardous materials would be similar to those of the General Plan scenarios. Implementation of proposed 2005 General Plan policies and actions would reduce impacts relating to hazardous materials to a less than significant level.

Hydrology and Water Quality

Hydrology and water quality impacts generally would be similar to those associated with the 2005 General Plan land use scenarios and could be addressed through standard engineering practices and compliance with federal, state, and local runoff control requirements. Removing additional land in agricultural use may increase the City's ability to control sedimentation and water quality as compared to the General Plan scenarios.

Mineral Resources

Similar to the 2005 General Plan scenarios, this alternative would not create significant conflicts with existing mineral resource extraction activity.

Noise

Overall increases in noise and exposure to noise would be somewhat greater than those associated with the General Plan scenarios. For most areas, noise increases would not be significant, though potentially significant impacts would occur along portions of North Ventura Avenue and Johnson Drive. Other roadways, such as Harbor Boulevard, may also experience significant noise level increases. Implementation of 2005 General Plan actions and incorporation of appropriate noise attenuation on a case-by-case basis could achieve City noise standards.

Public Services

The overall increase in demand for public services would be higher than for any of the General Plan scenarios since this alternative would result in a 2025 population that is about 16% higher than the projected population under Scenario 1 and 10% higher than the projected population under Scenarios 2-6. Impacts relating to police protection service, solid waste, libraries would be similar to, but somewhat greater than, those described for Scenarios 2-6 in Section 4.11, *Public Services*. A new fire station would likely be needed in the North Avenue area.

Continued collection of school and park impact fees would reduce school and park impacts to less than significant under CEQA. As compared to the General Plan scenarios, this alternative would have more overall acreage available for the development of schools and parks.

Transportation and Circulation

Overall traffic increases would be greater than those associated with any of the 2005 General Plan scenarios since the 2025 population would be about 16% greater than under Scenario 1 and 10% greater than under Scenarios 2-6. It is anticipated that the unavoidably significant impact



at Johnson Drive/North Bank Drive associated with Scenario 2 would occur. Additional unavoidably significant impacts may also occur due to the increased level of traffic citywide.

Utilities and Service Systems

Overall water demand and wastewater generation would be higher than that associated with any of the General Plan scenarios. Overall urban water demand would be higher for this alternative than for any of the General Plan scenarios – approximately 10,700 AFY; however, this alternative would also receive greater water credits for eliminating existing agricultural demand – approximately 5,900 AFY. The net increase in demand is within the projected City water supply. No impact to the Ventura wastewater treatment plant is anticipated. The capacity of the Ojai Valley Sanitary District Plant could be exceeded, but impacts to that facility can be mitigated through implementation of a measure similar to Measure U-2(b) in Section 4.13, *Utilities*, which allows development of the North Avenue area only at such time as adequate treatment capacity is available at the Ojai Valley Sanitary District plant.

Land Use and Planning

Like 2005 General Plan Scenarios 1-6, this alternative would generally be consistent with most regional land use plans and policies. However, this alternative would pose the potential conflict with the Guidelines for Orderly Development associated with Scenario 5 and the potential conflict with Coastal Act policies pertaining to the preservation of Prime farmland associated with Scenarios 2 and 3.

Population and Housing

Population and housing growth would be higher than that of any of the General Plan scenarios. As such, the 2025 population is projected to exceed SCAG and Ventura County AQMP forecasts by an even greater amount than under Scenarios 1-6. Similar to the 2005 General Plan scenarios, implementation of this alternative would be expected to maintain a balance of jobs and housing in the City.

6.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As required by CEQA, this section discusses the environmentally superior alternative. Each of the alternatives discussed in this section has certain advantages and disadvantages as compared to the 2005 General Plan, as summarized below.

- The **No Project (no further development)** alternative could be considered environmentally superior because it would result in no increase in traffic, air pollution or noise, and no increase in demand for utilities or services. It would result in no physical impacts. On the other hand, this alternative would not meet many of the 2005 General Plan objectives or address current service/infrastructure deficiencies, nor would it provide housing and jobs to meet projected growth.
- The **No Project (1989 Comprehensive Plan)** alternative would reduce agricultural land impacts as compared to 2005 General Plan Scenarios 1-6, but would be expected to substantially increase impacts relating to biological



- resources, wildland fire, geologic hazards, and hydrology due to the potential for future development in the hillsides above the City.
- The **Restricted Growth** alternative would incrementally reduce traffic and noise impacts as well as future demand for utilities and services. It would also eliminate the unavoidably significant impact of the 2005 General Plan relating to exceedance of growth projections contained in the Ventura County AQMP and SCAG Regional Transportation Plan. On the other hand, this alternative may not provide sufficient additional housing to meet projected demand through 2025.
 - The **No Important Farmland Conversion** alternative would eliminate the significant impact of the 2005 General Plan relating to the conversion of Prime, Statewide Importance, and Unique farmland. On the other hand, by focusing even more development in districts and corridors, it would not be expected to accommodate as broad a mix of housing types, nor would it provide adequate jobs/housing balance or meet the City's economic development objectives. In addition, all of the existing Planning Area conflicts relating to agricultural/urban interface would remain under this alternative.
 - The **Upper North Avenue District Housing** alternative would reduce the development intensity in the North Avenue and Western Cañada Larga expansion areas as compared to General Plan Scenario 5 and would redevelop the Petrochem plant and other properties in the Upper North Avenue district. On the other hand, residential development within the Upper North Avenue district could be exposed to conflicts with adjacent industrial activity and SR 33.
 - The **Intensification/Reuse + Minor Map Clean-Up** alternative could create the potential for residential-industrial compatibility conflicts in the Saticoy area, but such impacts can be addressed through site design and the property re-designation would achieve consistency with the Saticoy Area Plan.
 - The **All Expansion Areas** alternative would provide the greatest flexibility for future City expansion and would provide options for meeting projected housing demand. However, by accommodating higher population growth and land development, it would result in generally greater environmental impacts than any of the 2005 General Plan land use scenarios.

Although the No Project (no further development) alternative is not feasible (from either a legal or practical standpoint) and may not be desirable in many respects, it can be considered environmentally superior overall since it would avoid all impacts associated with future growth. However, it would not meet RHNA requirements or housing needs identified in the City's Housing Element. Among the remaining alternatives, either the Restricted Growth or No Important Farmland Conversion alternative would be environmentally superior, depending upon which issue(s) are deemed most important. The Restricted Growth alternative would incrementally reduce impacts in most issues areas due to the overall reduction in future development and would avoid the significant impact of the 2005 General Plan relating to exceedance of Ventura County AQMP and SCAG Regional Transportation Plan population forecasts. It would, however, still result in significant agricultural resource impacts, similar to General Plan Scenario 1. The No Important Farmland Conversion alternative would avoid the significant impact relating to conversion of agricultural lands to urban uses. On the other hand,



the exceedance of regional population forecasts would still occur and all existing conflicts relating to the interface between agricultural and urban uses would remain. A combination of the Restricted Growth alternative and the No Important Farmland Conversion alternative would achieve both a reduction of agricultural land impacts, as well as AQMP and SCAG consistency.

Though not environmentally superior overall, it should be noted that 2005 General Plan Scenario 1 is considered the environmentally superior scenario among the six General Plan land use scenarios described in Section 2.0. This is due to the lower overall projected population growth as compared to the other scenarios and consequent reduction in impacts relating to traffic, noise, utilities and services, as well as the reduced amount of agricultural land conversion as compared to the other scenarios.



7.0 REFERENCES AND REPORT PREPARERS

7.1 REFERENCES

7.1.1 Bibliography

Allen, E., Anderson, G., & Schroerer, W., "The Impacts of Infill vs. Greenfield Development: A Comparative Case Study Analysis," U.S. Environmental Protection Agency, Office of Policy, EPA Publication #231-R-99-005, September 2, 1999.

AMEC, Santa Clara River Enhancement & Management Plan, available on-line at <ftp://ftp2.na.amec.com/>, accessed March 2005.

Boyle Engineering Corporation, Water System Operational Evaluation and Improvement Program, June 1993.

Boyle Engineering Corporation, East Ventura Sanitary Sewer Collector Study, August 1995.

California Administrative Code Title 22; Division 4, Environmental Health.

California Air Resources Board Official Homepage (www.arb.ca.gov), 2005.

California Department of Conservation, Farmland Mapping and Monitoring Program, 2003. Map of Important Farmlands.

California Department of Finance, Demographic Research Unit, available at: <http://www.dof.ca.gov>.

California Employment Development Department, www.labormarketinfo.edd.

California, State of. California Code of Regulations, available on-line at <http://www.leginfo.ca.gov/calaw.html>, accessed May 2005.

Cao, T, Bryant, W.A., Rowshandel, B., Branum, D., and Wills, C. (2003), "The Revised 2002 California Probabilistic Seismic Hazard Maps June 2003." California Geologic Survey, (http://www.consrv.ca.gov/CGS/rghm/psha/fault_parameters/pdf/2002_CA_Hazard_Maps.pdf).

Holtzclaw, Dr. John, "How Compact Neighborhoods Affect Modal Choice - Two Examples," 1991.

Los Angeles Regional Water Quality Control Board, *Interim Site Assessment and Cleanup Guidebook*, May 1996.

Los Angeles Regional Water Quality Control Board, 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments.



- Montgomery Watson, Ventura Water Renovation Facility Master Plan, September 1993.
- Stanley R. Hoffman Associates, Inc., Land Supply and Demand Analysis, 2000 To 2025: Implications for the Comprehensive Plan, City of San Buenaventura, August 2003.
- Transportation Research Board, National Research Council, Highway Capacity Manual 2000.
- Uniform Building Code, 1997, International Conference of Building Officials, Whittier, California.
- U.S. Department of Agriculture Soil Survey for Ventura County, 1970.
- United States Environmental Protection Agency, "Our Built Environments: a Technical Review of the Interactions between Land Use, Transportation and Environmental Quality," Publication EPA 231-R-00-005, November 2000.
- United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.
- United States Environmental Protection Agency (Region IX), "Preliminary Remediation Goals Tables," 2002.
- United States Census Bureau, 2000 Census (www.census.gov).
- Ventura, City of, Official Homepage (www.ci.ventura.ca.us), 2005.
- Ventura, City of, Comprehensive Plan Update to the Year 2010, Final Master Environmental Impact Report and Technical Appendices, City of San Buenaventura, April 1989.
- Ventura, City of, City of Ventura, Comprehensive Plan Update, Draft Baseline Conditions Report, 2002.
- Ventura, City of, Master Drainage Needs Assessment Study, Potential Project Locations. April 3, 2001
- Ventura, City of, Drainage Map Tiles. 1990.
- Ventura, City of, The Wells and Saticoy Communities Capital Improvement Deficiency Study Update. December 1996.
- Ventura, City of, Draft Capital Improvement Plan Wastewater Database maintained by Dan Pfeifer - Wastewater Superintendent
- Ventura, City of, Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan, 1999.
- Ventura, City of, Standards and Design Manual, 2000.



- Ventura, City of, Wells and Saticoy Communities Capital Improvement Deficiency Study Update, November 1996.
- Ventura, City of, 2000 Biennial Water Supply Report.
- Ventura, City of, 2000-2006 Housing Element, 2004.
- Ventura, City of, Urban Water Management Plan, December 2000.
- Ventura, City of, Wells and Saticoy Communities Capital Improvement Deficiency Study Update" November 1996.
- Ventura, City of, Comprehensive Water Resources Management Plan, December 1994)
- Ventura, City of, Master Plan for Reclaimed Water System, August 1992.
- Ventura, City of, Draft Capital Improvement Plan Wastewater Database maintained by Dan Pfeifer - Wastewater Superintendent
- Ventura, City of, Master Drainage Needs Assessment Study Potential Project Locations, April 3, 2001.
- Ventura Standards and Design Manual, 2000.
- Ventura, City of, Section 308 Information Request to RWQCB Los Angeles, June 2001.
- Ventura, City of, 2004 Biennial Water Supply Report, Fall 2004.
- Ventura, City of, Comprehensive Water Resources Management Plan, December 1994.
- Ventura, City of, Annual Transportation Report, October 2003.
- Ventura, County of, General Plan.
- Ventura County Air Pollution Control District, Ventura County Air Quality Management Plan, 1994 (Revised 2004).
- Ventura County Air Pollution Control District, Air Quality Assessment Guidelines, October 2003.
- Ventura, County of, Initial Study Assessment Guidelines, 2000.
- Ventura, County of, Adopted County S.O.A.R. Ordinance, November 3, 1998.
- Ventura County Agricultural Commissioner, Annual Crop Report – 2003, August 5, 2004.
- Ventura Unified School District, Westside Elementary School Final EIR, 2002.



West Coast Environmental and Engineering, Historical Overview: The Ventura Brownfield Project: A Look at the Environmental History of Ventura's Westside, February 2001.

7.1.2 Persons Contacted

Brown, Andrew, Ventura County Air Pollution Control District

Correa, John, General Manager, Ojai Valley Sanitary District

Davis, Don, Utilities Manager, City of Ventura Public Works Department

Fenwick, Quinn, Lieutenant, Ventura Police Department

Frey, Linda, Management Analyst, City of Ventura Parks Department

Gutierrez, Jorge, Director of Facilities, Ventura Unified School District

Haden, Gary, Toland Road Landfill

Hocking, Kim, Cultural Heritage Planner County of Ventura, Planning Division

Hutton, Lynn, Human Resources Manager, Oxnard Police Department

Jonasson, Tim, City of Ventura Land Development Planning Division

Kreissman, Starrett, Director, Ventura County Library System

Lavery, Mike, Chief, City of Ventura Fire Department

Lewis, Wayne, Business Services Officer, Ventura Police Department

Martinez, Juan, Associate Planner, City of Oxnard, Development Services Department

McChesney, Charles, Officer, Santa Barbara Police Department

Minjares, Javier, Southern California Association of Governments

Musgrove, Vicki, City of Ventura Maintenance Services Division

Pacala, Reddy, P.E., Director Water and Sanitation, County of Ventura Public Works Department

Passanisi, Jim, City of Ventura Public Works Department

Pfeifer, Dan, Waste Water Superintendent, City of Ventura Public Works Department

Preston, Frank, City of Ventura Maintenance Services Division



Rungren, Susan, Utilities Planning Engineer, City of Ventura Public Works Department

Thomas, Terri, Ventura County Air Pollution Control District
Tignac, Scott, Simi Valley Landfill

Yahner, Joe, Environmental Services Specialist, City of Ventura Public Works Department,
Environmental Services Office

7.2 REPORT PREPARERS

This EIR was prepared by the City of Ventura with the assistance of Rincon Consultants, Inc., Austin-Foust Associates, Inc., and Psomas Associates, Inc. Kari Giaketsis, Senior Planner, managed the preparation of the EIR for the City. Consultant staff involved in the preparation of the EIR are listed below.

Rincon Consultants, Inc.

Joe Power, AICP, Principal
Duane Vander Pluym, D.ESE, Principal
Joanne Dramko, Senior Planner/Graphics Coordinator
Jamie King, Senior Biologist
Dan Klemann, Associate
Hilary Hodges, Associate (former)
Kathy Babcock, Graphics Technician
Katherine Warner, Graphics Technician/GIS Specialist

Austin-Foust Associates (traffic)

Terry Austin, Principal
Kendall Elmer, Associate
Cassandra Carlin, Transportation Planner
Phong Le, Traffic Analyst

Psomas Associates (utilities, hydrology)

Mike Swan, P.E., Project Manager
Greg Watanabe, P.E., Project Engineer
Brett Bennetts, Staff Engineer



Appendix A

Notice of Preparation and Responses

Notice of Preparation

TO: _____ FROM: City of San Buenaventura

Community Development Department

501 Poli Street

Ventura, CA 93001

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

The City of San Buenaventura (Ventura) will be the Lead Agency for the preparation of an environmental impact report (EIR) for a proposed update of the City of Ventura Comprehensive Plan. The proposed project involves the update of the 1989 Comprehensive Plan that currently serves as the blueprint for the development of the City. Each of the Comprehensive Plan elements other than the Housing Element (an update of which was approved earlier this year) will be updated with goals, policies, and objectives that reflect the current needs and preferences of the community. The land use map will also be updated.

The City intends to emphasize infill development and reuse of developed lands within the current Sphere of Influence over the life of the Comprehensive Plan Update (through 2025) and has identified a number of growth districts and corridors where infill/reuse is to be focused. However, as part of the Comprehensive Plan update, the City is also considering inclusion of certain areas outside the current Sphere of Influence for future development. These include:

- **North Avenue** – an approximately 55-acre area on the east side of N. Ventura Avenue that is currently used as an orchard
- **Olivas** – an approximately 930-acre area between U.S. 101 and Harbor Boulevard that is currently used for row crops
- **Serra** – an approximately 464-acre area between Telephone Road and Bristol Road that is currently used for row crops and orchards
- **Western Cañada Larga** – an approximately 121-acre area along both sides of State Route 33 in the North Ventura Avenue area that is primarily open grazing land
- **Poinsettia** – an approximately 418-acre area between Foothill Road and State Route 126 that is currently an orchard

The potential growth districts and corridors and the potential expansion areas are shown on the attached land use diagram.

The Draft EIR will be a program EIR that examines each of the issue areas on the City's environmental checklist. Issues to be examined include:

- Aesthetics
- Air Quality
- Agricultural Resources
- Land Use and Planning
- Noise
- Population/Housing

- Biological Resources
- Cultural Resources
- Energy/Mineral Resources
- Geology/Soils
- Hazards/Hazardous Materials (including wildland fire hazards)
- Public Services (police, fire, schools)
- Recreation
- Utilities/Service Systems
- Transportation/Traffic
- Water (including Water Supply, Hydrology/Flooding, and Water Quality)

In addition to the CEQA-required “no project” alternative, the Draft will examine a minimum of four land use scenarios. These include:

1. **Staff Recommended Scenario** – This scenario assumes an emphasis on infill development, but includes the following expansion areas:
 - North Avenue (55 acres)
 - Olivas (930 acres)
 - Serra (464 acres)
2. **Infill/Reuse Only Scenario** – This scenario assumes infill/reuse of higher intensity than the Staff Recommended Scenario with no expansion beyond the current Sphere of Influence.
3. **Staff Recommended + Cañada Larga Scenario** – This scenario assumes less intensive infill development than the “Staff Recommended Scenario” and includes the following expansion areas:
 - Western Cañada Larga (121 acres)
 - North Avenue (55 acres)
 - Olivas (930 acres)
 - Serra (464 acres)
4. **Staff Recommended + Poinsettia Scenario** - This scenario assumes less intensive infill development than the “Staff Recommended Scenario” and includes the following expansion areas:
 - North Avenue (55 acres)
 - Olivas (930 acres)
 - Serra (464 acres)
 - Poinsettia (418 acres)

The EIR analysis will be based on growth projections through the year 2025. The EIR will consider two possible growth scenarios: (1) 1.14% annual population growth, which is equivalent to the annual growth rate in the City over the past 20 years; and (2) 0.88% annual population growth, which is equivalent to the annual growth over the past 10 years. The 2025 population and housing growth estimates for each of these scenarios are shown in the table on the following page.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency’s statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval of certain aspects of the project.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Population Growth Projections

	2004 Levels ^a	2025 Estimates		Change from 2004-2025	
		0.88% Annual Growth	1.14% Annual Growth	0.88% Annual Growth	1.14% Annual Growth
Population	104,952	126,153	133,160	21,201	28,208
Housing Units ^b	40,880	49,138	51,867	8,258	10,987

^a Source: California Department of Finance, City/County Population and Housing Estimates, 1/1/2004.

^b Housing unit estimates assume that the current ratio of 2.57 persons per household remains constant through 2025. In reality, the number of persons per unit could go up or down, depending upon housing costs, the types of housing built in the City, population growth, and other factors.

Please send your response to Lisa Porras, Senior Planner, at the address shown above. Ms. Porras can be reached at (805) 654-7811. We will need the name for a contact person in your agency. Materials related to the Comprehensive Plan Update EIR are available for review at the City of Ventura Community Development Department, Ventura City Hall, 501 Poli Street in Ventura. Background materials can also be viewed online at <http://www.ci.ventura.ca.us/depts/cd/cp/cp.asp>.

The City will hold an EIR scoping meeting on the Comprehensive Plan Update on Wednesday, October 13 at the Community Meeting Room at Ventura City Hall, 501 Poli Street. The meeting will begin at 6 PM. The purpose of the meeting is to solicit input on the scope and content of the environmental analysis that will be included in the Draft EIR.

Project Title: City of Ventura Comprehensive Plan Update

Project Sponsor: City of Ventura

Date 9/30/04

Signature _____

Title Planning Manager, Rincon Consultants, Inc. (consultant to the City of Ventura)

Telephone (805) 641-1000 x 12

Revised Notice of Preparation

TO: _____ FROM: City of San Buenaventura

Community Development Department
501 Poli Street
Ventura, CA 93001

Subject: Revised Notice of Preparation of a Draft Environmental Impact Report

The City of San Buenaventura (Ventura) will be the Lead Agency for the preparation of an environmental impact report (EIR) for a proposed update of the City of Ventura Comprehensive Plan. The City issued a Notice of Preparation (NOP) in September 2004. The original NOP described five alternative land use scenarios that were to be considered in the EIR; however, since that time, the way the alternatives are to be organized has changed and the number of alternative land use scenarios to be studied has increased from five to six. Therefore, although the areas under consideration and general approach to accommodating future development have not changed since the circulation of the original NOP, the City has reissued the NOP in order provide an opportunity to comment on the new EIR land use scenarios.

The proposed project involves the update of the 1989 Comprehensive Plan that currently serves as the blueprint for the development of the City. Each of the Comprehensive Plan elements other than the Housing Element (an update of which was approved earlier this year) will be updated with goals, policies, and objectives that reflect the current needs and preferences of the community. The land use map will also be updated.

The City intends to emphasize infill development and reuse of developed lands within the current Sphere of Influence over the life of the Comprehensive Plan Update (through 2025) and has identified a number of growth districts and corridors where infill/reuse is to be focused. However, as part of the Comprehensive Plan update, the City is also considering inclusion of certain areas outside the current Sphere of Influence for future development. These include:

- **North Avenue** – an approximately 55-acre area on the east side of N. Ventura Avenue that is currently used as an orchard
- **Olivas** – an approximately 930-acre area between U.S. 101 and Harbor Boulevard that is currently used for row crops
- **Serra** – an approximately 464-acre area between Telephone Road and Bristol Road that is currently used for row crops and orchards
- **Western Cañada Larga** – an approximately 121-acre area along both sides of State Route 33 in the North Ventura Avenue area that is primarily open grazing land
- **Poinsettia** – an approximately 418-acre area between Foothill Road and State Route 126 that is currently an orchard

The potential growth districts and corridors and the potential expansion areas are shown on the attached land use diagram.

The Draft EIR will be a program EIR that examines each of the issue areas on the City's environmental checklist. Issues to be examined include:

- Aesthetics
- Air Quality
- Agricultural Resources
- Biological Resources
- Cultural Resources
- Energy/Mineral Resources
- Geology/Soils
- Hazards/Hazardous Materials (including wildland fire hazards)
- Land Use and Planning
- Noise
- Population/Housing
- Public Services (police, fire, schools)
- Recreation
- Utilities/Service Systems
- Transportation/Traffic
- Water (including Water Supply, Hydrology/Flooding, and Water Quality)

In addition to the CEQA-required "no project" alternative, the Draft will examine a minimum of six land use scenarios. These include:

1. **Intensification/Reuse Only Scenario** – This scenario assumes that future development will be limited to areas within the current Sphere of Influence and that none of the possible expansion areas would be considered.
2. **City Council Preferred Scenario** – This scenario, which was selected by the City Council as the preferred scenario, assumes an emphasis on infill development at an intensity level similar to that of the Intensification/Reuse Only, but includes the following potential expansion areas:
 - North Avenue (55 acres)
 - Olivas (930 acres)
 - Serra (464 acres)
3. **Intensification/Reuse + North Avenue + Western Cañada Larga Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - North Avenue (55 acres)
 - Western Cañada Larga (121 acres)
4. **Intensification/Reuse + North Avenue + Serra Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - North Avenue (55 acres)
 - Serra (464 acres)
5. **Intensification/Reuse + North Avenue + Olivas Scenario** – This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:
 - North Avenue (55 acres)
 - Olivas (930 acres)

6. Intensification/Reuse + North Avenue + Poinsettia Scenario - This scenario assumes intensification/reuse at a level similar to the other scenarios, but includes the following potential expansion areas:

- North Avenue (55 acres)
- Poinsettia (418 acres)

The EIR analysis will be based on growth projections through the year 2025. The EIR will consider two possible growth scenarios: (1) 1.14% annual population growth, which is equivalent to the annual growth rate in the City over the past 20 years; and (2) 0.88% annual population growth, which is equivalent to the annual growth over the past 10 years. For all six EIR scenarios, it is assumed that intensification/reuse within the current Sphere of Influence would accommodate growth through 2025 equivalent to the 0.88% annual growth rate. For Scenario 1 (Intensification/Reuse Only), it is assumed that growth through 2025 would be limited to an annual average of 0.88%. For the five scenarios that include expansion areas (Scenarios 2 through 6), it is assumed that the expansion areas would accommodate additional growth through 2025 equivalent to the 1.14% annual rate (i.e., the additional 0.26% annual growth beyond what is anticipated to occur within the current Sphere of Influence). The 2025 population and housing growth estimates for each of these scenarios are shown in the following table.

Population and Housing Growth Projections

	2004 Levels ^a	2025 Estimates		Change from 2004-2025	
		0.88% Annual Growth	1.14% Annual Growth	0.88% Annual Growth	1.14% Annual Growth
Population	104,952	126,153	133,160	21,201	28,208
Housing Units ^b	40,880	49,138	51,867	8,258	10,987

^a Source: California Department of Finance, City/County Population and Housing Estimates, 1/1/2004.

^b Housing unit estimates assume that the current ratio of 2.57 persons per household remains constant through 2025. In reality, the number of persons per unit could go up or down, depending upon housing costs, the types of housing built in the City, population growth, and other factors.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency’s statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval of certain aspects of the project.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Lisa Porras, Senior Planner, at the address shown above. Ms. Porras can be reached at (805) 654-7811. We will need the name for a contact person in your agency. Materials related to the Comprehensive Plan Update EIR are available for review at the City of Ventura Community Development Department, Ventura City Hall, 501 Poli Street in Ventura. Background materials can also be viewed online at <http://www.ci.ventura.ca.us/depts/cd/cp/cp.asp>.

The City will hold an EIR scoping meeting on the Comprehensive Plan Update at 6 PM on Wednesday, January 12, 2005. The meeting will be held in the Santa Cruz Conference Room at Ventura City Hall, 501 Poli Street. The purpose of the meeting is to solicit input on the scope and content of the environmental analysis that will be included in the Draft EIR.

Project Title: City of Ventura Comprehensive Plan Update

Project Sponsor: City of Ventura

Date 12/17/04

Signature _____

Name Joe Power, AICP

Title Planning Manager, Rincon Consultants, Inc. (consultant to the City of Ventura)

Telephone (805) 641-1000 x 12

Certificate of Publication

RECEIVED
OCT 18 2004
PLANNING DIV.

Ad No. 779003
Notice of Preparation of a Draft
Environment Impact

State of California)
))§
County of Ventura)

I, **Angelica Garay**, hereby certify that the **Ventura County Star, Thousand Oaks Star, Oxnard Star, Simi Valley Star, Moorpark Star, Camarillo Star** has been adjudged a newspaper of general circulation by the Superior Court the provisions of the Government Code of the State of California, printed and published in the City of San Buenaventura, County of Ventura, State of California; that I am the a clerk of the printer of said paper; that the annexed clipping is a true printed copy and publishing in said newspaper on the following dates to wit:

Oct 6, 10, 2004

I, **Angelica Garay** certify under penalty of perjury, that the foregoing is true and correct.

Dated this Oct 15, 2004 in San Beunaventura, California


Angelica Garay
(Signature)

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)

PROJECT TITLE: Preparation of an EIR for a proposed update of the City of Ventura Comprehensive Plan.

PROJECT APPLICANT: City of San Buenaventura
Planning Division
501 Poli Street,
Ventura, Ca 93001

PROJECT DESCRIPTION: The proposed project involves the update of the 1989 Comprehensive Plan that currently serves as the blueprint for the development of the City. Each of the Comprehensive Plan elements other than the Housing Element (an update of which was approved earlier this year) will be updated with goals, policies, and objectives that reflect the current needs and preferences of the community. The land use map will also be updated.

The City intends to emphasize infill development and reuse of developed lands within the current Sphere of Influence over the life of the Comprehensive Plan Update (through 2025) and has identified a number of growth districts and corridors where infill/reuse is to be focused. However, as part of the Comprehensive Plan Update, the City is also considering inclusion of certain areas outside the current Sphere of Influence for future development.

EIR SCOPING MEETING: The City will hold an EIR scoping meeting on the Comprehensive Plan Update on **Wednesday, October 13** at the **Community Meeting Room at Ventura City Hall, 501 Poli Street**. The meeting will begin at 6 P.M. The purpose of the meeting is to solicit input on the scope and content of the environmental analysis that will be included in the Draft EIR.

LEAD AGENCY: City of San Buenaventura
Planning Division
501 Poli Street, Ventura

FOR MORE INFORMATION CONTACT: Lisa Parras, Senior Planner (805) 654-7811
Publish: Oct 6, 10, 2004 Ad No. VC779003

RECEIVED

OCT 22 2004

PLANNING DIV.

October 18, 2004

Ms. Lisa Porras
Senior Planner
Community Development Department
City of San Buenaventura
501 Poli Street
Ventura, CA 93001

RE: **Comments on the Notice of Preparation for a Draft Environmental Impact Report for the City of Ventura Comprehensive Plan – SCAG No. I 20040669**

Dear Ms. Porras:

Thank you for submitting the **Notice of Preparation for a Draft Environmental Impact Report for the City of Ventura Comprehensive Plan** to SCAG for review and comment. As a statewide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the aforementioned **Notice of Preparation** and have determined that **the proposed Project is regionally significant per California Environmental Quality Act (CEQA) Guidelines (Section 15206)**. The proposed Project considers a local general plan, element, or amendment for which an environmental impact report is being prepared. CEQA requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and **regional plans (Section 15125 [d])**. If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided.

Policies of SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan, which may be applicable to your project, are outlined in the attachment. **We expect the Draft EIR to specifically cite the appropriate SCAG policies and address the manner in which the Project is consistent with applicable core policies or supportive of applicable ancillary policies. Please use our policy numbers to refer to them in your Draft EIR. Also, we would encourage you to use a side-by-side comparison of SCAG policies with a discussion of the consistency or support of the policy with the Proposed Project.**

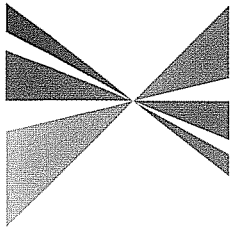
Please provide a minimum of 45 days for SCAG to review the Draft EIR when this document is available. If you have any questions regarding the attached comments, please contact me at (213) 236-1867. Thank you.

Sincerely,



JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

SOUTHERN CALIFORNIA



ASSOCIATION OF GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

Officers: President: Councilmember Ron Roberts, Meucala • First Vice President: Supervisor Hank Kuiper, Imperial County • Second Vice President: Mayor Toni Young, Port Hueneme • Immediate Past President: Councilmember Bev Perry, Brea

Imperial County: Hank Kuiper, Imperial County • Shields, Brawley

Los Angeles County: Yvonne Brathwaite Burke, Los Angeles County • Zev Yaroslavsky, Los Angeles County • Jim Aldinger, Manhattan Beach • Harry Aldwin, San Gabriel • Paul Bowlen, Cerritos • Tony Cardenas, Los Angeles • Margaret Clark, Rosemead • Gene Daniels, Paramount • Mike Spenza, Palmdale • Judy Dunlap, Inglewood • Eric Gabellich, Long Beach • Eric Garretti, Los Angeles • Wendy Greuel, Los Angeles • Frank Jurulé, Cudahy • James Hahn, Los Angeles • Nancy Hahn, Los Angeles • Isadore Hall, Compton • Tom LaBonge, Los Angeles • Martin Ludlow, Los Angeles • Keith McCarthy, Downey • Llewellyn Miller, Claremont • Cindy Miskicowski, Los Angeles • Paul Nowatka, Torrance • Pam Connor, Santa Monica • Alex Padilla, Los Angeles • Bernard Parks, Los Angeles • Jan Perry, Los Angeles • Beatrice Proo, Pico Rivera • Ed Sykes, Los Angeles • Greig Smith, Los Angeles • Rick Stanford, Azusa • Tom Sykes, Walnut • Paul Tlbot, Alhambra • Sidney Tyler, Pasadena • Tonya Ureña, Long Beach • Antonio Villaraigosa, Los Angeles • Dennis Washburn, Calabasas • Jack Weiss, Los Angeles • Bob Yousefian, Glendale • Dennis Zine, Los Angeles

Orange County: Chris Norby, Orange County • Du Bone, Tustin • Art Brown, Buena Park • Richard Chavez, Anaheim • Debbie Cook, Huntington Beach • Cathryn DeYoung, Laguna Hills • Wendy Greuel, Laguna Hills • Richard Dixon, Lake Forest • Alta Duke, La Habra • Bev Perry, Brea • Marilyn Poe, Los Alamitos • Tod Ridgeway, Newport Beach

Riverside County: Marion Ashley, Riverside County • Thomas Buckley, Lake Elsinore • Bonnie Dickinger, Moreno Valley • Ron Loveridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula

San Bernardino County: Paul Biane, San Bernardino County • Bill Alexander, Rancho Cucamonga • Edward Burgnon, Town of Appleton • Lawrence Dale, Barstow • Lee Ann Garcia, Grand Terrace • Susan Longville, San Bernardino • Gary Ovitt, Ontario • Deborah Robertson, Rialto

Ventura County: Judy Mikels, Ventura County • Ben Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

Orange County Transportation Authority: Charles Smith, Orange County

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

Printed on Recycled Paper

**COMMENTS ON THE PROPOSAL TO DEVELOP A
DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE
CITY OF VENTURA
COMPREHENSIVE PLAN
SCAG NO. I 20040669**

PROJECT DESCRIPTION

The proposed Project considers an update of the City of Ventura Comprehensive Plan.

CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES

The **Growth Management Chapter (GMC)** of the Regional Comprehensive Plan and Guide (RCPG) contains the following policies that are particularly applicable and should be addressed in the Draft EIR for the City of Ventura Comprehensive Plan.

3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.

Regional Growth Forecasts

The Draft EIR should reflect the most current SCAG forecasts which are the 2004 RTP (April 2004) Population, Household and Employment forecasts for the Ventura Council of Governments (VCCOG) subregion and the City of Ventura. These forecast follows:

VCOG						
SUBREGION	2000	2005	2010	2015	2020	2025
POPULATION	758,054	821,045	865,149	897,295	929,181	960,025
HOUSEHOLD	244,476	260,357	275,352	289,318	303,596	317,831
EMPLOYMENT	337,247	346,770	381,680	403,000	424,470	445,193

CITY OF VENTURA						
SUBREGION	2000	2005	2010	2015	2020	2025
POPULATION	101,002	109,087	116,959	119,247	121,488	123,645
HOUSEHOLD	38,573	40,711	44,053	45,355	46,696	48,034
EMPLOYMENT	58,900	59,717	62,703	65,237	67,787	70,238

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

- 3.05 Encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities.*
- 3.09 Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.*
- 3.10 Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.*

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

- 3.12 Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.*
- 3.13 Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.*
- 3.16 Encourage developments in and around activity centers, transportation corridors,*

underutilized infrastructure systems, and areas needing recycling and redevelopment.

- 3.18 Encourage planned development in locations least likely to cause environmental impact.*
- 3.20 Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*
- 3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*
- 3.22 Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*
- 3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

GMC POLICIES RELATED TO THE RCPG GOAL TO PROVIDE SOCIAL, POLITICAL, AND CULTURAL EQUITY

The Growth Management Goal to develop urban forms that avoid economic and social polarization promotes the regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended guide direction for the accomplishment of this goal, and does not infer regional mandates and interference with local land use powers.

- 3.24 Encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluated in the Regional Housing Needs Assessment.*
- 3.27 Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.*

REGIONAL TRANSPORTATION PLAN

The **2004 Regional Transportation Plan (RTP)** also has goals and policies that are pertinent to this proposed project. This RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. The RTP continues to support all applicable federal and state laws in implementing the proposed project. Among the relevant goals and policies of the RTP are the following:

Regional Transportation Plan Goals

- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.
- Preserve and ensure a sustainable regional transportation system.
- Maximize the productivity of our transportation system.
- Protect the environment, improve air quality and promote energy efficiency.
- Encourage land use and growth patterns that complement our transportation investments.

Regional Transportation Plan Policies

- Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.

Performance Indicator	Performance Measures	Definition	Performance Outcome
Mobility	• Average Daily Speed	Speed-experienced by travelers regardless of mode.	10% Improvement
	• Average Daily Delay	Delay-excess travel time resulting from the difference between a reference speed and actual speed. Total daily delay and daily delay per capita are indicators used.	40% Improvement
Accessibility	• Percent PM peak work trips within 45 minutes of home		Auto 90% Transit 37%
	• Distribution of work trip travel times		Auto 8% Improvement Transit 8% Improvement
Reliability	• Percent variation in travel time	Day-to-day change in travel times experienced by travelers. Variability results from accidents, weather, road closures, system problems and other non-recurrent conditions.	10% Improvement
Safety	• Accident Rates	Measured in accidents per million vehicle miles by mode.	0.3% Improvement

Performance Indicator	Performance Measures	Definition	Performance Outcome
Cost Effectiveness	<ul style="list-style-type: none"> Benefit-to-Cost (B/C) Ratio 	Ratio of benefits of RTP investments to the associated investments costs.	\$3.08
Productivity	<ul style="list-style-type: none"> Percent capability utilized during peak conditions 	Transportation infrastructure capacity and services provided. <ul style="list-style-type: none"> Roadway Capacity - vehicles per hour per lane by type of facility. Transit Capacity – seating capacity utilized by mode. 	20% Improvement at known bottlenecks N/A
Sustainability	<ul style="list-style-type: none"> Total cost per capita to sustain current system performance 	Focus in on overall performance, including infrastructure condition. Preservation measure is a sub-set of sustainability.	\$20 per capita, primarily in preservation costs
Preservation	<ul style="list-style-type: none"> Maintenance cost per capita to preserve system at base year conditions 	Focus is on infrastructure condition. Sub-set of sustainability.	Maintain current conditions
Environmental	<ul style="list-style-type: none"> Emissions generated by travel 	Measured/forecast emissions include CO, NOX, PM10, SOX and VOC. CO2 as secondary measure to reflect greenhouse emissions.	Meets conformity requirements
Environmental Justice	<ul style="list-style-type: none"> Expenditures by quintile and ethnicity Benefit vs. burden by quintiles 	Proportionate share of expenditures in the 2004 RTP by each quintile. Proportionate share of benefits to each quintile ethnicity. Proportionate share of additional airport noise by ethnic group.	No disproportionate impact to any group or quintile

- Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.
- RTP land use and growth strategies that differ from currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and sub-regions.
- HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy #1.

AIR QUALITY CHAPTER CORE ACTIONS

The **Air Quality Chapter** core actions related to the proposed project includes:

- 5.07 *Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.*
- 5.11 *Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.*

OPEN SPACE CHAPTER ANCILLARY GOALS

Outdoor Recreation

- 9.01 *Provide adequate land resources to meet the outdoor recreation needs of the present and future residents in the region and to promote tourism in the region.*
- 9.02 *Increase the accessibility to open space lands for outdoor recreation.*
- 9.03 *Promote self-sustaining regional recreation resources and facilities.*

Public Health and Safety

- 9.04 *Maintain open space for adequate protection of lives and properties against natural and man-made hazards.*
- 9.05 *Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipment.*
- 9.06 *Minimize public expenditure for infrastructure and facilities to support urban type uses in areas where public health and safety could not be guaranteed.*

Resource Production

9.07 *Maintain adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations.*

Resource Protection

9.08 *Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.*

WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS

The **Water Quality Chapter** core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

11.07 *Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*

GROWTH VISIONING

The fundamental goal of the Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and **sustain** for future generations the region's **mobility**, **livability** and **prosperity**. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal.

Principle 1: Improve **mobility** for all residents

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.
- Encourage transit-oriented development.
- Promote a variety of travel choices

Principle 2: Foster livability in all communities

- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote “people scaled,” walkable communities.
- Support the preservation of stable, single-family neighborhoods.

Principle 3: Enable prosperity for all people

- Provide, in each community, a variety of housing types to meet the housing needs of all income levels.
- Support educational opportunities that promote balanced growth.
- Ensure environmental justice regardless of race, ethnicity or income class.
- Support local and state fiscal policies that encourage balanced growth
- Encourage civic engagement.

Principle 4: Promote sustainability for future generations

- Preserve rural, agricultural, recreational and environmentally sensitive areas.
- Focus development in urban centers and existing cities.
- Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.
- Utilize “green” development techniques.

CONCLUSIONS

All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) is a **Joint Powers Agency** established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's **Metropolitan Planning Organization** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. '134, 49 U.S.C. '5301 et seq., 23 C.F.R. '450, and 49 C.F.R. '613. SCAG is also the designated **Regional Transportation Planning Agency**, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082 respectively.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the **South Coast Air Quality Management Plan**, pursuant to California Health and Safety Code Section 40460(b)-(c). SCAG is also designated under 42 U.S.C. '7504(a) as a **Co-Lead Agency** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining **Conformity** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. '7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for **reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans** required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for **Inter-Governmental Review** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21083 and 21087, Environmental Impacts Reports of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. '1288(a)(2) (Section 208 of the Federal Water Pollution Control Act), SCAG is the authorized **Areawide Waste Treatment Management Planning Agency**.

SCAG is responsible for preparation of the **Regional Housing Needs Assessment**, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the Association of Bay Area Governments, the Sacramento Area Council of Governments, and the Association of Monterey Bay Area Governments) for preparing the **Southern California Hazardous Waste Management Plan** pursuant to California Health and Safety Code Section 25135.3.

SATICOY SANITARY DISTRICT
1001 PARTRIDGE DRIVE, SUITE 150
VENTURA, CALIFORNIA 93003-0704
805-658-4605

DIRECTORS
James Acosta, President
Raul Morales
Jess Arroyo
Gerardo Claudio
Regal L. Morales

RECEIVED
OCT 22 2004
PLANNING DIV.

October 19, 2004

Lisa Porras, Community Development Department
City of San Buenaventura
501 Poli Street
Ventura, CA 93001

COMPREHENSIVE PLAN UPDATE – RECYCLED WATER

The City of San Buenaventura (City) and the Saticoy Sanitary District (Saticoy) are cooperating in a water recycling effort. The long-range plan is for the City to send up to 700,000 gallons per day of its raw wastewater to the Jose Flores Wastewater Treatment Plant. Saticoy will remove the contaminants, including salt, and provide clean water for unrestricted irrigation uses, crops, parks, schools, etc.

The Comprehensive Plan could include a requirement to use recycled water wherever it is available.

If you have any questions, please call me at 647-6477 or Kelly Polk, District Manager, at 512-1363.



JAMES ACOSTA – CHAIRMAN

SATICOY SANITARY DISTRICT
1001 PARTRIDGE DRIVE, SUITE 150
VENTURA, CALIFORNIA 93003-0704
805-658-4605

DIRECTORS
James Acosta, President
Raul Morales
Jess Arroyo
Gerardo Claudio
Regal L. Morales

October 19, 2004

RECEIVED
OCT 22 2004
PLANNING DIV.

Brian Brennan, Mayor
City of San Buenaventura
501 Poli Street
Ventura, CA 93001

COMPREHENSIVE PLAN DISCONTINUITY

The City of San Buenaventura (City) is enforcing an industrial land use designation outside its boundaries where the County of Ventura has a residential designation. That is a small strip of land along the south side of Rosal Lane in old Saticoy. Please, acknowledge the County of Ventura's jurisdictional priority and remove blockage within your staff on residential development per the County Plan.

The Saticoy Sanitary District (Saticoy) is harmed by the City's actions. Saticoy relied on the County Plan when sizing the new treatment plant. It was only after Saticoy's new treatment plant was built that the conflicting land use plans were recognized.

The City and Saticoy are cooperating in a water recycling effort. The City's help in this area will further the City's interest in recycling water.

At the very least, consider this as a comment on your comprehensive plan update. If you have any questions, please call me at 647-6477 or Kelly Polk, District Manager, at 512-1363.



JAMES ACOSTA - CHAIRMAN

Cc: Everett Millias, LAFCO
Lisa Porras, Community Development Department



October 25, 2004

Lisa Porras, Senior Planner
City of San Buenaventura
PO Box 99
Ventura, CA 93002

RECEIVED

OCT 28 2004

PLANNING DIV.

RE: NOTICE OF PREPARATION – COMPREHENSIVE PLAN UPDATE EIR

Dear Ms Porras:

Thank you for the opportunity to respond to the Notice of Preparation (NOP) for the program environmental impact report (EIR) for the proposed update of the City's Comprehensive Plan. To the extent the City will use this program EIR as a basis for initiating boundary changes, such as annexations, detachments or reorganizations, or requesting sphere of influence changes or out-of-agency service agreement approvals, the Ventura LAFCO will be a responsible agency under CEQA.

On behalf of the Ventura LAFCO comments about the scope and content of the EIR are:

1. As required by law, the Ventura LAFCO has adopted written policies. These policies are compiled in the Ventura LAFCO "Commissioner's Handbook." A complete version is posted as a PDF file on the Ventura LAFCO web site (see URL below). The EIR should consider all relevant LAFCO policies. Specifically, the EIR should address the consistency, or lack thereof, of each of the four growth scenarios (and any other growth scenario proposed as a result of responses to the NOP) with the following LAFCO policies:

- a. Consistency with ordinances requiring voter approval

"For cities that have enacted ordinances that require voter approval for the extension of services or for changing general plan designations, LAFCO will not approve a proposal unless it is consistent with such ordinances and voter approval has first been granted, or unless exceptional circumstances are shown to exist."

(Commissioner's Handbook Section 2.5.1.2)

Except for the Infill/Reuse Only Scenario, the other three growth scenarios listed in the NOP involve properties covered by one or more City ordinances requiring voter approval for the extension of services or for changing existing general plan designations. To the extent the EIR may be used as a basis for future ballot measures by the City and/or private property owners to seek voter approved general plan and/or service extension changes, it should fully addresses the impacts of agricultural and/or open space land conversion and/or service extensions for each property now covered by the City's SOAR and Hillside Voter Protection Act ordinances, and, as may be appropriate, the County of Ventura's SOAR ordinance.

b. Greenbelts

“The County of Ventura and various cities in the County have adopted Greenbelt Agreements for the purposes of preserving agriculture and/or open space, providing separation between cities, and/or limiting the extension of urban services. The Ventura LAFCO is not a direct party to these Greenbelt Agreements, but has endorsed them as statements of local policy. As such, LAFCO will not approve a proposal from a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. A Greenbelt Agreement shall be amended by all parties involved prior to any proposal which may be in conflict with the Agreement is considered by LAFCO.” (Commissioner’s Handbook Section 2.5.3; underlining emphasis added)

Note that any growth scenario that involves what the NOP calls the “Olivas Potential Expansion Area” affects the Ventura/Oxnard Greenbelt. The County of Ventura and the City of Oxnard have also adopted this Greenbelt. To the extent the EIR may be used as a basis for seeking to amend this Greenbelt, the County of Ventura and the City of Oxnard may also be responsible agencies.

c. Sphere of Influence consistent with voter approved growth boundaries

“For cities that have enacted ordinances that require voter approval for the extension of services or for changing general plan designations, sphere of influence boundaries should coincide with, or cover lesser area than, voter approved growth boundaries.” (Commissioner’s Handbook Section 4.1.2.3; underlining emphasis added)

LAFCO is now mandated to review and update, as necessary, the spheres of influence for each city and special district every five years. Based on the current schedule LAFCO will be updating the sphere of influence of the City of Ventura in late 2005, possibly in early 2006. The policy noted above will be the basis for this update. It is clear that the existing sphere of influence is not consistent with this policy in many areas, including the North Ventura Avenue area, the area covered by the Hillside Voter Protection Act, areas west of the Ventura River, the area south of the Ventura Auto Center, the Poinsettia Potential Expansion Area and the Serra potential Expansion Area listed in the NOP, the City owned property east of Petit Avenue between Telegraph and Foothill Roads, and areas northerly and easterly of the Southern California Edison property on Telegraph Road. To the extent that the EIR may be used as a basis for the City to request LAFCO to amend the City’s sphere of influence to include any area outside voter approved growth boundaries, it should fully address the consistency with the above-noted LAFCO policy and impacts related to each issue area noted in the NOP, with special emphasis on agricultural resources, land use and planning, population/housing, public services, utilities/service systems and water.

Additionally, the Proposed Land Use Diagram attached to the NOP identifies a “Proposed Sphere of Influence Boundary.” It is unclear which of the four growth scenarios this “Proposed Sphere of Influence Boundary” relates to or whether or not

it is intended to apply to all four growth scenarios or even the No Project scenario. This should be clarified. Specifically,

- i. The EIR should address the impacts of different possible proposed sphere of influence boundaries based on each of the different growth scenarios based on their consistency with the above noted LAFCO policy.
 - ii. The EIR should address the policy basis, impacts and consistency with the above-noted LAFCO policy for any areas to be included in the City's proposed sphere of influence that are not being considered as potential expansion areas. These areas include portions of the North Ventura Avenue area, areas west of the Ventura River, areas in the flood plain southerly of the Ventura Auto Center, the City owned property east of Petit Avenue between Telegraph and Foothill Roads, and areas northerly and easterly of the Southern California Edison property on Telegraph Road.
- d. Agriculture and Open Space Preservation
- "Findings and criteria for prime agricultural and open space land conversion: LAFCO will approve sphere of influence amendments and updates which are likely to result in the conversion of prime agricultural or open space land use to other uses only if the Commission finds that the amendment or update will lead to planned, orderly, and efficient development. For the purposes of this policy, a sphere of influence amendment or update leads to planned, orderly, and efficient development only if all of the following criteria are met:*
- i. *The territory is likely to be developed within 5 years and has been designated for non-agricultural or open space use by applicable general and specific plans.*
 - ii. *Insufficient non-prime agricultural or vacant land exists within the sphere of influence of the agency that is planned and developable for the same general type of use.*
 - iii. *The proposal will have no significant adverse effects on the physical and economic integrity of other prime agricultural or open space lands.*
 - iv. *The territory is not within an area subject to a Greenbelt Agreement adopted by a city and the County of Ventura. If a City proposal involves territory within an adopted Greenbelt area, LAFCO will not approve the proposal unless all parties to the Greenbelt Agreement amend the Greenbelt Agreement to exclude the affected territory.*
 - v. *The use or proposed use of the territory involved is consistent with local plan and policies."* (Commissioner's Handbook Section 4.1.5.1)

"Findings that insufficient non-prime agricultural or vacant land exists: The Commission will not make affirmative findings that insufficient non-prime agricultural or vacant land exists within the sphere of influence of the agency unless the applicable jurisdiction has prepared a detailed alternative site analysis which at a minimum includes:

- i. *An evaluation of all vacant, non-prime agricultural lands within the sphere of influence and within the boundaries of the jurisdiction that could be developed for the same or similar uses.*

- ii. *An evaluation of the re-use and redevelopment potential of developed areas within the sphere of influence and within the boundaries of the jurisdiction for the same or similar uses.*
- iii. *Determinations as to why non-prime agricultural and vacant lands and potential re-use and redevelopment sites are unavailable or undesirable for the same or similar uses, and why conversion of prime agricultural or open space lands are necessary for the planned, orderly, and efficient development of the jurisdiction.” (Commissioner’s Handbook Section 4.1.5.2)*

“Impacts on adjoining prime agricultural or open space lands: In making the determination whether conversion will adversely impact adjoining prime agricultural or open space lands, the Commission will consider the following factors:

- i. *The prime agricultural and open space significance of the territory included in the sphere of influence amendment or update relative to other agricultural and open space lands in the region.*
 - ii. *The economic viability of the prime agricultural lands to be converted.*
 - iii. *The health and well being of any urban residents adjacent to the prime agricultural lands to be converted.*
 - iv. *Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of prime agricultural or open space land outside of the agency’s proposed sphere of influence, or will be extended through prime agricultural or open space lands outside the agency’s proposed sphere of influence.*
 - v. *Whether natural or man-made barriers serve to buffer prime agricultural or open space lands outside of the agency’s sphere of influence from the effects of the proposal.*
 - vi. *Applicable provisions of local general plans, applicable ordinances that require voter approval prior to the extension of urban services or changes to general plan designations, Greenbelt Agreements, applicable growth-management policies, and statutory provisions designed to protect agriculture or open space.*
 - vii. *Comments and recommendations by the Ventura County Agricultural Commissioner.” (Commissioner’s Handbook Section 4.1.5.3)*
- e. *Criteria for city sphere of influence amendments relating to schools*
“City and School District Collaborative Planning: To ensure that the affected city and school district(s) have engaged in good faith, collaborative long range planning for school sites, LAFCO will consider the following criteria when reviewing proposals for city sphere of influence amendments:
- i. *Whether a school site committee, made up of the affected city and school officials have been meeting to engage in discussions and long range planning and the meetings are ongoing.*
 - ii. *Whether the affected city has discussed all major development proposals with the school district.*
 - iii. *Whether the affected city has a policy of considering school capacity and location when reviewing major development proposals and long range plans.*

- iv. *Whether an official inventory of all potential sites has been evaluated and has been subject to public review.*
- v. *Whether the affected city general plan and specific plans include adequate and appropriate school locations.*
- vi. *Whether school siting has been addressed in the last five years of development in the affected city.*
- vii. *Whether the proposed sphere of influence change may be unnecessary if the affected city is considering expansions to the sphere of influence or city urban growth boundary.” (Commissioner’s Handbook Section 4.1.6.1)*

“Options Exhausted: To ensure that the affected school district(s) have exhausted options within the existing sphere of influence or city urban growth boundary, LAFCO will consider the following criteria when reviewing proposals for city sphere of influence amendments:

- i. *Whether the affected school district(s) has a long-range facility plan.*
- ii. *Whether the affected school district(s) has prepared an inventory and evaluation of all district-owned facilities.*
- iii. *Whether the affected school district(s) has considered joint use facilities with other entities, cities, parks, and other public institutions.*
- iv. *Whether the affected school district(s) has evaluated all undeveloped land within the affected city’s sphere of influence or city urban growth boundary.*
- v. *Whether the affected school district(s) has, after consideration of the safety and health of the children, considered asking for any appropriate exceptions from State of California school size guidelines.*
- vi. *Whether the school district has considered and eliminated multi-story school buildings as an option.” (Commissioner’s Handbook Section 4.1.6.2)*

“Overall Planning Issues Addressed: To ensure that the affected city and school district(s) have addressed overall planning issues, LAFCO will consider the following criteria when reviewing proposals for city sphere of influence amendments:

- i. *Whether there are unique safety and health concerns of the proposal.*
- ii. *Whether the proposed new school site is considered growth inducing.*
- iii. *Whether the proposal adversely affects agriculture and/or provides buffers between the school site and adjacent agriculture.*
- iv. *Whether the proposed school site is the best site available when considering logical, orderly, and efficient city boundaries and adopted greenbelts.*
- v. *Whether the affected city is willing to support expanding the urban growth boundary to accommodate the development site, including requesting a citizen’s vote if necessary.*
- vi. *Whether the affected school district(s), after an unsuccessful vote for approval, indicates that the school site must be sited outside the existing urban growth boundary.” (Commissioner’s Handbook Section 4.1.6.3)*

- 2. **Services outside boundaries and existing or proposed sphere of influence –** The City provides some services outside its boundaries and outside the existing and proposed sphere of influence. With limited exceptions Government Code Section 56133 precludes any city or special district from providing new or extended services outside their

boundaries and spheres of influence. The program EIR should clearly identify the City's existing and proposed service areas for each City service, and analyze the impacts of providing any "out of boundary" services and the City's obligations for expanding these services. Of special interest to LAFCO is the provision of City water service outside the existing City boundary in the Saticoy community and to areas outside the existing and any proposed sphere of influence, especially east of Wells Road north of Telegraph Road and to the Saticoy Country Club. The program EIR should address the City's obligations, if any, to provide new connections in terms of capacity and consistency with Government Code Section 56133.

3. Services by other agencies within the existing and proposed sphere of influence – The Ojai Valley Sanitary District, and, to a limited extent, the Casitas Municipal Water District provide service to the North Ventura Avenue Area that is currently outside the City boundaries. The program EIR should address the overlap in boundaries and spheres of influence, and the service capacities for these Districts in this area. Included should be an analysis of the service impacts of any agreements that may exist between the City and these Districts.

The Montalvo Municipal Improvement District provides sanitary sewer collection and treatment services to areas within the City and areas outside the current City boundaries, but within the existing and proposed sphere of influence. The program EIR should address the boundary and sphere of influence overlaps, the service area and capacities of this District, and should analyze the service impacts of any agreements that may exist between the City and this District.

The Saticoy Sanitary District provides sanitary sewer collection and treatment services to areas outside the current City boundaries, but within the existing and proposed sphere of influence. The program EIR should address the sphere of influence overlap and service area and capacities of this District, and should analyze the service impacts of any agreements that may exist between the City and this District.

Thank you again for the opportunity to review and comment on this NOP.

Sincerely,



Everett Millais
Executive Officer

cc: County of Ventura Planning Department
City of Oxnard Development Services Department
Ventura Unified School District
Ojai Valley Sanitary District
Casitas Municipal Water District
Montalvo Municipal Improvement District
Saticoy Sanitary District

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
120 SO. SPRING ST.
LOS ANGELES, CA 90012
PHONE (213) 897-6536
FAX (213) 897-1337
E-Mail: NersesYerjanian@dot.ca.gov



RECEIVED
NOV 03 2004
PLANNING DIV.

*Flex your power!
Be energy efficient!*

Ms. Lisa Porras
City of San Buenaventura
501 Poli St.
San Buenaventura, CA. 93001

IGR/CEQA# 041016/NY
NOP/Comprehensive Plan Update
SCH#2004101014
VEN/101,118,126,33

October 28, 2004

Dear Ms. Porras:

Thank you for including the California Department of Transportation in the review process for the proposed update of the City's Comprehensive Plan Update. The Plan includes updates to the Transportation, Land Use and Planning, Population/Housing Balance Elements. We have reviewed the information provided and offer the following comments.

This Department as the State agency responsible for planning, operations, and maintenance of State highways shares the same transportation goals with the City. We hope to continue to work together in improving mobility in the region.

Caltrans is particularly interested in the transportation planning roles of local jurisdictions and suggests that the following areas be emphasized.

- Coordination of planning efforts between local agencies and Caltrans district 7.
- Preservation of transportation corridors for future system improvements; and
- Development of coordinated transportation system management plans that achieve the maximum use of present and proposed infrastructure."

TRANSPORTATION/TRAFFIC ELEMENT

It is widely known that Southern California highways are heavily congested especially during morning and evening peak periods. We realize that to improve mobility there is a need for capacity enhancing project as well as other innovative alternatives.

New development will continue to increase use of local and regional roadways. We ask that the Transportation/Traffic element identify strategies the City will pursue to maintain good levels of service.

As in the past, we look forward to being a part of the environmental review process for projects that have the potential to significantly impact traffic conditions on State highways. To assist us in evaluating impacts to the State highway system, we ask that traffic studies be prepared and include analysis of the nearest State highway facilities.

For State thresholds and guidance on the preparation of acceptable traffic studies, please refer to the Statewide Guide for the preparation of Traffic Impact Studies at:
<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

If significant impacts are anticipated on the State highway system, the Department would work with the City and applicants to identify appropriate traffic mitigation measures.

We encourage the City to consider vehicular demand-reducing strategies. These include: incentives for commuters to use transit i.e. park-and-ride lots, discounts on monthly bus and rail passes, vanpools, etc. Other strategies may include transit-oriented development.

LAND-USE ELEMENT

As you are aware, there is a critical relationship between land use and transportation. **The quality of the State transportation system operation can affect the quality of the local circulation system operation.**

We ask that special attention be given to the jobs- and-housing balance concept. Communities with predominantly residential allocations should be encouraged to set aside areas for office, commercial/retail, and open space uses. Benefits of balanced communities include: reduction of long morning and evening commutes on State highways, shorter trips which in turn would reduce the consumption of fuel and air pollutants. It may also change direction of trips. Instead of most traffic traveling in one direction during peak periods, some trips may be diverted in the opposite direction.

BIOLOGICAL RESOURCES

We ask for consideration of natural corridors for dispersion of plant and animal wildlife on a regional basis. Of particular interest to Caltrans is some identification of and planning for locations where such corridors might run across or along transportation corridors

Ms. Porras

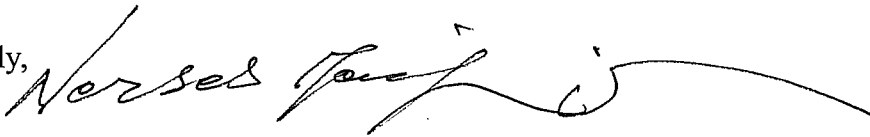
October 28, 2004

HOUSING ELEMENT

For large development projects, we ask that efforts be made to provide affordable housing for young workers and seniors to **ensure that substantial numbers of employees can afford to purchase homes and live in proposed projects.** We also ask that project proponents be encouraged to provide information on jobs along with housing development phases.

If you have any questions regarding our comments, you may contact the Project Engineer/Coordinator Mr. Yerjanian at (213) 897-6536 and refer to IGR/CEQA record number 041016NY. As the Comprehensive Plan Update program continues, we may offer additional comments. We look forward to discussing and/or meeting with you in the near future.

Sincerely,

A handwritten signature in cursive script, appearing to read "Nerses Powell", with a long horizontal flourish extending to the right.

CHERYL J. POWELL
IGR/CEQA Program Manager
California Department of Transportation
District 07

For:

Ventura County Watershed Protection District



RECEIVED

NOV 05 2004
PUBLIC WORKS AGENCY
Community Development
Ronald C. Goens
Agency Director
PLANNING DIVISION

Jeff Pratt
District Director

Lawrence Jackson, Deputy
Water Quality/Environmental

Peter Sheydayi, Deputy
Design/Construction

Sergio Vargas, Deputy
Planning/Regulatory

Tom Lagier, Manager
Operations/Maintenance

October 28, 2004

City of San Buenaventura
Planning Division
Attn : Ms Lisa Porras, Senior Planner
501 Poli Street, P.O. Box 99
Ventura, California 93002-0099

RECEIVED
NOV 08 2004
PLANNING DIV.

SUBJECT: RMA 04-086, Notice of Preparation of Draft Environmental Impact Report
Update of 1989 Comprehensive Plan

Dear Ms Porras :

The subject document has been reviewed with respect to issues under the purview of the Ventura County Watershed Protection District (District). Development generally causes an increase in the rate and volume of stormwater flow in downstream facilities. The EIR needs to discuss stormwater management in such a manner as to prevent potentially significant environmental impacts which might arise downstream of any future development.

The EIR should explore the impacts future development will have on surface water quality and quantity both during the construction phase and throughout the life of developed projects. Specific surface water quality issues that need to be addressed in the EIR include the following :

1. Coverage of all future development projects under the National Pollution Discharge Elimination System (NPDES) State General Construction Permit and the requirement for a Stormwater Pollution Control Plan, or equivalent document, covering water quality protection during the construction phase of future projects.

2. Future project designs need to incorporate applicable Best Management Practices (BMPs) that intercept stormwater and effectively prohibit pollutants from discharging to the storm drain system. Permanent BMPs, including those developed by the Ventura Countywide Stormwater Quality Management Program, should be evaluated for appropriateness on all future projects.

Any future development projects that include existing or proposed direct drain connections to District jurisdictional facilities or encroach into District rights-of-way will be subject to District review and permitting. District jurisdictional areas within the City and the SOI should be mapped and the maps should be included in the EIR and labeled as Protective Overlay Zones.

If you have questions regarding this review, please call the undersigned at 654-2906.

Very truly yours,



Kevin Keivanfar, P.E.
Manager, Permit Section
Watershed Protection District

TT/tt

c: Carl Morehouse, RMA Planning, County of Ventura

LOG NO. 20041007-004

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division

Christopher Stephens
Director

November 3, 2004

Lisa Porras
Community Development Department
Advance Planning Section
City Hall
501 Poli Street
P. O. Box 99
Ventura, CA 93002-0099

Post-It® Fax Note	7671	Date	# of pages ▶ 8
To	L. Porras	From	C. Morehouse
Co./Dept.		Co.	
Phone #		Phone #	
Fax #	653-0763	Fax #	

FAX #: (805) 653-0763

Subject: Update of 1989 Comprehensive Plan, NOP

Thank you for the opportunity to review and comment on the subject document. Attached are the comments that we have received resulting from intra-county review of the subject document.

Your proposed responses to these comments should be sent directly to the commentator, with a copy to Carl Morehouse, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Carl Morehouse at (805) 654-2476.

Sincerely,



Christopher Stephens
County Planning Director

G:\WPG\WINWORD\1K1-7.04.doc

Attachment

County RMA Reference Number 04-086

800 South Victoria Avenue, L#1750, Ventura, CA 93009 (805) 654-2481 Fax (805) 654-2509



COUNTY OF VENTURA**RESOURCE MANAGEMENT AGENCY
PLANNING DIVISION****M E M O R A N D U M**

DATE: November 3, 2004

TO: Carl Morehouse

FROM: ^{BS} Bruce Smith, Manager, General Plan Section

SUBJECT: Notice of Preparation for Update of City of San Buenaventura Comprehensive Plan

The City of Ventura is involved in an update to its Comprehensive Plan. We suggest that the EIR for this project include a jobs/housing analysis that would determine whether or not the new employment created would be appropriately balanced with new housing at commensurately affordable rates. An appropriate jobs/housing balance will result in positive benefits with respect to transportation and air quality impacts of the Comprehensive Plan, whereas an imbalance between jobs and housing would result in significant environmental impacts (increases vehicle miles traveled, increased air pollution, waste of energy resources, etc.).

Secondly, we have recently become aware of an inconsistency between the County's Saticoy Area Plan and the City's plan for this area. For many years, the County has planned an approximately 5-acre area south of Rosal Lane (APNs 90-142-11 and 90-043-13) as "Residential Two Family" and zoned the site as "R-2" (Two-Family Residential). The City plan designates this property as "Industrial". The property is not contiguous with the City and therefore cannot be annexed at this time. The City provides water service and apparently cannot or will not provide water service for residential development. The County is reluctant to re-designate the site to industrial because of an existing jobs/housing imbalance in the area and because of the County's need for additional affordable housing sites (Housing Element requirement). In addition, existing industrial development south of the site was conditioned to provide a buffer in anticipation of future residential development to the north. Thus we request that as part of your Comprehensive Plan Update project, the City re-evaluate the residential/industrial boundary in this area to be consistent with the County's Saticoy Area Plan.



**PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division**

NOV 2 04 PM 1:46

MEMORANDUM

DATE: November 1, 2004

TO: Resource Management Agency, Planning Division
Attention: Carl Morehouse

FROM: Nazir Lalani, Deputy Director *NLL*

SUBJECT: Review of Document 04-086, Notice of Preparation of an EIR
Update of the 1989 Comprehensive Plan for the City of Ventura
Project involves updating the 1989 plan through the year 2025 with the current goals, policies and objectives that reflect the current needs and preferences of the community. The plan will also consider inclusion of certain areas outside the current Sphere of Influence for development.
Project Applicant: City of San Buenaventura
Lead Agency: **City of San Buenaventura**

The Transportation Department has reviewed the notice of preparation for a Draft Environmental Impact Report to update the City of Ventura Comprehensive Plan which serves as a blue print for development in the City. The EIR should address the following comments:

1. In accordance with the Ventura LAFCO Commissioner's Handbook, section 3.2.1, cities shall annex entire roadway sections adjacent to territory proposed to be annexed and shall include complete intersections. The EIR should require conditions for annexing county roadway section adjacent to the development, when the proposed expansion areas are developed.
2. The updated year 2025 comprehensive plan for the City should incorporate the island areas of the unincorporated area of the County within the City.
3. The cumulative impacts of the development of this project when considered with the cumulative impact of all other approved (or anticipated) development projects in the County will be potentially significant. To address the cumulative adverse impacts of traffic on the County Regional Road Network, the appropriate Traffic Impact Mitigation fees should be paid to the County when development occurs. With payment of the Traffic Impact Mitigation Fees, the Level of Service and safety of the existing roads would remain consistent with the County's General Plan.
4. Please provide us a copy of the draft EIR for review, when it becomes available.

Our review of this project is limited to the impacts this project may have on the County's Regional Road Network.

Please call me at 654-2080 if you have questions.

F:\transport\lanDev\Non_County\04-0086 VEN.doc:sa

City of Ventura Comprehensive Plan Update/04-086

October 19, 2004

Page 2

Local Air Quality Impacts

APCD recommends that the Draft EIR discuss potential local air quality impacts, and provide appropriate mitigation measures, if any are projected to be significant.

AQMP Consistency

The Draft EIR should address the project's consistency with the Ventura County Air Quality Management Plan (AQMP). A project that is determined to be inconsistent with the AQMP is also determined to have a significant cumulative adverse air quality impact. Chapter 4 – Air Quality Management Plan Consistency, of the District's 2003 Guidelines, provides guidance on determining a project's AQMP consistency.

Mitigation Measures

If the project is determined to have a significant impact on regional and/or local air quality, the Draft EIR should include all feasible mitigation measures, including project design features. Chapter 7 of the District's 2003 Guidelines discusses a number of mitigation measures that may be appropriate for this project. In addition, the District encourages other mitigation measures not currently included in the 2003 Guidelines be considered.

The Draft EIR should explicitly state that air quality mitigation measures would be implemented unless a feasibility analysis shows them to be infeasible or other, more effective, air quality mitigation measures become available and are applied to the project. All of the mitigation measures and project design elements that are incorporated into the project should be considered when evaluating and presenting the air quality impacts of the project in the Draft EIR. Mitigation of the project's impacts shall apply to all portions of the project.

If you have any questions, contact me by telephone at (805) 645-1439 or by email at andy@vcapcd.org.



Office Of
AGRICULTURAL COMMISSIONER

P.O. Box 889, Santa Paula, CA 93061
815 East Santa Barbara Street
Telephone: (805) 933-3165
(805) 647-5931
FAX: (805) 625-8922

Agricultural Commissioner
W. Earl McPhail

Chief Deputy
David B. Buettner

OCT 9 8 2004

Memo

To: Carl Morehouse, Resource Management Agency
From: Susan Johnson, Deputy Agricultural Commissioner
CC: Julie Bulla
Date: October 7, 2004
Re: Update of 1989 Comprehensive Plan RMA Reference Number 04-086

The Agricultural Commissioner has commented extensively to the county and to the City of Ventura regarding what we consider essential elements in the Comprehensive Plan Update of the City of Ventura. We will consider the Environmental Impact Report when and if it is developed to comment on certain aspects of the project. Just as a reminder the Agricultural Commissioner's primary concern continues to be the effect that any proposed development would have on the continued viability of surrounding agricultural parcels. Development proposed in the General Plan Update should adequately buffer existing agricultural operations from incompatible uses and no development should create further conflicts at the agricultural urban interface. We would support aspects of the project that propose expansion into areas where that expansion would mitigate existing areas of conflict and or would remove parcels from production that are no longer viable due to encroaching non-compatible uses.

Ventura County Watershed Protection District



NOV 03 2004
PUBLIC WORKS AGENCY
RONALD C. COONS
Agency Director

Jeff Pratt
District Director

Lawrence Jackson, Deputy
Water Quality/Environmental

Peter Sheydayi, Deputy
Design/Construction

Sergio Vargas, Deputy
Planning/Regulatory

Tom Lagler, Manager
Operations/Maintenance

October 28, 2004

City of San Buenaventura
Planning Division
Attn : Ms Lisa Porras, Senior Planner
501 Poli Street, P.O. Box 99
Ventura, California 93002-0099

**SUBJECT: RMA 04-086, Notice of Preparation of Draft Environmental Impact Report
Update of 1989 Comprehensive Plan**

Dear Ms Porras :

The subject document has been reviewed with respect to issues under the purview of the Ventura County Watershed Protection District (District). Development generally causes an increase in the rate and volume of stormwater flow in downstream facilities. The EIR needs to discuss stormwater management in such a manner as to prevent potentially significant environmental impacts which might arise downstream of any future development.

The EIR should explore the impacts future development will have on surface water quality and quantity both during the construction phase and throughout the life of developed projects. Specific surface water quality issues that need to be addressed in the EIR include the following :

1. Coverage of all future development projects under the National Pollution Discharge Elimination System (NPDES) State General Construction Permit and the requirement for a Stormwater Pollution Control Plan, or equivalent document, covering water quality protection during the construction phase of future projects.

2. Future project designs need to incorporate applicable Best Management Practices (BMPs) that intercept stormwater and effectively prohibit pollutants from discharging to the storm drain system. Permanent BMPs, including those developed by the Ventura Countywide Stormwater Quality Management Program, should be evaluated for appropriateness on all future projects.

Any future development projects that include existing or proposed direct drain connections to District jurisdictional facilities or encroach into District rights-of-way will be subject to District review and permitting. District jurisdictional areas within the City and the SOI should be mapped and the maps should be included in the EIR and labeled as Protective Overlay Zones.

If you have questions regarding this review, please call the undersigned at 654-2906.

Very truly yours,



Kevin Keivanfar, P.E.
Manager, Permit Section
Watershed Protection District

TT/tt

c. Carl Morehouse, RMA Planning, County of Ventura

LOG NO. 20041007-004

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



December 29, 2004

Lisa Porras
City of Ventura
501 Poli Street
San Buenaventura, Ca 93001

RECEIVED
JAN 03 2005
PLANNING DIV.

RE: City of Ventura Comprehensive Plan Update

Dear Ms. Porras:

The Native American Heritage Commission has reviewed the Notice of Preparation (NOP) regarding the above referenced project. To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check.
 - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Rob Wood
Environmental Specialist III
(916) 653-4040

CC: State Clearinghouse

Native American ContactsVentura County
December 27, 2004

Chief Joseph Ballesteros 5811 Lone Pine Place Paso Robles , CA 93446 (805) 238-2784	Chumash Salinan	Julie Lynn Tumamait 365 North Pole Ave Ojai , CA 93023 jtumamait@hotmail.com (805) 646-6214	Chumash
Charles Cooke 32835 Santiago Road Acton , CA 93510 (661) 269-1244	Chumash Fernandeno Tataviam Kitanemuk	Patrick Tumamait 992 El Camino Corto Ojai , CA 93023 yanahea2@aol.com (805) 640-0481 (805) 216-1253 Cell	Chumash
Beverly Salazar Folkes 1931 Shadybrook Drive Thousand , CA 91362 805 492-7255	Chumash Tataviam Fernandeño	San Luis Obispo County Chumash Council Chief Mark Steven Vigil 1030 Ritchie Road Grover Beach , CA 93433 chiefmvgil@flx.net (805) 481-2461 (805) 474-4729 - Fax	Chumash
Owl Clan Dr. Kote & Lin A-Lul'Koy Lotah 48825 Sapaque Road Bradley , CA 93426 (805) 472-9536	Chumash	Owl Clan Qun-tan Shup 48825 Sapaque Road Bradley , CA 93426 (805) 472-9536	Chumash
Santa Ynez Band of Mission Indians Vincent Armenta, Chairperson P.O. Box 517 Santa Ynez , CA 93460 varmenta@santaynezchumash (805) 688-7997 (805) 686-9578 Fax	Chumash	Stephen William Miller .189 Cartagena Camarillo , CA 93010 (805) 484-2439	Chumash

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed SCH# 2004101014 - City of Ventura Comprehensive Update.

Native American Contacts
Ventura County
December 27, 2004

Santa Ynez Tribal Elders Council
Adelina Alva-Padilla, Chair Woman
P.O. Box 365 Chumash
Santa Ynez, CA 93460
elders@santaynezchumash.
(805) 688-8446
(805) 693-1768 FAX

Santa Ynez Band of Mission Indians
Laura Ray, Tribal Administrator
P.O. Box 517 Chumash
Santa Ynez, CA 93460
lray@santaynezchumash.net
(805) 688-7997
(805) 686-9578 Fax

Carol A. Pulido
15011 Lockwood Valley Rd. Chumash
Frazier Park, CA 93225
(661) 245-3081

Randy Guzman - Folkes
3044 East Street Chumash
Simi Valley, CA 93065-3929 Fernandefio
traditional75@hotmail.com Tataviam
(805) 579-9206 Shoshone Paiute
(805) 797-5605 (cell) Yaqui

Charles S. Parra
P.O. Box 6612 Chumash
Oxnard, CA 93031
(805) 340-3134 (Cell)
(805) 488-0481 (Home)

Richard Angulo
1222 Potter Avenue Chumash
Thousand Oaks, CA 91360
(805) 493-2863 (Work)
(805) 493-2163 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed SCH# 2004101014 - City of Ventura Comprehensive Update.

RINCON COPY



Office of
AGRICULTURAL COMMISSIONER

P.O. Box 889, Santa Paula, CA 93061
815 East Santa Barbara Street
Telephone: (805) 933-3165
(805) 647-5931
FAX: (805) 525-8922

**Agricultural
Commissioner**
W. Earl McPhail

Chief Deputy
David Buettner

RECEIVED
JAN 05 2005
PLANNING DIV.

Lisa Porras
City of San Buenaventura
Community Development Department
501 Poli Street
Ventura, CA 93001

RE: Update of 1988 Comprehensive Plan Revised Notice of Preparation: RMA #04-086-1

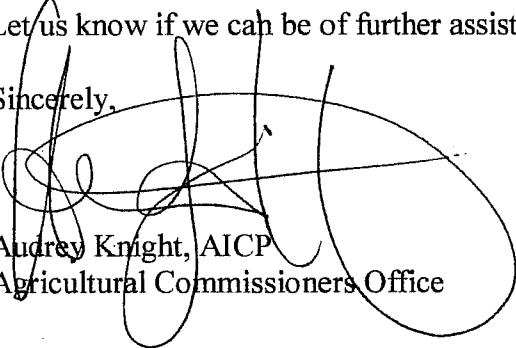
In reviewing the alternative potential expansion areas under consideration we have the following observations:

1. The city's current Sphere of Influence encompasses expansion areas identified as Poinsettia, Serra, and North Avenue, a total of 937 acres, currently also covered under SOAR. These agricultural properties are surrounded by residential, school and outdoor recreation uses that have given rise to complaints about farming activity. It may be appropriate for the SOAR effecting these properties to be lifted, creating a more natural progression of development for the city and enabling the compromised farming activities to be turned to more compatible land uses within the existing urban area.
2. Expansion of the SOI to 2025 beyond the above listed areas, into a large expanse of Prime Agriculture soils, specifically the area identified as Olivas (930 acres), is not in keeping with the city's stated infill and redevelopment policies for the central core, downtown, and Ventura Avenue. Nor would it be in keeping with the adopted Greenbelt (which the City of Oxnard intends to preserve), or the County policies for the preservation of agriculture. The removal of 930 acres of prime farmland does not appear to be justified and is in conflict with city, county, Coastal Commission and state adopted policies.
3. Alternative #3 appears to be most in keeping with all stated policies and goals of both the city and the County of Ventura. This scenario requires minimum expansion of the SOI, limited removal of prime agricultural soils and land protected under SOAR, and provides direction for growth to 2025.
4. The Agricultural Commissioners Office also supports alternatives #4 and/or #6. While removing active farm activity, as noted above, continuing to farm inside the existing urbanized area has become increasingly difficult, and in the long run, these areas provide the most logical loss of prime soils to urban development.

The Agricultural Policy Advisory Committee and the County Agricultural Commissioners Office have kept the position that normal farming activity is not compatible with residential, school and outdoor recreational uses if adequate buffers are not in place. The city needs to consider if it has a long-term desire to surround active farmland, and if so, the entirety of that land should remain intact, and not developed on a piecemeal basis. Additionally, adjacent property owners need to be informed about the "right-to-farm" ordinance and adequate distance and vegetative buffers need to be secured and maintained by neighboring urban uses.

Let us know if we can be of further assistance as you evaluate these alternatives.

Sincerely,



Audrey Knight, AICP
Agricultural Commissioners Office

Lincon: 641-1072 FAX

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division

Christopher Stephens
Director

January 19, 2005

Post-It® Fax Note	7671	Date	1-20-05	# of pages	3
To	L. Porras	From	C. Morehouse		
Co./Dupl.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Lisa Porras, Senior Planner
Community Development Department
City of San Buenaventura
501 Poli Street, P.O. Box 99
Ventura, CA 93002-0099

FAX #: (805) 653-0763

SUBJECT: Revised Notice of Preparation of Draft EIR for Comp. Plan Update

Thank you for the opportunity to review and comment on the above subject document. Attached are the comments that we have received resulting from an intra-county review of the projects.

Any responses to these comments should be sent directly to the commenter, with a copy to Carl Morehouse, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Carl Morehouse at (805) 654-2476.

Sincerely,



Christopher Stephens
County Planning Director

Attachment

County RMA Reference Number 04-086-1



Revised City of Ventura Comprehensive Plan Update NOP/04-086
December 28, 2004
Page 2

will be generated by construction activities. A copy of the 2003 Guidelines can be accessed from the downloadable materials section of the APCD website at www.vcapcd.org.

Local Air Quality Impacts

APCD recommends that the Draft EIR discuss potential local air quality impacts, and provide appropriate mitigation measures, if any are projected to be significant.

AQMP Consistency

The Draft EIR should address the project's consistency with the Ventura County Air Quality Management Plan (AQMP). A project that is determined to be inconsistent with the AQMP is also determined to have a significant cumulative adverse air quality impact. Chapter 4 – Air Quality Management Plan Consistency, of the District's 2003 Guidelines, provides guidance on determining a project's AQMP consistency.

Mitigation Measures

If the project is determined to have a significant impact on regional and/or local air quality, the Draft EIR should include all feasible mitigation measures, including project design features. Chapter 7 of the District's 2003 Guidelines discusses a number of mitigation measures that may be appropriate for this project. In addition, the District encourages other mitigation measures not currently included in the 2003 Guidelines be considered.

The Draft EIR should explicitly state that air quality mitigation measures would be implemented unless a feasibility analysis shows them to be infeasible or other, more effective, air quality mitigation measures become available and are applied to the project. All of the mitigation measures and project design elements that are incorporated into the project should be considered when evaluating and presenting the air quality impacts of the project in the Draft EIR. Mitigation of the project's impacts shall apply to all portions of the project.

If you have any questions, contact me by telephone at (805) 645-1439 or by email at andy@vcapcd.org.



**PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division
MEMORANDUM**

DATE: January 20, 2005

TO: Resource Management Agency, Planning Division
Attention: Carl Morehouse

FROM: Nazir Lalani, Deputy Director

SUBJECT: Review of Document 04-086-1, **Revised** Notice of Preparation of an EIR
Update of the 1988 Comprehensive Plan for the City of Ventura
Project involves updating the 1988 plan through the year 2025 with the current goals, policies and objectives that reflect the current needs and preferences of the community. The plan will also consider inclusion of certain areas outside the current Sphere of Influence for development.
Project Applicant/ Lead Agency: City of San Buenaventura

The Transportation Department has reviewed the revised notice of preparation for a Draft Environmental Impact Report to update the City of Ventura Comprehensive Plan which serves as a blue print for development in the City. Our comments are the same as in our memo dated November 1, 2004 and are as follows:

The EIR should address the following comments:

1. In accordance with the Ventura LAFCO Commissioner's Handbook, section 3.2.1, cities shall annex entire roadway sections adjacent to territory proposed to be annexed and shall include complete intersections. The EIR should require conditions for annexing county roadway section adjacent to the development, when the proposed expansion areas are developed.
2. The updated year 2025 comprehensive plan for the City should incorporate the island areas of the unincorporated area of the County within the City.
3. The cumulative impacts of the development of this project when considered with the cumulative impact of all other approved (or anticipated) development projects in the County will be potentially significant. To address the cumulative adverse impacts of traffic on the County Regional Road Network, the appropriate Traffic Impact Mitigation fees should be paid to the County when development occurs. With payment of the Traffic Impact Mitigation Fees, the Level of Service and safety of the existing roads would remain consistent with the County's General Plan.
4. Please provide us a copy of the draft EIR for review, when it becomes available.

Our review of this project is limited to the impacts this project may have on the County's Regional Road Network.

Please call me at 654-2080 if you have questions.

F:\transport\LanDev\Non_County\04-0086 VEN-1.doc:sa



California
Department of
Health Services

SANDRA SHEWRY
Director

State of California—Health and Human Services Agency
Department of Health Services



ARNOLD SCHWARZENEGGER
Governor

January 20, 2005

RECEIVED
JAN 20 2005
PLANNING DIV.

Lisa Porras
City of San Buenaventura
501 Poli Street
San Buenaventura, CA 93001

RE: City of Ventura Comprehensive Plan Update: SCH 2004101014

The California Department of Health Services (CDHS) Environmental Review Unit is in receipt of the Notice of Preparation for the above project. As a "responsible agency" under the California Environmental Quality Act (CEQA), we appreciate the opportunity to comment.

If the City finds it necessary to develop new water supply wells and/or make modifications to an existing domestic water system to serve the proposed developments, an application to amend the existing water system permit must be submitted to the CDHS Santa Barbara District Office.

These future developments and future infrastructure improvements may be subject to further environmental review pursuant to the requirements of CEQA as a result of this separate permitting process.

If you have any questions, please contact the Field Office at (805) 566-1326. We look forward to working with you in the future.

Sincerely,

A handwritten signature in cursive script that reads "Veronica L. Ramirez".

Veronica L. Ramirez
California Department of Health Services
Environmental Review Unit

Cc:

CDHS Santa Barbara District Office
State Clearinghouse



RECEIVED January 20, 2005
 JAN 25 2005
 PLANNING DIV.

Lisa Porras, Senior Planner
 City of San Buenaventura
 PO Box 99
 Ventura, CA 93002

RE: REVISED NOTICE OF PREPARATION - COMPREHENSIVE PLAN UPDATE EIR

Dear Ms ^{Lisa} Porras:

Earlier today we discussed the Revised Notice of Preparation (NOP) for the program environmental impact report (EIR) for the City's Comprehensive Plan update. Specifically, I inquired about the "Intensification/Reuse Only Scenario" listed in the revised NOP and the reference in the description to the *current* Sphere of Influence. You indicated that you thought it meant the *proposed* Sphere of Influence and would verify this with the City's EIR consultants. A short while later you called me back and left a message indicating that in fact the Intensification/Reuse Only Scenario in the Revised NOP applies to the *proposed* Sphere of Influence.

When we spoke about the Intensification/Reuse Only Scenario I did not intend to comment further about the NOP as at that time I thought that my October 25, 2004 comment letter would be sufficient. However, after reviewing the revised NOP in more detail, please consider the following additional comments in preparing the EIR:

1. The description of the Intensification/Reuse Only Scenario should be entirely revised for clarity. There is a substantial difference between the City's *current* sphere of influence and the *proposed* Sphere of Influence shown on the Proposed Land Use Diagram that accompanied both the original and revised NOPs. The City's *current* Sphere of Influence includes a large portion of the hillsides covered by the Hillside Voter Protection Act (HVPA), but does not include the "Olivas Potential Expansion Area." This difference is several thousand acres in area.

If the Intensification/Reuse Only Scenario description is simply modified to substitute the word "proposed" for the word "current" when referring to the Sphere of Influence, I believe this will still be confusing. The description would then state that future development will be limited to areas within the *proposed* Sphere of Influence and that none of the possible expansion areas would be considered. This leaves the reader to figure out that this scenario does not include the North Avenue Potential Expansion Area, the Olivas Potential Expansion Area, the Poinsettia Potential Expansion Area, and/or the Serra Potential Expansion Area, and having to note that the Western Cañada Larga Potential Expansion Area is not in the *proposed* Sphere of Influence. Even though not mentioned, there are a number of properties covered by the City's SOAR Ordinance that are within the *proposed* Sphere of Influence that cannot readily be developed. The

Lisa Porras, Senior Planner
City of San Buenaventura
Revised Notice of Preparation – Comprehensive Plan Update EIR
January 20, 2005
Page 2 of 3

description should be re-written so it is clear where future development will occur under this scenario and if areas covered by the City's SOAR Ordinance are included.

2. The first page of the revised NOP indicates the City is, "...considering inclusion of certain areas *outside* the *current* Sphere of Influence for future development." (emphasis added). This statement is followed by a list of five areas. It should be clearly noted that of these five areas, three – North Avenue, Serra and Poinsettia - are entirely *within* the *current* Sphere of Influence. Thus, the revised NOP is repeating an error from the original NOP. This error should not be repeated in the EIR. The EIR needs to clearly identify what is in the City's *current* Sphere of Influence and what is to be in the City's *proposed* Sphere of Influence.
3. The Western Cañada Larga Potential Expansion Area is outside both the current and the proposed Sphere of Influence. Scenario no. 3 in the revised NOP, the Intensification/Reuse + North Avenue + Western Cañada Larga Scenario – should discuss the effects and impacts, especially the service impacts, of having this area remain outside the City's Sphere of Influence. Note that with very limited exceptions the City cannot provide services to any area outside its Sphere of Influence unless it is already doing so.
4. Spheres of Influence are set by LAFCO, not the City. Amending or updating Spheres of Influence are projects under CEQA. If the City wants LAFCO, as a responsible agency, to utilize the Comprehensive Plan Update EIR to amend or update the City's current Sphere of Influence, or to use this EIR in the future for any City boundary change proposals, it is critical that the *proposed* Sphere of Influence be discussed in the context of the *current* Sphere of Influence and in the context of each scenario, including the no project scenario. In other words, what is the difference between the *current* Sphere of Influence and the *proposed* Sphere of Influence for each scenario, how is each consistent with the LAFCO policies identified in my October 25, 2004 comment letter, and what are the impacts associated with the Sphere of Influence changes proposed for each scenario?
5. None of the scenarios in the revised NOP include the Poinsettia Potential Expansion Area. Thus, based on the revised NOP the EIR will apparently not discuss any development or service extension impacts that may be associated with the Poinsettia area. This area is, however, apparently proposed to remain within the City's Sphere of Influence. Given this fact, the EIR should contain another scenario to provide for a discussion of the impacts of having the Poinsettia area, and any similar non-expansion or non-growth areas, remain in the City's Sphere of Influence contrary to the LAFCO policies noted in my October 25, 2005 comment letter.

While it may not be possible as a matter of policy at this time, it would be preferable and easier in terms of the necessary CEQA analyses to revise the basic project description to have the proposed Sphere of Influence coincide with the boundaries of each scenario to be reviewed. Based on both the original and revised NOP, however, there is apparently only one proposed Sphere of Influence to be analyzed and it is independent of any of the scenarios. If this remains to be true, the EIR will need to discuss the related

Lisa Porras, Senior Planner
City of San Buenaventura
Revised Notice of Preparation – Comprehensive Plan Update EIR
January 20, 2005
Page 3 of 3

impacts not just for the Poinsettia area, but also for any other area proposed to remain in the Sphere of Influence but where no growth is to occur or City services provided.

6. For overall clarity and analysis there should be a separate map or maps prepared for each scenario reviewed. Each such map or maps should clearly indicate the City's existing boundary, the current Sphere of Influence and the proposed Sphere of Influence.

Please accept these additional comments as being meant to assist in the preparation of an accurate, complete, clearly understandable and useable EIR.

Sincerely,



Everett Millais
Executive Officer

cc: County of Ventura Planning Department

28 January 2005

City of Ventura
Lisa Porras, Senior Planner
501 Poli Street
Ventura, CA. 93001

Re: EIR Scoping Meeting held on January 12, 2005

Dear Lisa,

Please find below a few comments from Ventura Citizens for Hillside Preservation on the scope of the EIR for the updated Comp Plan.

Given that the meeting was not noticed like the prior Comp Plan meetings would you mind if we submit further comments next week if we have any? Not everyone in our group has PowerPoint so very few of our directors could open the attachment I forwarded from you. I do not know if we will have further comments, but would like to know that you will accept them if we do.

1. We need to be noticed about any future meetings on the EIR or other topics related to the Comp Plan update.
2. The Intensification/Reuse scenario including Canada Larga should be removed from consideration since the area lies in a flood plain. Recent flooding in that area indicates that other scenarios would be more preferable for any required expansion.
3. Where is the Hillside Management Plan discussed? Will its implementation be the same? Will it be incorporated into the Comp Plan in this update?
4. What are the environmental impacts of compressing the old land-use categories (24+) down to the handful recommended by staff? What are the impacts on future development?
5. The EIR must examine any changes to the Comp Plan that will affect development in any hillside areas.


This is direct input from our meeting last evening. I hope to have a few more comments from everyone next week now that they've had a chance to review the PowerPoint presentation at our meeting. If I receive further comments I will pass them on to you. Please let me know if you will still be accepting comments through the first week of February.







Thank you.


Regards,
Kathy Bremer
VENTURA CITIZENS FOR HILLSIDE PRESERVATION






Appendix B

2005 General Plan Actions


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	










Number	Action	Lead Entity	Timeframe
1. OUR NATURAL COMMUNITY			
1.1	 Adhere to the policies and directives of the California Coastal Act in reviewing and permitting any proposed development in the Coastal Zone.	CD [CP]	Ongoing
1.2	 Prohibit non-coastal-dependent energy facilities within the Coastal Zone, and require any coastal-dependent facilities including pipelines and public utility structures to avoid coastal resources (including recreation, habitat, and archaeological areas) to the extent feasible, or to minimize any impacts if development in such areas is unavoidable.	CD [CP]	Ongoing
1.3	 Work with the State Department of Parks and Recreation, Ventura County Watershed Protection Agency, and the Ventura Port District to determine and carry out appropriate methods for protecting and restoring coastal resources, including by supplying sand at beaches under the Beach Erosion Authority for Control Operations and Nourishment (BEACON) South Central Coast Beach Enhancement program.	PW [E]	Ongoing
1.4	 Require new coastal development to provide non-structural shoreline protection that avoids adverse impacts to coastal processes and nearby beaches.	CD [CP]	Ongoing
1.5	 Collect suitable material from dredging and development, and add it to beaches as needed and feasible.	PW [E]	Ongoing
1.6	 Support continued efforts to decommission Matilija Dam to improve the sand supply to local beaches.	PW [U]	Long-term
1.7	Update the Hillside Management Program to address and be consistent with the Planning Designations as defined and depicted on the General Plan Diagram.	CD [LRP]	Short-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	





Number	Action	Lead Entity	Timeframe
1.8	 Buffer barrancas and creeks that retain natural soil slopes from development according to state and Federal guidelines.	CD [LD]	Ongoing
1.9	 Prohibit placement of material in watercourses other than native plants and required flood control structures, and remove debris periodically.	PW [MS/P]	Ongoing
1.10	 Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.	PW [MS/P]	Long-term
1.11	 Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or "natural" areas.	CD [LRP]	Short-term
1.12	Update the provisions of the Hillside Management Program as necessary to ensure protection of open space lands.	CD [LRP]	Mid-term
1.13	Recommend that the City's Sphere of Influence be coterminous with existing City limits in the hillsides in order to preserve the hillsides as open space.	CD [LRP]	Short-term
1.14	Work with established land conservation organizations toward establishing a Ventura hillsides preserve.	PW [P]	Long-term
1.15	Actively seek local, state, and Federal funding sources to achieve preservation of the hillsides.	PW [P]	Mid-term
1.16	 Comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures that limit impacts to aquatic ecosystems and that preserve and restore the beneficial uses of natural watercourses and wetlands in the city.	PW	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	



Number	Action	Lead Entity	Timeframe
1.17	 Require development to mitigate its impacts on wildlife through the development review process.	CD [CP]	Ongoing
1.18	 Require new development adjacent to rivers, creeks, and barrancas to use native or non-invasive plant species, preferably drought tolerant, for landscaping.	CD [CP] PW [P]	Ongoing
1.19	 Require projects near watercourses, shoreline areas, and other sensitive habitat areas to include surveys for State and/or federally listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species.	CD [LRP]	Long-term
1.20	 Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species.	PW [E]	Ongoing
1.21	 Work with State Parks on restoring the Alessandro Lagoon and pursue funding cooperatively.	PW [P]	Long-term
1.22	 Adopt development code provisions to protect mature trees as defined by minimum height, canopy, and/or tree trunk diameter.	CD [LRP]	Short-term
1.23	 Require, where appropriate, the preservation of healthy tree windrows associated with current and former agricultural uses, and incorporate trees into the design of new developments.	CD [CP]	Short-term
1.24	 Require new development to maintain all indigenous tree species or provide adequately sized replacement native trees on a 3:1 basis.	CD [CP]	Ongoing
1.25	 Purchase and use recycled materials and alternative and renewable energy sources as feasible in	AS [P]	Ongoing

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	


Number	Action	Lead Entity	Timeframe
	City operations.		
1.26	 Reduce pesticide use in City operations.	PW [P]	Mid-term
1.27	Utilize green waste as biomass/compost in City operations.	PW [P]	Mid-term
1.28	Purchase low-emission City vehicles, and convert existing gasoline-powered fleet vehicles to cleaner fuels as technology becomes available.	PW [MS]	Mid-term
1.29	 Require all City funded projects that enter design and construction after January 1, 2006 to meet a design construction standard equivalent to the minimum U.S. Green Building Council LEED™ Certified rating in accordance with the City's Green Building Standards for Private and Municipal Construction Projects.	FD [IS]	Short-term
1.30	Provide information to businesses about how to reduce waste and pollution and conserve resources.	PW [MS]	Short-term
1.31	 Provide incentives for green building projects in both the public and private sectors to comply with either the LEED™ Rating System, California Green Builder, or the Residential Built Green program and to pursue registration and certification; incentives include "Head-of-the-Line" discretionary processing and "Head-of-the-Line" building permit processing.	FD [IS]	Short-term
1.32	 Apply for grants, rebates, and other funding to install solar panels on all City-owned structures to provide at least half of their electric energy requirements.	PW	Ongoing






S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	


Number	Action	Lead Entity	Timeframe
1.33	Publicly acknowledge individuals and businesses that implement green construction and building practices.	FD [IS]	Ongoing
2. OUR PROSPEROUS COMMUNITY			
2.1	Track economic indicators for changes that may affect City land resources, tax base, or employment base, such as terms and conditions of sale or lease of available office, retail, and manufacturing space.	CD [ED]	Ongoing
2.2	Prepare an economic base analysis that identifies opportunities to capture retail sales in sectors where resident purchasing has leaked to other jurisdictions.	CD [ED]	Short-term
2.3	Maintain and update an Economic Development Strategy to implement City economic goals and objectives.	CD [ED]	Ongoing
2.4	 Map priority locations for commercial and industrial development and revitalization, including a range of parcel sizes targeted for high-technology, non-durables manufacturing, finance, business services, tourism, and retail uses.	CD	Short-term
2.5	Share economic and demographic information with organizations that may refer businesses to Ventura.	CD [ED]	Ongoing
2.6	 Encourage intensification and diversification of uses and properties in districts, corridors, and neighborhood centers, including through assembly of vacant and underutilized parcels.	CD [ED]	Ongoing










APPENDIX A

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	

Number	Action	Lead Entity	Timeframe
2.7	Partner with local commerce groups to recruit companies and pursue funding for business development and land re-utilization.	CD [ED]	Ongoing
2.8	Carry out Housing Element programs that provide housing to all segments of the local workforce.	CD	Ongoing
2.9	Expedite review for childcare facilities that will provide support to local employees.	CD [CP]	Short-term
2.10	Expedite review of the entitlement process for installation of infrastructure necessary to support high technology and multimedia companies.	CA	Mid-term
2.11	 Allow mixed-use development in commercial and industrial districts as appropriate.	CD [LRP]	Short-term
2.12	 Allow uses such as conference centers with resort amenities on appropriately sized and located parcels.	CD [LRP]	Short-term
2.13	Market the city to businesses that link agriculture with high technology, such as biotechnology enterprises.	CD [ED]	Ongoing
2.14	 Partner with local farms to promote farmers markets and high quality locally grown food.	CS	Ongoing
2.15	 Provide incentives for use of waterfront parcels for recreation, visitor-serving commerce, restaurant, marina, and fishing uses.	CD [ED]	Short-term
2.16	 Work with the State to create year-round commercial opportunities at the fairgrounds.	CD [ED]	Long-term


S U M M A R Y O F A C T I O N S






<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	

Number	Action	Lead Entity	Timeframe
2.17	 Partner with the Harbor District and National Park Service to promote Channel Islands tours and develop a marine learning center.	CS	Long-term
2.18	 Prioritize uses within the Harbor Specific Plan area as follows: (1) coastal dependent, (2) commercial fishing, (3) coastal access, and (4) visitor serving commercial and recreational uses.	CD	Short-term
2.19	 Partner with hotels and the Chamber of Commerce to promote city golf courses.	CS [GS/AS]	Long-term
2.20	 Promote outdoor recreation as part of an enhanced visitor opportunity strategy.	CS	Mid-term
3. OUR WELL PLANNED AND DESIGNED COMMUNITY			
3.1	 Preserve the stock of existing homes by carrying out Housing Element programs.	CD	Ongoing
3.2	 Enhance the appearance of districts, corridors, and gateways (including views from highways) through controls on building placement, design elements, and signage.	CD [LRP]	Short-term
3.3	 Require preservation of public view sheds and solar access.	CD [CP]	Short-term
3.4	 Require all shoreline development (including anti-erosion or other protective structures) to provide public access to and along the coast, unless it would duplicate adequate access existing nearby, adversely affect agriculture, or be inconsistent with public safety, military security, or protection of fragile coastal resources.	CD [CP]	Ongoing
3.5	 Establish land development incentives to upgrade the appearance of poorly maintained or	FD [IS]	Mid-term

Comment: Respect geology? Do we mean avoid geologic hazards?

Comment: Preserve and enhance?


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	




Number	Action	Lead Entity	Timeframe
	otherwise unattractive sites, and enforce existing land maintenance regulations.		
3.6	 Expand and maintain the City's urban forest and thoroughfare landscaping, using native species, in accordance with the City's Park and Development Guidelines and Irrigation and Landscape Guidelines.	PW [P]	Ongoing
3.7	Evaluate whether lot coverage standards should be changed based on neighborhood character.	CD [LRP]	Short-term
3.8	 Adopt new development code provisions that designate neighborhood centers, as depicted on the General Plan Diagram, for a mixture of residences and small-scale, local-serving businesses.	CD [LRP]	Short-term
3.9	 Adopt new development code provisions that designate areas within districts and corridors for mixed-use development that combines businesses with housing and focuses on the redesign of single-use shopping centers and retail parcels into walkable, well connected blocks, with a mix of building types, uses, and public and private frontages.	CD [LRP]	Short-term
3.10	 Allow intensification of commercial areas through conversion of surface parking to building area under a districtwide parking management strategy in the Downtown Specific Plan.	CD [LRP]	Short-term
3.11	 Expand the downtown redevelopment area to include parcels around future transit areas and along freeway frontage.	CD [RDA]	Mid-term
3.12	The City will work with the hospitals on the new Development Code treatment for the Loma Vista corridor, which includes both hospitals.	CD [LRP]	Short-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years</p> <p style="text-align: right;">Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	



Number	Action	Lead Entity	Timeframe
3.13	Assess whether the City's Affordable Housing Programs respond to current needs, and modify them as necessary within State mandated Housing Element updates	CD	Ongoing
3.14	Utilize infill development, to the extent possible, to accommodate the targeted number and type of housing units described in the Housing Element	CD [LRP]	Ongoing
3.15	Adopt new development code provisions that ensure compliance with Housing Element objectives.	CD [LRP]	Short-term
3.16	Renew and modify greenbelt agreements as necessary to direct development to already urbanized areas.	CD [LRP]	Long-term
3.17	Continue to support the Guidelines for Orderly Development as a means of implementing the General Plan, and encourage adherence to these Guidelines by all the cities, the County of Ventura, and the Local Agency Formation Commission (LAFCO); and work with other nearby cities and agencies to avoid sprawl and preserve the rural character in areas outside the urban edge.	CD [LRP]	Ongoing
3.18	Complete community or specific plans, subject to funding, for areas such as Westside, Midtown, Downtown, Wells, Saticoy, Pierpont, Harbor, Loma Vista/Medical District, Victoria Corridor, and others as appropriate. These plans will set clear development standards for public and private investments, foster neighborhood partnerships, and be updated as needed.	CD [LRP]	Ongoing
3.19	Preparation of the new Development Code will take into account existing or proposed community or specific plans to ensure efficient use of City resources and ample citizen input.	CD [LRP]	Short-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	




Number	Action	Lead Entity	Timeframe
3.20	Pursuant to SOAR, adopt development code provisions to “preserve agricultural and open space lands as a desirable means of shaping the City’s internal and external form and size, and of serving the needs of the residents.”	CD [LRP]	Short-term
3.21	 Adopt performance standards for non-farm activities in agricultural areas that protect and support farm operations, including requiring non-farm uses to provide all necessary buffers as determined by the Agriculture Commissioner’s Office.	CD [LRP]	Short-term
3.22	 Offer incentives for agricultural production operations to develop systems of raw product and product processing locally.	CD [ED]	Mid-term
3.23	 Develop and adopt a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation.	CD [LRP]	Short-term
3.24	Revise the Residential Growth Management Program (RGMP) with an integrated set of growth management tools including: <ul style="list-style-type: none"> • Community or specific plans and development codes based on availability of infrastructure and transit that regulate community form and character by directing new residential development to appropriate locations and in ways that integrate with and enhance existing neighborhoods, districts and corridors; • appropriate mechanisms to ensure that new residential development produces high-quality 	CD [LRP]	Short-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	








Number	Action	Lead Entity	Timeframe
	<p>designs and a range of housing types across all income levels; and,</p> <ul style="list-style-type: none"> • numeric limitations linked to the implementation of community or specific plans and development codes and the availability of appropriate infrastructure and resources; within those limitations, the RGMP should provide greater flexibility for timing new residential development. 		
3.25	<p> Establish first priority growth areas to include the districts, corridors, and neighborhood centers as identified on the General Plan Diagram; and second priority areas to include vacant undeveloped land when a community plan has been prepared for such (within the City limits).</p>	CD [LRP]	Short-term
3.26	<p> Establish and administer a system for the gradual growth of the City through identification of areas set aside for long-term preservation, for controlled growth, and for encouraged growth.</p>	CD [LRP]	Mid-term
3.27	<p>Require the use of techniques such as digital simulation and modeling to assist in project review.</p>	CD [CP]	Short-term
3.28	<p>Revise the planning processes to be more user-friendly to both applicants and neighborhood residents in order to implement City policies more efficiently.</p>	CD [CP]	Short-term
4. OUR ACCESSIBLE COMMUNITY			
4.1	<p>Direct city transportation investment to efforts that improve user safety and keep the circulation system structurally sound and adequately maintained. First priority for capital funding will go to our pavement management program to return Ventura streets to excellent conditions.</p>	PW [E]	Ongoing


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	






Number	Action	Lead Entity	Timeframe
4.2	Develop a prioritized list of projects needed to improve safety for all travel modes and provide needed connections and multiple route options.	PW [E]	Short-term
4.3	Provide transportation services that meet the special mobility needs of the community including youth, elderly, and disabled persons.	PW [E]	Ongoing
4.4	Combine education with enforcement to instill safe and courteous use of the shared public roadway.	CS	Ongoing
4.5	 Utilize existing roadways to meet mobility needs, and only consider additional travel lanes when other alternatives are not feasible.	CD [LRP]	Ongoing
4.6	Require new development to be designed with interconnected transportation modes and routes to complete a grid network.	CD [CP]	Short-term
4.7	 Update the traffic mitigation fee program to fund necessary citywide circulation system and mobility improvements needed in conjunction with new development.	CD [LD]	Short-term
4.8	Implement the City's Neighborhood Traffic Management Program and update as necessary to improve livability in residential areas.	PW [E]	Ongoing
4.9	 Identify, designate, and enforce truck routes to minimize the impact of truck traffic on residential neighborhoods.	PW [E]	Ongoing
4.10	Modify traffic signal timing to ensure safety and minimize delay for all users.	PW [E]	Short-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years</p> <p align="right">Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	




Number	Action	Lead Entity	Timeframe
4.11	Refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.	PW [E]	Short-term
4.12	 Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles.	PW [E]	Ongoing
4.13	 Require project proponents to analyze traffic impacts and provide adequate mitigation in the form of needed improvements, in-lieu fee, or a combination thereof.	CD [LD]	Ongoing
4.14	 Provide development incentives to encourage projects that reduce automobile trips.	CD [CP]	Short-term
4.15	Encourage the placement of facilities that house or serve elderly, disabled, or socioeconomically disadvantaged persons in areas with existing public transportation services and pedestrian and bicycle amenities.	CD [CP]	Ongoing
4.16	 Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes.	PW [E]	Ongoing
4.17	 Prepare and periodically update a Mobility Plan that integrates a variety of travel alternatives to minimize reliance on any single mode.	CD [LRP]	Short-term
4.18	 Promote the development and use of recreational trails as transportation routes to connect housing with services, entertainment, and employment.	PW [P]	Ongoing
4.19	 Adopt new development code provisions that establish vehicle trip reduction requirements for all development.	CD [LRP]	Short-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	


Number	Action	Lead Entity	Timeframe
4.20	Develop a transportation demand management program to shift travel behavior toward alternative modes and services.	PW [E]	Mid-term
4.21	 Require new development to provide pedestrian and bicycle access and facilities as appropriate, including connected paths along the shoreline and watercourses.	PW [E/P]	Short-term
4.22	 Update the General Bikeway Plan as needed to encourage bicycle use as a viable transportation alternative to the automobile and include the bikeway plan as part of a new Mobility Plan.	PW [E]	Mid-term
4.23	 Upgrade and add bicycle lanes when conducting roadway maintenance as feasible.	PW [E]	Ongoing
4.24	 Require sidewalks wide enough to encourage walking that include ramps and other features needed to ensure access for mobility-impaired persons.	PW [E]	Short-term
4.25	 Adopt new development code provisions that require the construction of sidewalks in all future projects, where appropriate.	CD [LRP]	Short-term
4.26	Establish a parking management program to protect the livability of residential neighborhoods, as needed.	CD [LRP]	Short-term
4.27	Extend stubbed-end streets through future developments, where appropriate, to provide necessary circulation within a developing area and for adequate internal circulation within and between neighborhoods. Require new developments in the North Avenue area, where applicable, to extend Norway Drive and Floral Drive to connect to Canada Larga Road; and connect the existing segments of Floral Drive. Designate the extension of Cedar Street between Warner Street and	PW [E]	Mid-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		





Number	Action	Lead Entity	Timeframe
	south of Franklin Lane and the linking of the Cameron Street segments in the Westside community as high priority projects.		
4.28	 Require all new development to provide for citywide improvements to transit stops that have sufficient quality and amenities, including shelters and benches, to encourage ridership.	PW [E]	Short-term
4.29	Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.	HR	Mid-term
4.30	Work with public transit agencies to provide information to riders at transit stops, libraries, lodging, and event facilities.	PW [E]	Ongoing
4.31	Work with public and private transit providers to enhance public transit service.	PW [E]	Mid-term
4.32	 Coordinate with public transit systems for the provision of additional routes as demand and funding allow.	PW [E]	Long-term
4.33	 Work with Amtrak, Metrolink, and Union Pacific to maximize efficiency of passenger and freight rail service to the City and to integrate and coordinate passenger rail service with other transportation modes.	PW [E]	Mid-term
4.34	Lobby for additional transportation funding and changes to Federal, State, and regional transportation policy that support local decision-making.	PW [E]	Ongoing
4.35	The City shall pursue funding and site location for a multi-modal transit facility in coordination with VCTC, SCAT, U.P.R.R., Metrolink, Greyhound Bus Lines, and other forms of	PW [E]	Mid-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years</p> <p style="text-align: right;">Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	








Number	Action	Lead Entity	Timeframe
	transportation.		
4.36	 Require development along the following roadways – including noise mitigation, landscaping, and advertising – to respect and preserve views of the community and its natural context. <ul style="list-style-type: none"> • State Route 33 • U.S. HWY 101 • Anchors Way • Brakey Road • Fairgrounds Loop • Ferro Drive • Figueroa Street • Harbor Boulevard • Main Street • Navigator Drive • North Bank Drive • Poli Street/Foothill Road • Olivas Park Drive • Schooner Drive 	CD [CP]	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	






Number	Action	Lead Entity	Timeframe
	<ul style="list-style-type: none"> • Spinnaker Drive • Summit Drive • Telegraph Road – east of Victoria Avenue • Victoria Avenue – south of U.S. 101 • Wells Road 		
4.37	Request that State Route 126 and 33, and U.S. HWY 101 be designated as State Scenic Highways.	CD [LRP]	Short-term
4.38	 Continue to work with Caltrans to soften the barrier impact of U.S. HWY 101 by improving signage, aesthetics and undercrossings and overcrossings.	PW [E/P]	Ongoing
4.39	 Maintain street trees along scenic thoroughfares, and replace unhealthy or missing trees along arterials and collectors throughout the City.	PW [P]	Ongoing
5. OUR SUSTAINABLE INFRASTRUCTURE			
5.1	 Require low flow fixtures, leak repair, and drought tolerant landscaping (native species if possible), plus emerging water conservation techniques, such as reclamation, as they become available.	CD [CP]	Ongoing
5.2	 Use natural features such as bioswales, wildlife ponds, and wetlands for flood control and water quality treatment when feasible.	PW [MS/P]	Ongoing
5.3	Demonstrate low water use techniques at community gardens and city-owned facilities.	PW [U/P]	Mid-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	








Number	Action	Lead Entity	Timeframe
5.4	Update the Urban Water Management plan as necessary in compliance with the State 1983 Urban Water Management Planning Act.	PW [U]	Ongoing
5.5	 Provide incentives for new residences and businesses to incorporate recycling and waste diversion practices, pursuant to guidelines provided by the Environmental Services Office.	PW [MS]	Ongoing
5.6	 Require project proponents to conduct sewer collection system analyses to determine if downstream facilities are adequate to handle the proposed development.	PW [U]	Ongoing
5.7	 Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage requirements in order to determine if there are any system deficiencies or needed improvements for the proposed development.	PW [U]	Ongoing
5.8	 Locate new development in or close to developed areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.	CD [LRP]	Ongoing
5.9	 Update development fee and assessment district requirements as appropriate to cover the true costs associated with development.	AS	Mid-term
5.10	 Utilize existing waste source reduction requirements, and continue to expand and improve composting and recycling options.	PW [MS]	Mid-term
5.11	Increase emergency water supply capacity through cooperative tie-ins with neighboring suppliers.	PW [U]	Mid-term
5.12	 Apply new technologies to increase the efficiency of the wastewater treatment system.	PW [U]	Mid-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	




Number	Action	Lead Entity	Timeframe
5.13	 Increase frequency of city street sweeping, and post schedules at key points within each neighborhood.	PW [MS]	Mid-term
5.14	 Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City.	PW [MS]	Short-term
5.15	 Establish assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist.	PW [MS]	Mid-term
5.16	 Require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff utilizing methods such as pervious paving material for parking and other paved areas to facilitate rainwater percolation and retention/detention basins that limit runoff to pre-development levels.	CD [LD]	Ongoing
5.17	 Require stormwater treatment measures within new development to reduce the amount of urban pollutant runoff in the Ventura and Santa Clara Rivers and other watercourses.	CD [LD]	Ongoing
5.18	Work with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, and/or develop alternative means of disposal that will provide sufficient capacity for solid waste generated in the City.	PW [MS]	Long-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	

Number	Action	Lead Entity	Timeframe
6. OUR ACTIVE COMMUNITY			
6.1	 Develop new neighborhood parks, pocket parks, and community gardens as feasible and appropriate to meet citizen needs, and require them in new development.	PW [P]	Long-term
6.2	 Require higher density development to provide pocket parks, tot lots, seating plazas, and other aesthetic green spaces.	CD [CP]	Short-term
6.3	 Work with the County to plan and develop trails that link the City with surrounding open space and natural areas, and require development projects to include trails when appropriate.	PW [P]	Ongoing
6.4	 Request Flood Control District approval of public access to unchannelized watercourses for hiking.	PW [P]	Mid-term
6.5	 Seek landowner permission to allow public access on properties adjacent to open space where needed to connect trails.	PW [P]	Ongoing
6.6	 Update plans for and complete the linear park system as resources allow.	PW [P]	Long-term
6.7	Work with the County of Ventura to initiate efforts to create public trails in the hillside area.	PW [P]	Mid-term
6.8	Update and require periodic reviews of the Park and Recreation Workbook as necessary to reflect City objectives and community needs.	PW [P]	Mid-term
6.9	 Require dedication of land identified as part of the City's Linear Park System in conjunction with new development.	PW [P]	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	




Number	Action	Lead Entity	Timeframe
6.10	Evaluate and incorporate, as feasible, linear park segments in the General Bikeway Plan.	PW [E]	Ongoing
6.11	Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.	PW [P]	Short-term
6.12	Update and carry out the Grant Park Master Plan.	PW [P]	Mid-term
6.13	 Foster the partnership between the City and Fair Board to improve Seaside Park.	CD [ED]	Ongoing
6.14	Improve facilities at City parks to respond to the requirements of special needs groups.	PW [P]	Mid-term
6.15	Adjust and subsidize fees to ensure that all residents have the opportunity to participate in recreation programs.	CS [CR]	Short-term
6.16	Update the project fee schedule as necessary to ensure that development provides its fair share of park and recreation facilities.	PW [P]	Short-term
6.17	Update and create new agreements for joint use of school and City recreational and park facilities.	CS [CR] PW [P]	Mid-term
6.18	 Offer programs that highlight natural assets, such as surfing, sailing, kayaking, climbing, gardening, and bird watching.	CS [CR]	Ongoing
6.19	 Provide additional boating and swimming access as feasible.	PW	Long-term


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	





Number	Action	Lead Entity	Timeframe
6.20	Earmark funds for adequate maintenance and rehabilitation of existing skatepark facilities, and identify locations and funding for new development of advanced level skatepark facilities.	PW [P]	Mid-term
6.21	Promote the use of City facilities for special events, such as festivals, tournaments, and races.	CS [CA]	Ongoing
6.22	Enter into concession or service agreements where appropriate to supplement City services.	PW	Ongoing
7. OUR HEALTHY AND SAFE COMMUNITY			
7.1	Work with interested parties to identify appropriate locations for assisted-living, hospice, and other care-provision facilities.	CS [SS]	Short-term
7.2	Provide technical assistance to local organizations that deliver health and social services to seniors, homeless persons, low-income citizens, and other groups with special needs.	CS [SS]	Ongoing
7.3	Participate in school and agency programs to: <ul style="list-style-type: none"> ◆ provide healthy meals, ◆ combat tobacco, alcohol, and drug dependency, ◆ distribute city park and recreation materials through schools, and ◆ distribute information about the benefits of proper nutrition and exercise. 	CS [SS]	Ongoing
7.4	Enhance or create ordinances which increase control over ABC licensed premises.	PD	Mid-term
7.5	Investigate the creation of new land use fees to enhance funding of alcohol related enforcement, prevention and training efforts.	PD	Mid-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	





Number	Action	Lead Entity	Timeframe
7.6	 Adopt updated editions of the California Construction Codes and International Codes as published by the State of California and the International Code Council respectively.	FD [IS]	Ongoing
7.7	 Require project proponents to perform geotechnical evaluations and implement mitigation prior to development of any site: <ul style="list-style-type: none"> • with slopes greater than 10 percent or that otherwise have potential for landsliding, • along bluffs, dunes, beaches, or other coastal features • in an Alquist-Priolo earthquake fault zone or within 100 feet of an identified active or potentially active fault, • in areas mapped as having moderate or high risk of liquefaction, subsidence, or expansive soils, • in areas within 100-year flood zones, in conformance with all Federal Emergency Management Agency regulations. 	CD [CP/LD]	Ongoing
7.8	 To the extent feasible, require new critical facilities (hospital, police, fire, and emergency service facilities, and utility "lifeline" facilities) to be located outside of fault and tsunami hazard zones, and require critical facilities within hazard zones to incorporate construction principles that resist damage and facilitate evacuation on short notice.	FD	Ongoing
7.9	Maintain and implement the Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan.	FD	Ongoing


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	



Number	Action	Lead Entity	Timeframe
7.10	 Require proponents of any new developments within the 100-year floodplain to implement measures, as identified in the Floodplain Ordinance, to protect structures from 100-year flood hazards (e.g., by raising the finished floor elevation outside the floodplain).	FD [IS]	Ongoing
7.11	 Prohibit grading for vehicle access and parking or operation of vehicles within any floodway.	FD [IS]	Ongoing
7.12	 Refer development plans to the Fire Department to assure adequacy of structural fire protection, access for firefighting, water supply, and vegetation clearance.	CD [CP]	Ongoing
7.13	 Resolve extended response time problems by: <ul style="list-style-type: none"> • adding a fire station at the Pierpont/Harbor area, • relocating Fire Station #4 to the Community Park site, • increasing firefighting and support staff resources, • reviewing and conditioning annexations and development applications, and • require the funding of new services from fees, assessments, or taxes as new subdivisions are developed. 	FD	Long-term
7.14	Educate and reinforce City staff understanding of the Standardized Emergency Management System for the State of California.	FD	Ongoing
7.15	Increase public access to police services by: <ul style="list-style-type: none"> • increasing police staffing to coincide with increasing population, development, and calls for 	PD	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		





Number	Action	Lead Entity	Timeframe
	service, • increasing community participation by creating a Volunteers in Policing Program, and • require the funding of new services from fees, assessments, or taxes as new subdivisions are developed.		
7.16	Provide education about specific safety concerns such as gang activity, senior-targeted fraud, and property crimes.	PD	Ongoing
7.17	Establish a nexus between police department resources and increased service demands associated with new development.	PD	Mid-term
7.18	 Continue to operate the Downtown police storefront.	PD	Ongoing
7.19	Expand Police Department headquarters as necessary to accommodate staff growth	PD	Mid-term
7.20	 Require air pollution point sources to be located at safe distances from sensitive sites such as homes and schools.	FD [IS]	Short-term
7.21	 Require analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval.	FD [IS]	Ongoing
7.22	 In accordance with Ordinance 93-37, require payment of fees to fund regional transportation demand	CD [LD]	Ongoing


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	







Number	Action	Lead Entity	Timeframe
	management (TDM) programs for all projects generating emissions in excess of Ventura County Air Pollution Control District adopted levels.		
7.23	 Require individual contractors to implement the construction mitigation measures included in the most recent version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines.	PW [E]	Ongoing
7.24	Only approve projects involving sensitive land uses (such as residences, schools, daycare centers, playgrounds, medical facilities) within or adjacent to industrially designated areas if an analysis provided by the proponent demonstrates that the health risk will not be significant.	CD [CP]	Ongoing
7.25	Adopt new development code provisions that ensure uses in mixed-use projects do not pose significant health effects.	CD [LRP]	Short-term
7.26	Seek funding for cleanup of sites within the Brownfield Assessment Demonstration Pilot Program and other contaminated areas in West Ventura.	CD [ED]	Mid-term
7.27	 Require proponents of projects on or immediately adjacent to lands in industrial, commercial, or agricultural use to perform soil and groundwater contamination assessments in accordance with American Society for Testing and Materials standards, and if contamination exceeds regulatory action levels, require the proponent to undertake remediation procedures prior to grading and development under the supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or Regional Water Quality Control Board (depending	FD [IS]	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	



Number	Action	Lead Entity	Timeframe
	upon the nature of any identified contamination).		
7.28	Educate residents and businesses about how to reduce or eliminate the use of hazardous materials, including by using safer non-toxic equivalents.	PW [MS]	Ongoing
7.29	 Require non-agricultural development to provide buffers, as determined by the Agriculture Commissioner's Office, from agricultural operations to minimize the potential for pesticide drift.	CD [CP]	Short-term
7.30	 Require all users, producers, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use, or transport, and to notify the appropriate City, County, State and Federal agencies in the event of a violation.	FD [IS]	Ongoing
7.31	 Work toward voluntary reduction or elimination of aerial and synthetic chemical application in cooperation with local agricultural interests and the Ventura County agricultural commissioner.	FD [IS]	Mid-term
7.32	 Require acoustical analyses for new residential developments within the mapped 60 decibel (dBA) CNEL contour, or within any area designated for commercial or industrial use, and require mitigation necessary to ensure that: <ul style="list-style-type: none"> • Exterior noise in exterior spaces of new residences and other noise sensitive uses that are used for recreation (such as patios and gardens) does not exceed 65 dBA CNEL, and • Interior noise in habitable rooms of new residences does not exceed 45 dBA CNEL with all windows closed. 	FD [IS]	Ongoing


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	



Number	Action	Lead Entity	Timeframe
7.33	 As funding becomes available, construct sound walls along U.S. 101, SR 126, and SR 33 in areas where existing residences are exposed to exterior noise exceeding 65 dBA CNEL.	PW [E]	Long-term
7.34	 Request that sound levels associated with concerts at the County Fairgrounds be limited to 70 dBA at the eastern edge of that property.	CS	Short-term
7.35	 Request the termination of auto racing at the County fairgrounds	CS	Short-term
7.36	 Amend the noise ordinance to restrict leaf blowing, amplified music, trash collection, and other activities that generate complaints.	FD [IS]	Short-term
7.37	 Use rubberized asphalt or other sound reducing material for paving and re-paving of City streets.	PW [E]	Ongoing
7.38	 Update the Noise Ordinance to provide standards for residential projects and residential components of mixed-use projects within commercial and industrial districts.	CD [LRP]	Short-term
8. OUR PROSPEROUS COMMUNITY			
8.1	Work closely with schools, colleges, and libraries to provide input into site and facility planning.	CS	Ongoing
8.2	Organize a regional education summit to generate interest in and ideas about learning opportunities.	CS	Mid-term
8.3	Adopt joint-use agreements with libraries, schools, and other institutions to maximize use of educational facilities.	CS	Mid-term
8.4	Distribute information about local educational programs.	CS	Mid-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	







Number	Action	Lead Entity	Timeframe
8.5	Install infrastructure for wireless technology and computer networking in City facilities.	AS	Short-term
8.6	 Establish educational centers at City parks.	PW [P] CS	Mid-term
8.7	 Work with the State Parks Department to establish a marine learning center at the Harbor.	PW [P]	Long-term
8.8	Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development.	CD [LRP]	Ongoing
8.9	Complete a new analysis of community needs, rethinking the role of public libraries in light of the ongoing advances in information technology and the changing ways that individuals and families seek out information and life-long learning opportunities.	CS	Mid-term
8.10	Reassess the formal and informal relationships between our current three branch public libraries and school libraries – including the new Ventura College Learning Resource Center – as well as joint use of facilities for a broader range or compatible public, cultural, and educational uses.	CS	Mid-term
8.11	Develop a Master Plan for Facilities, Programs, and Partnerships to create an accessible, robust, and vibrant library for the 21 st Century system, taking into consideration that circulation of books is no longer the dominant function but will continue to be an important part of a linked network of learning centers.	CS	Mid-term
8.12	Develop formal partnerships, funding, capital strategies, and joint use agreements to implement the	CS	Ongoing


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	









Number	Action	Lead Entity	Timeframe
	new libraries Master Plan.		
9. OUR CREATIVE COMMUNITY			
9.1	Require works of art in public spaces per the City's Public Art Program Ordinance.	CD [CP]	Mid-term
9.2	 Sponsor and organize local art exhibits, performances, festivals, cultural events, and forums for local arts organizations and artists.	CS	Ongoing
9.3	 Expand outreach and publicity by: <ul style="list-style-type: none"> ◆ promoting locally produced art and local cultural programs, ◆ publishing a monthly calendar of local art and cultural features, ◆ distributing the <i>State of the Arts</i> quarterly report, and ◆ offering free or subsidized tickets to events. 	CS	Ongoing
9.4	Support the creative sector through training and other professional development opportunities.	CS	Short-term
9.5	Work with the schools to integrate arts education into the core curriculum	CS	Short-term
9.6	Promote the cultural and artistic expressions of Ventura's underrepresented cultural groups.	CS	Mid-term
9.7	Offer ticket subsidy and distribution programs and facilitate transportation to cultural offerings.	CS	Ongoing
9.8	Increase the amount of live-work development, and allow its use for production, display, and sale of	CD [LRP]	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	

Number	Action	Lead Entity	Timeframe
	art.		
9.9	Work with community groups to locate sites for venues for theater, dance, music, and children's programming.	CS [CR]	Mid-term
9.10	 Provide incentives for preserving structures and sites that are representative of the various periods of the city's social and physical development.	CD [LRP]	Mid-term
9.11	Organize and promote multi-cultural programs and events that celebrate local history and diversity.	CS [CA]	Ongoing
9.12	 Allow adaptive reuse of historic buildings.	CD [LRP]	Short-term
9.13	 Work with community groups to identify locations for facilities that celebrate local cultural heritage, such as a living history Chumash village and an agricultural history museum.	CS [CA]	Long-term
9.14	 Require archaeological assessments for projects proposed in the Coastal Zone and other areas where cultural resources are likely to be located.	CD [CP]	Ongoing
9.15	 Suspend development activity when archaeological resources are discovered, and require the developer to retain a qualified archaeologist to oversee handling of the resources in coordination with the Ventura County Archaeological Society and local Native American organizations as appropriate.	CD [CP]	Ongoing
9.16	 Pursue funding to preserve historic resources.	CS	Ongoing

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	


Number	Action	Lead Entity	Timeframe
9.17	 Provide incentives to owners of eligible structures to seek historic landmark status and invest in restoration efforts.	CD [LRP]	Short-term
9.18	 Require that modifications to historically-designated buildings maintain their character.	CD [CP]	Ongoing
9.19	 For any project in a historic district or that would affect any potential historic resource or structure more than 40 years old, require an assessment of eligibility for State and federal register and landmark status and appropriate mitigation to protect the resource.	CD [CP]	Ongoing
9.20	 Seek input from the City's Historic Preservation Commission on any proposed development that may affect any designated or potential landmark.	CD [CP]	Ongoing
9.21	 Update the inventory of historic properties.	CD [LRP]	Ongoing
9.22	 Create a set of guidelines and/or policies directing staff, private property owners, developers, and the public regarding treatment of historic resources that will be readily available at the counter.	CD [LRP]	Short-term
9.23	 Complete and maintain historic resource surveys containing all the present and future components of the historic fabric within the built, natural, and cultural environments.	CD [LRP]	Ongoing
9.24	 Create a historic preservation element.	CD [LRP]	Long-term
10. OUR INVOLVED COMMUNITY			
10.1	Conduct focused outreach efforts to encourage all members of the community – including youth, seniors, special needs groups, and non-English speakers – to participate in City activities.	CM [CE]	Short-term



S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p align="right">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
10.2	Obtain public participation by seeking out citizens in their neighborhoods and gathering places such as schools, houses of worship and public spaces.	CM [CE]	Ongoing
10.3	Invite civic, neighborhood, and non-profit groups to assist with City project and program planning and implementation.	CD	Ongoing
10.4	Provide incentives for City staff to participate in community and volunteer activities.	HR	Short-term
10.5	Invite seniors to mentor youth and serve as guides at historical sites.	CS	Short-term
10.6	Offer internships in City governance, and include youth representatives on public bodies.	CS	Mid-term
10.7	Continue to offer the Ambassadors program to obtain citizens assistance with City projects.	PW	Ongoing
10.8	Utilize the City website as a key source of information and expand it to serve as a tool for civic engagement.	CM [CE]	Short-term
10.9	Publish an annual report that evaluates City performance in such areas as conservation, housing, and economic development.	CD	Mid-term
10.10	Continue to improve the user-friendliness of the media that communicate information about the City, including the website, cable channels, newsletters, kiosks, and water billing statements.	CM [CE]	Short-term
10.11	Establish a clear policy toward the scope, role, boundaries, and jurisdiction of neighborhood Community Councils citywide, with the objectives of strengthening their roles in decision-making.	CD [LRP]	Mid-term

A P P E N D I X A

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>	

Number	Action	Lead Entity	Timeframe
10.12	 Establish stronger partnerships with neighborhood Community Councils to set area priorities for capital investment, community policing, City services, commercial investment, physical planning, education, and other concerns, to guide both City policies and day-to-day cooperation and problem-solving.	CD [LRP]	Ongoing
10.13	 Recognizing that neighborhood empowerment must be balanced and sustained by overall City policies and citywide vision and resources – establish a citywide Neighborhood Community Congress where local neighborhood Community Councils can collaborate and learn from each other.	CM[CE]	Mid-term
10.14	Establish clear liaison relationships to foster communication, training, and involvement efforts between the City, neighborhood Community Councils and other community partners, including the Ventura Unified School District and business, civic, cultural and religious groups.	CM [CE]	Short-term

Appendix C

Project Description Information

Intensification/Reuse Only (Scenario 1)

	Residential Development (units)	Non-Residential Development (square feet)				
		Retail	Office	Industrial	Hotel	Total
Districts						
Upper North Avenue	100	10,000	50,000	150,000		210,000
North Avenue	50	10,000	50,000	250,000		310,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,000,000		1,325,000
Auto Center	50	300,000	50,000	300,000		650,000
Metrolink	50		50,000		25,000	75,000
Saticoy	50	0		25,000		25,000
Subtotals (Districts)	2,425	536,000	700,000	1,750,000	300,000	3,286,000
Corridors						
Ventura Avenue	800	40,000	100,000	50,000		190,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	50,000	0	570,000
SO/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	185,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	811,000	1,090,000	1,800,000	300,000	4,101,000
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Saticoy/East End	840	7,950	5,600			13,550
Arundell		41,840	42,614	18,080		102,534
Oltvas		7,160	7,066	390,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	769,724
Totals (Intensification + Expansion + Pending)	8,318	992,377	1,213,214	2,235,133	450,000	4,890,724

Notes:

1. Overall residential growth is based on 0.88% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.

2. The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. When possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.

3. Estimates of growth in the SO/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for these areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.

4. Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.

5. Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.

6. The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Intensification/Reuse + N. Avenue + Olivas + Serra (Scenario 2)

	Residential Development (units)	Non-Residential Development (square feet)				
		Retail	Office	Industrial	Hotel	Total
Districts						
Upper North Avenue	100	10,000	50,000	200,000		260,000
North Avenue	50	10,000	50,000	400,000		460,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,200,000		1,525,000
Auto Center	50	300,000	50,000	300,000		650,000
Metrolink	50		50,000	50,000		100,000
Saticoy	50	0		75,000		75,000
Subtotals (Districts)	2,425	536,000	700,000	2,225,000	300,000	3,761,000
Corridors						
Ventura Avenue	800	40,000	100,000	100,000		240,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	100,000	0	620,000
SOI/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpoint	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	185,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	911,000	1,090,000	2,325,000	300,000	4,626,000
Expansion Areas						
North Avenue	176	18,295				18,295
Olivas	1,484	109,771	439,085			548,856
Serra	1,042	91,476	256,133			347,609
Canada Larga						
Poinsettia						
Subtotals (Expansion)	2,702	219,542	695,218	0	0	914,760
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Saticoy/East End	840	7,950	5,800			13,550
Arundell		41,840	42,614	18,060		102,334
Olivas		7,150	7,066	390,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	11,020	1,211,919	1,908,432	2,760,133	450,000	6,330,484

Notes:

1. Overall residential growth is based on 1.14% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.

2. The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. When possible, knowledge of possible future plans of land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.

3. Estimates of growth in the SOI/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpoint area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.

4. Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.

5. Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.

6. The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square foot of industrial development in the Auto Center area; (2) 185,000 square foot of retail development along Wells Road in the Saticoy area; (3) 50,000 square foot of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Intensification/Reuse + North Avenue + Olivas (Scenario 3)

	Residential Development (units)	Non-Residential Development (square feet)				Total
		Retail	Office	Industrial	Hotel	
Districts						
Upper North Avenue	100	10,000	50,000	200,000		260,000
North Avenue	50	10,000	50,000	400,000		460,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,200,000		1,525,000
Auto Center	50	300,000	50,000	300,000		650,000
MetroLink	50		50,000	50,000		100,000
Saticoy	50	0		75,000		75,000
Subtotals (Districts)	2,425	536,000	700,000	2,225,000	300,000	3,761,000
Corridors						
Ventura Avenue	800	40,000	100,000	100,000		240,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	100,000	0	620,000
SOI/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	911,000	1,090,000	2,325,000	300,000	4,626,000
Expansion Areas						
North Avenue	322	36,590	54,886			91,476
Olivas	2,394	182,952	640,332			823,284
Serra						
Canada Larga						
Poinsettia						
Subtotals (Expansion)	2,716	219,542	695,218	0	0	914,760
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Saticoy/East End	840	7,950	5,600			13,550
Arundell		41,640	42,614	18,080		102,334
Olivas		7,160	7,066	390,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	11,034	1,211,919	1,908,432	2,760,133	450,000	6,330,484

Notes:

- Overall residential growth is based on 1.14% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.
- The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of future growth, but will accommodate a certain amount of growth over time. When possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.
- Estimates of growth in the SOI/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.
- Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.
- Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.
- The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Raiston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Intensification/Reuse + North Avenue + Serra (Scenario 4)

	Residential Development (units)	Non-Residential Development (square feet)				Total
		Retail	Office	Industrial	Hotel	
Districts						
Upper North Avenue	100	10,000	50,000	200,000		280,000
North Avenue	50	10,000	50,000	400,000		460,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,200,000		1,525,000
Auto Center	50	300,000	50,000	300,000		650,000
MetroLink	50		50,000	50,000		100,000
Saticoy	50	0		75,000		75,000
Subtotals (Districts)	2,425	536,000	700,000	2,225,000	300,000	3,761,000
Corridors						
Ventura Avenue	800	40,000	100,000	100,000		240,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	100,000	0	620,000
SO/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,800	911,000	1,090,000	2,325,000	300,000	4,626,000
Expansion Areas						
North Avenue	322	36,590	54,888			91,478
Olivas						0
Serra	2,380	182,952	640,332			823,284
Canada Larga						
Poinsettia						
Subtotals (Expansion)	2,702	219,542	695,218	0	0	914,780
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	298		4,300			4,300
Saticoy/East End	840	7,950	5,600			13,550
Arundell		41,840	42,814	18,080		102,334
Olivas		7,160	7,066	390,063		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	11,020	1,211,919	1,908,432	2,760,133	450,000	6,330,484

Notes:

- Overall residential growth is based on 1.14% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.
- The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. Where possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.
- Estimates of growth in the SO/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.
- Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include soil storage facilities.
- Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.
- The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Intensification/Reuse + North Avenue + W. Canada Larga (Scenario 5)

	Residential Development (units)	Non-Residential Development				Total
		Retail	Office	Industrial	Hotel	
Districts						
Upper North Avenue	100	10,000	50,000	200,000		260,000
North Avenue	50	10,000	50,000	400,000		460,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,200,000		1,525,000
Auto Center	50	300,000	50,000	300,000		650,000
MetroLink	50		50,000			100,000
Saticoy	50	0		75,000		75,000
Subtotals (Districts)	2,425	536,000	700,000	2,225,000	300,000	3,761,000
Corridors						
Ventura Avenue	800	40,000	100,000	100,000		240,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	100,000	0	620,000
SO/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	911,000	1,090,000	2,325,000	300,000	4,626,000
Expansion Areas						
North Avenue	979	91,476	219,542			311,018
Olivas						0
Serra						
Canada Larga	1,728	109,771	439,085			548,856
Poinsettia						
Subtotals (Expansion)	2,707	201,247	658,627	0	0	859,874
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Saticoy/East End	840	7,950	5,600			13,550
Arundell		41,640	42,614	18,080		102,334
Olivas		7,160	7,066	390,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	11,025	1,193,624	1,871,841	2,760,133	450,000	6,275,598

Notes:

- Overall residential growth is based on 1.14% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.
- The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. When possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.
- Estimates of growth in the SO/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.
- Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.
- Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.
- The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Intensification/Reuse + North Avenue + Poinsettia (Scenario 6)

	Residential Development (units)	Non-Residential Development				Total
		Retail	Office	Industrial	Hotel	
Districts						
Upper North Avenue	100	10,000	50,000	200,000		260,000
North Avenue	50	10,000	50,000	400,000		460,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	66,000			150,000	216,000
Arundell	200	25,000	300,000	1,200,000		1,525,000
Auto Center	50	300,000	50,000	300,000		650,000
Metrolink	50		50,000	50,000		100,000
Saticoy	50	0		75,000		75,000
Subtotals (Districts)	2,425	536,000	700,000	2,225,000	300,000	3,761,000
Corridors						
Ventura Avenue	800	40,000	100,000	100,000		240,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	100,000	0	620,000
SOV/Other Infill						
101/126 Agriculture	200					0
Wells/Saticoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	911,000	1,080,000	2,325,000	300,000	4,626,000
Expansion Areas						
North Avenue	322	36,590	54,886			91,476
Olivas						0
Serra						
Canada Larga						
Poinsettia	2,380	182,952	640,332			823,284
Subtotals (Expansion)	2,702	219,542	695,218	0	0	914,760
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Saticoy/East End	840	7,950	5,800			13,550
Arundell		41,640	42,614	18,080		102,334
Olivas		7,160	7,966	390,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	11,020	1,211,919	1,908,432	2,760,133	450,000	6,330,484

Notes:

- Overall residential growth is based on 1.14% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.
- The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. Where possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.
- Estimates of growth in the SOV/Other infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.
- Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.
- Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.
- The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Expansion Area Acres by Use

Intensification/Reuse + N. Avenue + Olivas + Serra				
	N. Avenue	Olivas	Serra	Total
Res. Low	10	120	70	200
Res. Medium	5	40	32	77
Res. High	2	10	8	20
Office		24	14	38
Retail	1	6	5	12
Schools	10	60	40	110
Open Space	25	655	257	937
Other	2	15	12	29
Total	55	930	438	1,423

Intensification/Reuse + N. Avenue + Olivas			
	N. Avenue	Olivas	Total
Res. Low	15	160	175
Res. Medium	8	80	88
Res. High	5	15	20
Office	3	35	38
Retail	2	10	12
Schools	10	60	70
Open Space	10	555	565
Other	2	15	17
Total	55	930	985

Intensification/Reuse + N. Avenue + Serra			
	N. Avenue	Serra	Total
Res. Low	15	140	155
Res. Medium	8	60	68
Res. High	5	30	35
Office	3	35	38
Retail	2	10	12
Schools	10	40	50
Open Space	10	111	121
Other	2	12	14
Total	55	438	493

Intensification/Reuse N. Avenue + W. Canada Larga			
	N. Avenue	W. Canada Larga	Total
Res. Low			0
Res. Medium			0
Res. High	34	60	94
Office	12	24	36
Retail	5	6	11
Schools			0
Open Space	2	30	32
Other	2	1	3
Total	55	121	176

Intensification/Reuse N. Avenue + Poinsettia			
	N. Avenue	Poinsettia	Total
Res. Low	15	140	155
Res. Medium	8	60	68
Res. High	5	30	35
Office	3	35	38
Retail	2	10	12
Schools	10	30	40
Open Space	10	103	113
Other	2	10	12
Total	55	418	473

Appendix D

Cultural Resources List

**CITY OF SAN BUENAVENTURA
HISTORIC LANDMARKS & DISTRICTS**

April 1, 2002

NO.	LANDMARK NAME	ADDRESS	ADDITIONAL INFORMATION
-----	---------------	---------	---------------------------

- | | | | |
|----|--|-------------------------------|--------------------------|
| 1. | Olivas Adobe
<i>Designated February 11, 1974</i> | 4200 Olivas Park Drive | SL/NRHP
(CA-VEN-815H) |
|----|--|-------------------------------|--------------------------|

This two-story Monterey style adobe was the center of San Miguel Rancho. Built in 1847 by Don Raymundo Olivas, a prominent cattle and sheep rancher, it was owned by the family until 1899. Restored in the late 1920s by millionaire Max Fleischmann of Fleischmann Yeast and Margarine fame, the historic house was given to the City of San Buenaventura in 1961. Now a historic museum, it is dedicated to Ventura's rancho heritage.

- | | | | |
|----|--|-----------------------------|---------------|
| 2. | Ortega Adobe
<i>Designated February 11, 1974</i> | 215 West Main Street | (CA-VEN-785H) |
|----|--|-----------------------------|---------------|

Emigdio Miguel Ortega, grandson of Josef Francisco de Ortega, discoverer of San Francisco Bay in 1734, and comandante of Santa Barbara in 1782, was born at Mission San Diego. Emigdio was appointed Sergeant of the Santa Barbara Company in 1811 and comisionado at Los Angeles in 1818. He married Concepcion Dominguez at Mission Santa Barbara. Through the land grant of 1830-1850 for Rancho Ex-Mission Santa Buenaventura from Governor Pio Pico, he bought the 200 x 200 foot lot and built the adobe in 1855-57. The west half of the adobe was washed away by the floods of 1862 and rebuilt using the original roof tiles from the Mission San Buenaventura. In 1897, Emilio C. Ortega, son of Emigdio and Concepcion, began and operated from the adobe, the now famous Ortega Chili Factory. Located at 215 W Main Street, it was the townhouse of the Ortega Family, built in 1857.

- | | | | |
|----|---|------------------------|--|
| 3. | Father Serra Statue
<i>Designated February 11, 1974</i> | 501 Poli Street | |
|----|---|------------------------|--|

This bronze statue was designed by John Palo-Kanges and represents an idealized image of Father Junipero Serra, the founder of Mission San Buenaventura. Located in front of Ventura's City Hall on California Street, the original cement statue was a WPA project in 1936. Due to weathering, the original was placed in storage in 1989 and replaced by the present bronze one. The wooden statue used to mold the bronze statue is located in the atrium of the City Hall. It was unveiled in November 1936.

4. **City Hall** **601 Poli Street** SL/NRHP
Designated February 11, 1974

Constructed in 1912, it served as the Ventura County Courthouse until 1962. Designed by famed Los Angeles architect, Albert C. Martin Sr. in the "Beau Arts" or Neo-classic style. The building features the faces of 24 monks on the facade and stained glass skylights and domes in the interior. Restored and converted into Ventura's City Hall in 1972, it stands as one of the state's premier civic buildings. The west wing, formerly the county sheriffs office and jail, was restored and added to the City Hall designation in 1988.

5. **Grant Park Cross** **Ferro Drive** SL(Site)
Designated February 11, 1974

The wooden cross, made of pine from Santa Paula Canyon, was placed on this site to commemorate the original cross erected by Father Junipero Serra when he founded Mission San Buenaventura in 1782. Two earlier crosses had blown down by 1875 and were not replaced again until the ladies of the ECO Club, a service club, erected the present cross on Admission Day, September 9, 1912.

6. **Mission Plaza Archeological Site** **100 Block E. Main Street** NRHP
Mission Plaza Park District SL
North side of Main Street (CA-VEN-4-87)
including the Albinger
Museum, Filtration building
Designated February 11, 1974

The Mission Plaza Archaeological Project studied the area west of Mission San Buenaventura Church and along Valdez Alley from 1973 to 1975. A number of important features covering 3,500 years of history were uncovered at the site. These features include five mission building foundations, ceramic pipelines, an adobe brick factory, a well, an earth oven, and a water filtration building. Nicknamed El Caballo (the Horse) because of a carved wall feature in the shape of an animal head, the filtration building, built in 1782 by Chumash labor under the direction of Father Pedro Cambon, is the oldest standing structure in Ventura County. In the late 1860s, the building was used as a jail. The Mission Plaza Archaeological site includes VEN-4, which was recorded in 1951 in the UCLA Archaeological Survey Archives. The approximately one and one half acre area was designated as a local historic landmark on February 11, 1974.

7. **Conklin Residence** **608 East Thompson Blvd.** Mitchell Block
Designated May 6, 1974

Located at 608 E Thompson Blvd., the home was originally built in 1877 by Dr. Solomon Leander Stuart, a dentist, whose office was located on California Street between Main and Santa Clara Streets. He is thought to have been a descendent of the artist Gilbert Stuart. The home was then deeded in 1887 to E. L. Mitchell, proprietor of a brick business and builder of two of the homes within the Mitchell Block. Marguerite Conklin, granddaughter of Marada Waton and owner of the property in 1918, lived her entire life within this restored Cape Cod style home

midst her family heirlooms. It is folklore that her mantle clock, silent on the day of her passing in 1977, would never be operable again. The exterior was changed to its present Cape Cod appearance in 1927.

8. **Mission Norfolk Pines** **211E Main Street** Mission District
Designated July 1, 1974

Two of the tallest trees in the City, these large Norfolk Island Pines (*araucaria excilis*) are located adjacent to the San Buenaventura Mission. The trees were planted in the 1880s, and legend suggests that they were brought here from Norfolk Island by a sea captain to be used as replacement masts for his ship. The captain, perhaps lost at sea, never returned to claim his trees. Traditionally, the trees are lit with colored lights during the holiday season and can be seen from miles along Highway 101.

In November 2000, the America The Beautiful Fund designated the pines as California's Millennium Landmark Trees. The non-profit group has given the designation to at least one tree in each of the 50 states that "has seen the nation progress from a largely rural, farming community to an industrial powerhouse." The mission Norfolk Pines were the first trees to be given the designation in California.

9. **Mound Pepper Tree** **5430 Telegraph Road** *No longer exists*
Designated July 1, 1974

The Mound Pepper Tree was located 25 feet west of the east property line of the Mound Guest Home. It was cited as the oldest and largest tree of its specie in the City. It was 100 years old, 43 feet tall, 23.5 feet in circumference at its narrowest point two feet above ground and had a 100-foot branch spread.

10. **San Buenaventura Mission** **211E Main Street** NRHP District
Designated July 1, 1974

Father Junipero Serra founded Mission San Buenaventura on Easter Sunday, March 31, 1782. It was the ninth and last mission founded by Father Serra. Construction on the first adobe mission church began in 1787, but problems forced its demolition in 1790. The present stone and adobe church was built just to the east of the original structure and completed in 1809. The Mexican Government secularized the missions in 1834, and in 1846, Mission San Buenaventura was sold to Jose Arnaz and became known as Rancho Ex-Mission. In 1862, President Abraham Lincoln returned the Mission San Buenaventura Church to the Catholic Church, which owns it to this day.

11. **Plaza Park Moreton Bay** **Chestnut and Santa Clara Streets**
Fig Tree
Designated July 1, 1974

The Moreton Bay Fig tree, which was planted in Plaza Park in 1874, is thought to be the largest tree of its species, being 68 feet high with a branch spread of 130 feet in the City. It is a *figus*

macrophylla, which is a native of Queensland Australia. The tree is located at the northwest corner of Plaza Park at Chestnut and Santa Clara Streets.

12. **Mission Plaza Moreton** 100 Block East Main Street Mission District/NHRP
Bay Fig Tree
Designated July 1, 1974

The Mission Plaza Moreton Bay Fig Tree (*ficus macrophylla*) dominates the east side of Mission Plaza Park, along Figueroa Plaza. Its branches have a spread of over 100 feet and its circumference is 18 feet. The tree is over 120 years old. This area is part of the Mission National Register of Historic Places (NRHP) District.

13. **Baker Residence** 2107 Poli Street
Designated September 23, 1975

Located at 2107 Poli Street, the home was built in 1888 by architect Franklin Pierce and it is a well-preserved model of Victorian architecture.

14. **Judge Ewing Residence** 605 Poli Street
Designated September 23, 1975

This house was built in 1894 for Judge Felix Ewing, then the only judge in Ventura County. It was built in the popular Queen Anne style. The large wrap-around porch was elaborate for its time. The library has special carved paneling and tiled floors. The stone used in the walls was quarried in Foster Park north of Ventura. The building is now used as law offices.

15. **Theodore Groene Building** 592 East Main Street
Bahn's Jewelry Store
Designated October 27, 1975

This building was originally constructed in the late 1920's as a bank for the Ventura Guarantee and Loan. Although it served as a home for many different businesses, it is primarily known as being occupied by the Bahn's Jewelry Store. Purchased by Theodore Groene in 1961, it was then restored by the contractor, Clyde Campbell. The building features a beautiful interior, including three large murals by Norman Kennedy. The exterior is noteworthy because of the lovely brickwork and the unusual ceramic tiles. The original white paint was removed from the building in 1982.

16. **San Miguel Chapel Site** NE corner Thompson Blvd. NRHP
Designated October 27, 1975

Located at the northeast corner of the intersection of Thompson Boulevard and Palm Street. The San Miguel Chapel, originally constructed of adobe brick about 1790, served as a place of worship while the Mission San Buenaventura was being built. The Chapel was the first permanent structure in Ventura built by non-Aboriginal man. A second chapel, half the size of the first, was built on the site after the original chapel was destroyed by the earthquake of 1812. Subsequently, the chapel suffered extensive damage from natural causes, and, in 1873, the walls

were torn down. The site was excavated by students from Moorpark College, starting in 1974. Excavated features include the uncovered aqueduct, which served the Mission, a rock foundation, a bell tower, and a section of painted wall.

17. **Robert Stacy Judd Church** **101 Laurel Street**
Church of Religious Science
Designated December 1, 1975

This unusual building was designed for Ventura's First Baptist Church by Hollywood architect Robert Stacy-Judd. Finished in 1931, the church stands as a monument to the Mayan Revival style. Due to funds provided by local sculptor, Jason Herron, the building was restored in the mid 1980s.

18. **Shisholop Village Site/** **South end Figueroa Street** (CA-VEN-3)
Cabrillo's Landing
Designated December 22, 1975

Located directly on the beach at the foot of Figueroa Street is the site of the Chumash Indian village called Shisholop by the missionaries who settled Ventura. Believed to have been a Chumash provincial capital, Shisholop was first settled shortly after A.D. 1000 and reached its zenith about the time it was visited in 1542 by Portuguese navigator Juan Rodriguez Cabrillo, while on an exploratory expedition for Spain. The location of Shisholop Village and the Cabrillo landing was designated a historical site on December 22, 1975.

19. **Elizabeth Bard Memorial Hospital** **121 North Fir Street**
Designated March 8, 1976

Opened on January 1, 1902, by brothers Senator Thomas R. Bard and Dr. Cephas Little Bard as a memorial to their mother, the Elizabeth Bard memorial Hospital is Ventura's only remaining Mission Revival building. Located on a hillside just two blocks east of City Hall, the structure, with its arched loggia, scalloped parapeted gables and domed bell tower, stands out as one of the finest works of well-known local builder Selwyn Locke Shaw. Cephas Bard, who came to Ventura in 1868, is said to have been the County's first doctor. He was also the first patient to die in the Bard Hospital in 1902. The building, which has been rehabilitated for use as offices, was designated a historic landmark on March 8, 1976.

20. **Ventura Wharf (Pier)** **Harbor Blvd. east of California Street**
Designated March 29, 1976

The Ventura Wharf was partially destroyed in 1926 and was rebuilt as it appears today. Located off of Harbor Boulevard between California Street and Fir Street, the pier was built to encourage growth in Ventura and to provide an outlet for farmers and their crops. The pier was considered a public utility and "absolutely indispensable" to the city's economy. The wooden structure includes a restaurant and a bait and tackle shop. The pier is a point of interest for today's tourists, as it was a promenade for residents in early days. It is said to be one of the longest piers on the California Coast.

- 28. Southern Methodist Episcopal Church** **896 East Main Street**
Designated July 11, 1977

Located at 896 E. Main Street. The church was built in 1890 and is the last of the original seven churches built in the City during that time. It is in the Gothic style with a high steeple and beautiful stained glass windows. It currently houses the Victorian Rose Bed & Breakfast.

- 29. Post Office Murals** **675 East Santa Clara Street**
Designated October 24, 1977

Located in the Post Office at 675 E Santa Clara Street, the murals were painted by Gordon Grant in 1936-37. The project was sponsored by the Federal Arts project of the WPA.

- 30. Livery/County Garage** **34 North Palm Street**
Designated November 21, 1977

Located on Palm Street, the site has been in use since 1875 as a livery stable, then stable and garage until it was purchased by the County in 1921. It now houses the Livery Theatre, office, and retail uses.

- 31. Packard Garage** **42 North Chestnut Street**
Designated November 21, 1977

Located on Chestnut Street, the building was originally constructed in 1925 to be used as a garage and showroom. The County purchased the building in 1956 for use as a warehouse. It is currently vacant.

- 32. Peirano Store** **204 East Main Street** Mission District
Designated January 16, 1978

Oldest brick building in the City, built in November 1877. Located at the southeast corner of Main Street and Figueroa Plaza. Owned by the Peirano family since 1890 and in constant use as a grocery store since 1877 until Nick Peirano, nephew of the original owner, retired in 1986. It has housed a restaurant since September 1998.

- 33. Peirano Residence** **107 So Figueroa Street** Mission District
(Parrish Law Offices)
Designated January 16, 1978

House located at the southwest corner of Figueroa and Santa Clara Streets. Built in 1897 by the Peirano family and in constant use by the family until 1976. House is 1-1/2 story wood frame with gabled roof. Restored by Donald Parrish and currently used as a law office.

34. **Theodosia Burr Shepherd Gardens** SE corner of Poli and Chestnut Streets Point of Interest
Designated July 17, 1978

The original gardens of one of California's most famous horticulturists, were located between Main and Poli, Chestnut and Fir Streets. All that remains is a Star Pine and a Bird of Paradise. Designated a Point of Interest July 17, 1978.

35. **Feraud Store & Bakery 2 West Main Street (1903 Building)** NRHP
Designated July 17, 1978

Located at the southwest corner of Main Street and Ventura Avenue, the Feraud Bakery and Grocery Store was begun by Jules Feraud in 1903. The bakery stayed in the family until 1944. Currently owned by Robert Addison and used as a retail store. Designated a Point of Interest July 17, 1978.

36. **First National Bank of Ventura 1904** 401 East Main Street Point of Interest
Designated August 13, 1978

Located at 401E Main Street, the building was opened in June 1904 as the First National Bank. The building has been much altered over the years for various commercial uses. Designated a Point of Interest August 14, 1978.

37. **First National Bank of Ventura 1926** 494 East Main Street
Designated October 16, 1978

Located at the cornerstone of the downtown area at Main and California Streets, this building was used as a bank for many years. First as the First National Bank of Ventura, then Bank of America, Security First National, Channel Island State Bank and Wells Fargo before becoming the American Commercial Bank. The building currently houses a retail furniture store on the ground floor and offices on upper floors.

38. **Bank of Italy** 394 E. Main Street
Designated December 4, 1978

Located at 394 E Main Street, the building was constructed in 1923-24 after being promoted by John Lagomarsino, Sr. The architectural style is Italian Renaissance Revival, which was widely used for commercial structures at that time. The building currently houses retail uses on the ground floor and office uses on the second floor.

39. **Dr. T. E. Cunnane Residence** 128 S. California Street
Designated December 18, 1978

Located at 128 S. California Street, this structure was the home and office of Dr. Thomas E. Cunnane, the city's physician after the death of Dr. Bard in 1902. The structure is one of the few remaining examples of Queen Anne cottage style architecture. Now used as business offices.

40. **A. C. Martin Building** 69 S. California Street
(Bella Maggiore Inn)
Designated April 9, 1979

The facade is at 69 S. California Street. The building was constructed in 1926. The architect was A. C. Martin of Los Angeles, who also designed the current City Hall. The style of the facade is taken from Spanish Renaissance sources. Restored by Tom Wood and currently houses the Bella Maggiore Inn. At one time it was known as El Nido Hotel.

41. **Robert Sudden Residence** 825 Front Street
Designated April 9, 1979

The house at 825 Front Street was built in 1886 by Captain Robert Sudden. It was originally located at Fir and Meta streets and was moved to its present location in 1916.

42. **Robert M. Sheridan Residence** 1029 Poli Street
Designated May 21, 1979

Located at 1029 Poli Street, this craftsman bungalow house deviates from the traditional box-like shaped bungalow. Historically the house is important for it was built by Robert M. Sheridan, son of early pioneer E. M. Sheridan, who was editor of the Ventura Signal. The house was used by Robert and his wife, Ellen, who was a well-known editor, writer and designer.

43. **Chaffey & McKeeby** SE corner Main and Point of Interest
Einstein & Bernheim Palm Streets
General Store
(building demolished)
Designated May 21, 1979

This building was located at the southeast corner of Main and Palm Streets and was demolished because of structural problems in December 1979. The building was originally two general merchandise stores built in 1872. The owners were associated with the early development of the City; the Einstein and Bernheim store eventually became the Great Eastern Department Store. The site now houses Mid-State Bank.

44. **Dudley House** SW corner Loma Vista NRHP
Designated January 21, 1980 and Ashwood Ave.

The Dudley House, built in 1891, was originally located at the northwest corner of Telegraph Road and Ashwood Avenue and was moved in 1977 to the southwest corner of Ashwood and Loma Vista Road, where it is being developed and managed as an historical resource. The

farmhouse was part of a 200-acre ranch owned and occupied by the Dudley family for five generations. The house was built by Selwyn Shaw, well know local builder and craftsman. The house is currently being restored by the San Buenaventura Heritage Foundation.

45. Righetti House **125 W. Park Row Avenue**
Designated January 21, 1980

This late Queen Anne period house with elements of Classical Revival was constructed in 1918 for Daniel J. Righetti, who owned a shop on Main Street offering billiards, cigars, tobacco and confections. The Righettis were a pioneer Italian family in Ventura and lived in the house until 1922. In 1923 Dr. Julius Bianchi, a prominent local physician who served as U.S. envoy to Guatemala from 1920 to 1922, purchased the home and had his practice there for three years. He became president of the Ventura County Medical Society in 1926. On January 24, 1947, Mr. Sidney Houghton had the house moved from its original Main Street location along Valdez Alley near the Mission to its current location on Park Row Avenue. Architecturally, the house is important as one of the relatively few unaltered examples of the late Queen Anne period remaining in Ventura. Queen Anne elements include a tower, gables and bay. Classical Revival can be seen in the large, sweeping, curved porch with its classical columns. The hose serves as an important visual landmark for the Avenue Area.

46. Selwyn Shaw House **140 N. Ann Street**
Designated January 21, 1980

Selwyn Lock Shaw, a prominent carpenter/builder who was responsible for the construction of many local Victorian style residences, as well as the Bard Hospital and Methodist Episcopal Church, built this Queen Anne style house for himself in 1888. This house is one of several on a block of primarily Victorian style houses owned and occupied by members of the Shaw family. The hillside home has a distinctive half-octagon bay. Located at 140 North Ann Street it is a triple story with a half-octagon bay window with elaborate roofline.

47. Jacques Roos House **82 S. Ash Street**
Designated March 17, 1980

Jacques Roos, President of the Great Eastern Department Store, had this house built in 1892. It is a pattern house in the Queen Anne cottage style with significant Eastlake influences. The Eastlake elements are clear in the elaborately turned porch columns, spindle work and balustrade. The fine craftsmanship of this house can be seen in the meticulous detail, including elaborate sunburst patterns and flower designs in the shingles, bargeboard, and frieze. The windows make use of attractive flashed glass and are outlined by half columns. The Queen Anne influence is seen in the multiple gables and bays. This house is significant as the most elaborate example of Queen Anne cottage to be found in the City. The house was originally designated as the Wilson House. The name derived from A. E. Wilson, a clerk at the Great Eastern Department Store, who lived in the house in 1910 through 1911. When additional information identified the owner as Jacques Roos, the designated name was changed in 1991.

48. Dacy Fazio House **557 E. Thompson Blvd.**
Designated April 14, 1980

Orville Wadleigh, an early Ventura County rancher and City Trustee in 1918-1919, had this house built for his daughter Dacy Fazio in 1910. Dacy was married to Ben Fazio, owner and operator of the Fazio-Newby grocery store on Main Street. The house is a typical Craftsman Bungalow, but the property includes a carriage house/barn, which is significant as the only remaining example of a carriage house in the old downtown. The style and construction of the structure indicate that it may be older than the house itself. The house was restored in 1980 by Ira Goldenring for use as the Law Offices of Goldenring and Goldenring.

49. Terry House **4949 Foothill Road**
Designated July 14, 1980

Located at 4949 Foothill Road, now the Unitarian Church. The house was built in 1917 by J. Myers of Oxnard, for Wellington G. Wide. The Wide Family lived in the house until 1922 when it was purchased by Joe Terry, Sr. The building combines several different styles of architecture, and is a one-of-a-kind example left in Ventura of a ranch/farm house built for an affluent family of that period.

50. Bert Shaw House **1141 Poli Street**
Designated September 15, 1980

Built in 1896 by Jesse Bert Shaw, the son of Selwyn Shaw and a carpenter/builder like his father, this one-and-a-half story Victorian, with a medium high pitched cross gable roof and plain boxed cornice, is one of several houses built and lived in by members of the Shaw family along the 1100 block of Poli Street. The main feature of this house is a modified Palladian window on the front. A flat roofed addition was added on the west in 1929.

51. Blackstock House **835 E Main Street**
Designated September 15, 1980

The Blackstock House, thought to be the work of architect Charles Russell, was the home of James Blackstock, Main Street businessman and proprietor of the Central Cash and Meat Market and the Union Ice Co. from 1916 to 1926. The house was constructed in 1901 on the site of what is now the Ventura City Hall on Poli Street (originally built as the Ventura County Courthouse), and was moved ten years later to its present site at 835 Main Street, a prestigious address in early Ventura. The house remained in the Blackstock Family until 1944.

The Blackstock House marks a stylistic transition from the Queen Anne mode of Victorian design period which was ending at the turn of the century, to the Classical or Colonial revivals which swept the nation from about 1880 to 1950. The square tower of the Blackstock House, with its pointed peak (hipped roof) distinctly echoes the Victorian style. The classical or Colonial details can be seen in the modillions (Flat brackets under the eaves) that support the eaves, the elaborate frieze details above the second floor window, the articulation of the two stories with different classical orders and the triangular pediment above the portico.

window on the east side of the house contains a window seat. The house is covered with clapboard siding and has a red brick chimney. Both exterior and interior retain the original California Bungalow feeling and are in excellent condition. William Arthur Dunning, a local rancher, constructed the house, which was continuously occupied by the Dunning family until 1965.

56. Granger House **1206 E Main Street**
Designated January 1982

One and a half story vernacular Victorian house featuring a high pitched truncated hipped roof topped with iron cresting and intersecting gables on the south and west side. House built in 1902 by W. H. Granger, a local grocer; his wife Effie lived in the house as late as 1917.

57. Morrison House **331 Poli Street**
Designated May 18, 1982

John C. Morrison was the first owner of this property which was built in 1880. The two and one-half story vernacular Victorian farmhouse features a prominent tower and a profusion of Eastlake details. J. C. Morrison was the first owner of this property. He was prominent locally and was involved in real estate with Thomas Bard. This two-and-a-half story vernacular Victorian farmhouse features a prominent tower and a profusion of Eastlake details. The detailed port frieze combines spindle and spool decoration with cutout stick work. The house was moved from 1785 North Ventura Avenue in 1985 to 320 W. Main Street to undergo restoration before being relocated to 331 Poli Street.

58. Mission Aqueduct **East end of Vince Street**
Designated August 2, 1982

Chumash Indians labored to construct the approximately eight-foot high wall of rubble that forms the main channel of the Mission Aqueduct. Constructed between 1702 and 1850, the aqueduct system included a dam, reservoir, filtration building, lavandaria, and fountains. Starting at the convergence of San Antonio Creek and the Ventura River, the aqueduct extended approximately seven miles, winding its way along the base of the foothills toward the mission and mission gardens, watering farms along the way.

The aqueduct was heavily damaged in the great flood of 1862, but with repairs, it continued to be used into the 1870's. Dynamite was used to blast a hole through the aqueduct during the construction of a county road. Segments of the aqueduct are still visible today, and a part of the wall exists in the basement of a house built in 1989. Located at the eastern end of Vince and Lewis Streets, it is the largest and most intact stretch of surface aqueduct known to exist. Unique features include a slight elevation of one section to slow the flow of water and prevention of overflow by building up one side of the aqueduct.

59. Blackburn House **721 E Main Street**
Designated January 9, 1984

The David S. Blackburn house was built in the late 1880s. It was constructed in the late Queen Anne style and has Colonial Revival elements. It is the most elaborate home from the turn of the 20th century still remaining on Main Street. The home is a large, two-story structure with a shingled tower, wrap around porch and an attached water tower. Notable interior features include intricate fireplaces, leaded glass window, arched ceiling, special moldings and hardwood floors. An addition built on the west side for office space makes careful use of matching materials.

60. Alessandro Lagoon **Junction of Vista Del Mar**
Designated December 1982 **Drive and Alessandro Drive**

In the later 19th and early 20th Centuries the site of the Alessandro Lagoon was known as Chautauqua flats and was a popular spot for camping and amusement enterprises. Today, it is one of the few existing fresh water refuges of the Pacific Coast flyway within Ventura County. The area is a triangular piece of land approximately 7.0 acres extending easterly from the junction of Vista Del Mar Drive and Alessandro Drive to a point of approximately 0.3 miles on Alessandro Drive which is west of the northern border fence of U. S. Highway 101. The area is presently enclosed in a seven-foot high chain link fence.

61. Elwell House **143 So Figueroa Street**
Designated March 7, 1985

The Elwell house was built in 1892 and belonged to William Elwell and his wife Elel Frieda Tico Elwell, descendents of important California and Yankee families.

This house is a single story house with a medium pitched hipped roof with an offset gable and slanted bay window. Decorative brackets in sets of three are found under the eaves and the bay window has diamond panes in the upper portion. The front porch, featuring turned columns and saw-tooth molding, has been extended and enclosed. An addition was made to the rear of the house in the 1920's. Asbestos shingles were added to the exterior of the house. Don Parrish restored the house for use as offices.

62. Suyter House **1157 Poli Street** Shaw District
Designated April 22, 1985

The William Suytar house was built in 1890-91 by Selwyn Shaw as a rental house. It is one of three landmarks located in the Selwyn Shaw Historic District. This Queen Anne-style residence features a prominent two-story slanted bay tower which extends from the side facing high-pitched gable roof. The tower roof is octagon shaped with a rooster finial at the peak. Decorative details include fish scale shingles, stained glass, dentils and elaborate flower and tendril applied design in small porch gable. The landmark takes its name from 1920s resident William Suyter, who served as a local deputy sheriff. It was moved from 334 S Oak Street at the time of the Beachfront Redevelopment.

63. El Jardin Patio Building **451-61 E. Main Street**
Designated August 12, 1985

The El Jardin (Garden) Patio building was designed as one of the earliest outdoor malls in Southern California. The shopping court was very popular in the 1920s, but El Jardin appears to be the only example built in Ventura. The two-story structure, with shops and offices opening onto an interior courtyard, remains basically unchanged from its original design. A large archway on Main Street leads to a well landscaped courtyard built on three levels. The wood trimmed stucco building has large multi-paned arched windows, wrought iron railing and lamps, carved wooden spools, beams, and brackets and mission tile. Some of the tile has been replaced with brick tile. The use of low pitched tile parapets and flush tile roof lines enhance the effect of a "Spanish Village." In the 1950s, the arched front entrances and side windows on the street level were removed and replaced with large display windows.

El Jardin Patio was designed by the prominent Los Angeles architectural firm of Weber, Staunton and Spalding in 1925 for G.W. Chrisman and W.B. and Mary Alpin. The Alpines ran La Foresial, a flower shop on the west side of the courtyard, for many years. Their son, William Alpin, a photographer for Sunset Magazine, had his studio in the rear of the courtyard.

One of the earliest tenants of El Jardin was the Jack Rose Smart Shop, which was the first retailer in town to sell off-the-rack women's fashion. This store occupied the Main Street location east of the archway. Jack Rose, a man who believed downtown businesses, opened his first Ventura store in 1925 and continued to personally operate a downtown Main Street store until his death in 1955. In 1948, he built the art deco Jack Rose Building on the northwest corner of Main and Chestnut Streets to house his store.

64. Robert Brakey Residence **413 Poli Street**
Designated October 14, 1985.

The Brakey House was built in 1890 for Ventura's well known house mover, Robert E. Brakey. Although the house has been altered, it still retains the significant features of its original Victorian character. The Brakey family continued to live on this property through the 1930s. Robert Brakey was a City Trustee in 1916-17. His son, John R. Brakey continued the house moving business and among his accomplishments was the moving of the Port Hueneme Lighthouse which, unfortunately, no longer remains. John also accumulated a large collection of historic photographs, which can be seen at the Ventura County Historical Museum.

65. Judge Ben T. Williams House **386 Franklin Lane**
Designated January 26, 1987

The Judge Ben T. Williams House was built on the Avenue around 1890 possibly by Selwyn Shaw. Around 1950 it was moved to Franklin Lane. It is an example of a Queen Anne ranch house, with Stick-Eastlake influence. Benjamin Tully Williams was Judge of the Superior Court of Ventura for many years during the 1890's and early 1900's. He was also one of the most powerful political figures in the County during that time.

- 66. Charles Corcoran House** **831 Buena Vista Street**
Designated April 1, 1986

The Charles B. Corcoran Houses embody the distinctive characteristics of a type of and period of construction. The original house, built in the California Bungalow style in 1910, is a single story house with low pitched roofs, a porch with overhanging gables supported by elephantine columns, a cast concrete block foundation, and wood siding. This bungalow also includes a large Palladian bay window. The 1930 house is a much finer example of its style. Built in the Mediterranean, or Spanish Colonial Revival style, the architecture includes a red tile roof with low pitch, stucco walls, arched doorways throughout, wrought iron balconies and railings, and exposed rafters and beams.

- 67. Charles Cooper House** **163 Cedar Street**
October 14, 1986

Charles L. Cooper, a carpenter, purchased this property in 1886 and built the house in the same year. One of the more noted owners was Mr. Frank White, owner from 1929-49. Mr. White was a horticulturist and developed new strains of many common flowers. The house represents a particular period of local history when Ventura was only a small community; just prior to the tremendous economic boom created by the arrival of the Southern Pacific Railroad in 1887.

- 68. Josiah Keene House** **41 Bell Way**
Designated September 28, 1987

The Josiah Keene home was built near Ventura Avenue around 1872, making it one of the first grand homes built in San Buenaventura after incorporation. Josiah Keene was a veteran of the Civil War; a former U.S. Treasury employee; and a San Buenaventura area rancher. The house, which was moved to 41 Bell Way in 1928, is perhaps the City's only example of Second Empire/Victorian Residential style.

- 69. Hartman House** **73 No Palm Street**
Designated September 28, 1987

In 1911, the Hartman family moved into this residence. Previously, portions of the San Buenaventura Mission complex and a brewery were on the property. The house is a well-preserved example of the Craftsman Bungalow style, which was prevalent in California in the first quarter of the 20th century, and contains many of the woodwork details, which were part of that style. Gayle Kieran restored the house in 1988 and it is now used as offices.

- 70. J. A. Day House** **759 E Poli Street**
Designated April 25, 1988

In 1889, prominent local grocer J.A. Day built this Victorian home, in the Stick-Eastlake style. The structure contains unique carpentry work with a profusion of wood detail in the balusters and frieze, with crafted decorative pediments over the windows, and stained glass over the door and around the windows. The J.A. Day home reinforces the historical feeling of the nearby Selwyn Shaw Historic District.

71. **Ventura Insurance Bldg** **692 E Main Street**
(Rosarito Beach Restaurant)
Designated April 25, 1988

In 1937, this building was built for the Ventura County Mutual Fire Insurance Company. The concrete structure is unique for San Buenaventura in its classic expression of Art Deco or Moderne style with Aztec Revival flower elements in the design. The noted Los Angeles Architect William W. Ache created the design. Mr. Frank Nam restored the building in 1988 and it is now the Rosarito Beach Restaurant.

72. **Erburu House** **2465 Hall Canyon Road**
Designated January 5, 1989

The house at 2465 Hall Canyon Road was built in 1909 by Mariano Erburu as a residence for his family. This 1½ story California Craftsman Bungalow is distinctive in its size, with 4,000 sq. ft of floor space. The front of the house has a low gable roof with a large gable dormer. The house's exterior is clapboard siding, with wide framed casement and double hung windows. Mr. Erburu, an immigrant from Spain, was a prominent Ventura businessman. Mr. Erburu primarily was in the sheep business and at one time owned a flock of over 300 head. In the late 1890's he also was a partner in a mercantile business with J. Feraud. The house was the first in the area and a focal point for those traveling to Ventura through Hall Canyon. The present owners, Robert and Pauline Chianese, have authentically restored both the interior and exterior of the house.

73. **McCoskey Love House** **119 S. Figueroa Street**
(Parrish restored to office bldg)
Designated July 17, 1989

Ada McCoskey Love was the widow of prominent Ventura physician, J. H. Love. Dr. Love came to Ventura in 1891 and was a major figure in the community until his death in 1906. The Loves moved into this house in 1904. The house's style uniquely combines elements of the Italianate period with early Victorian influences. It has been moved twice with its original location being on the northwest corner of Chestnut and East Santa Clara Streets. Mr. Don Parrish has restored the house for use as offices.

74. **Kate Duval House** **953 E Main Street**
Designated July 17, 1989

The house was built in 1902 as a rental unit for the Eugene W. Duval family and was owned by Kate Duval, wife of Eugene. Mr. Duval operated a hardware store on Main Street. The Duvals lived in the house next door at 943 East Main. The most unique feature of this restored Queen Anne Cottage is the large front slanted bay window with its shingled pediment, sunburst brackets and decorative blocks.

76. **J. Hoover Love House** **970 E Santa Clara Street**
Designated July 17, 1989

This house was built in 1923 by Louis Rudolph and sold to J. Hoover Love, Deputy County Tax Collector and son of the prominent Ventura physician Dr. J. H. Love. It is unique in its blending of a Mediterranean exterior with an American Arts and Crafts Movement interior. The Mediterranean influence, is seen in the parapet roof and symmetrical stucco facade. Craftsman features include a carved wood door with four narrow panes flanked by narrow multi-paned windows. French doors with wrought iron railings are found on each side of the main entrance with raised quatrefoils.

77. **Mabel Nellie Owen House** **93 W. Simpson Street** Simpson Tract
Designated January 22, 1990

This Mediterranean style house at 93 W Simpson was the home of Mabel Nellie Owen who was an activist and voice for the Avenue Community for over fifty years. Projects with which she was involved include relocation of the Taylor Ranch feed lots, opposing a proposal to construct a sewer treatment plant next to Sheridan Way School, building of Westpark and Avenue Adult Centers, initiation of a senior mini bus, and construction of the Church of God in Christ church.

77. **Dr. Cephus Bard House** **52 W. Mission Street**
Designated April 1, 1991

Dr. Cephus L. Bard, brother of Senator Thomas Bard, was a prominent physician in Ventura during the late 1800's. This house, built in 1886 for Dr. Bard, was originally located on Oak Street. It is one of the few remaining Italianate structures in Ventura and has maintained its integrity over the years.

78. **Carlo Hahn House** **211 E. Santa Clara Street**
Designated July 15, 1991

This two-story residence was built between 1912 and 1914 for Carlo Hahn, an agent for the Bortalino Hat Co. and a partner of Giovanni Ferro. Mr. Ferro, Hahn's brother-in-law, lived next door in the elaborate Italianate villa once owned by the Schiappapietra family. The Hahn House was built to complement the adjacent mansion. It exhibits several characteristics of early Victorian styles although built well after the period ended. The house was remodeled as a restaurant in 1971. The house is listed as a contributing member of the Mission National Historic District.

79. **Hammonds/Reese House** **637-639 Poli Street**
Designated September 14, 1992

This one and one-half story Queen Anne Victorian has maintained its integrity over the years since being built in 1905. Its several outstanding features include a wraparound porch with Corinthian columns, both slanted and rounded bay windows, windows with diamond patterns, irregular gable roof lines, two tall decorative brick chimneys, decorative brackets under the extended eaves and narrow clapboard siding. The house is located on a prominent hillside and

is surrounded by other designated landmarks - the Ewing House to the west, the Bard Hospital to the east, and remnants of the Theodosia Burr Gardens across the street. The house was originally built for Harry and Dora Hammonds. Mr. Hammonds owned an insurance company in Ventura for over forty years. The second owner in 1912 was David J. Reese. Mr. Reese was the Ventura Postmaster and Editor and proprietor of the Ventura Daily Free Press and the Ventura Weekly Free Press.

80. Pierpont Inn 550 San Jon Road
Designated February 1, 1993

A two-story hotel built in the Craftsman style in 1908 for Austen Pierpont. Sold in 1928 to Gus and Mattie Gleichmann who restored and enlarged the Inn over the years. President and Mrs. Bush lived in one of the cottages while Mr. Bush was working in the oil business.

81. A. D. Briggs House 856 East Thompson Boulevard
(Christopher Place)
Designated May 10, 1993

The house was built for Arthur D. Briggs in 1894. It is an unusually fine and well-maintained example of the Queen Anne style and stands with the house next door at 844 Thompson as an example of the many homes that were located in this neighborhood at the turn of the century.

82. 301 S. Dunning Street
Designated October 12, 1993

This one and a half story English Tudor has a rectangular shape with a high pitched gable roof punctuated by 3 gabled dormer windows. On one side of this house there is a bay window, while the front features a fixed paned window. All other windows are wood casement. A front porch with matching fixed paned windows brick sides and stained glass windows complete the front. This house has a brick driveway with accents of brick and wood planters that complete the landscaping. This home on a corner lot also has many mature trees including a central English yew in the front.

83. Arcade Building 38-50 West Main Street
Designated March 21, 1994

The area around Ventura Avenue east and west on Main Street was the beginning of the auto sales industry in the City of Ventura during the mid to late 1920s. Auto dealers at 38 - 50 W. Main Street included Dodge, Chrysler, Edsel and Jaguar as well as vintage car operations. The present owner is Robert Addison. Roy Weatherly of Weatherly Motors was a long time owner.

84. Cassidy Dairy Ranch 3908 Loma Vista Road
Designated May 16, 1994

This house was built by noted builder Selwyn Shaw in 1894 on 7½ acres as a country residence for Richard & Amelia Cassidy. He farmed oranges, grain and lima beans. In 1911 walnut trees were planted. In the mid 1920s Cassidy started a dairy, "Cassidy Dairy Ranch" which was

discontinued in 1935 upon the death of Richard Cassidy. The barn was built in 1899 by Fred Cassidy. Glen Cassidy, grandson of Richard, built his small house on the site in 1952.

85. **San Buenaventura** **204-208 E. Main Street**
Mission Lavanderia
Under Storeroom
Designated November 14, 1994

The Mission Lavanderia was built and probably used in conjunction with the aqueduct. Because Spanish artisans were at the Mission between 1790-95 the Lavanderia and aqueduct were undoubtedly built in the earlier part of the time span of 1792-1815. The water ran from the Mission aqueduct to the fountain and into the central tank and eventually emptied into the Mission gardens to the west.

The Mission era Lavanderia was discovered under the storage behind the Peirano Market and Wilson Studio (204/208 E: Main Street) when the buildings were to be rehabilitated in 1991. Many post mission era artifacts including bottles, porcelain, stoneware, and abalone shells were found in the crawl space under the floor of the storage areas. A segment of mortared Mission floor tile was also found in the crawl space.

86. **Erle Stanley Gardner** **21 So. California Street, Room 306**
Office
Designated February 6, 1995

Erle Stanley Gardner was the author of 82 Perry Mason mystery novels. Gardner moved to Ventura in 1915. He practiced law in 1921 and lived here until 1934. Gardner lived in four different residences in the 15 years he spent in Ventura, only the last of which is still standing. This residence is located at 2420 Foster Avenue. His office was located in Room 306 at the northeast corner of 21 S. California Street in the First National Bank Building. The office is presently occupied by a law firm. The specific office Gardner occupied does not retain any of Gardner's personal objects.

87. **Casa de Anza** **606-612 N Ventura Ave**
Designated March 23, 1998 **11-15 E Simpson St**

The Casa de Anza apartment building was originally constructed in 1929 by Richard Langdon and the building is an example of the Spanish Colonial Revival style of the 1920's. The apartment building was erected as a direct result of the oil boom occurring on the Avenue and the resultant need for housing oil workers. After the building is restored the ground floor will be used as a library.

88. **WWII Gun Emplacements** **Near Ventura River mouth**
Designated September 1998

Today it is estimated that of the 10 original Southern California coastal artillery sites, only three remain, one of which is Ventura's Battery 2. Ventura is fortunate to have such a rare and

important reminder of W.W. II. Presently the remains of the emplacements are two large concrete rings approximately 38 feet in diameter. The rings are topped with a steel rail.

89. Norton Ranch House 71 North Palm Street
Designated October 1998

This Craftsman style house was built in 1910 by Mr. Norton for his home in the 40-acre walnut grove located off of Bristol Road in east Ventura. During the twentieth century many prominent families, Cheney, Callens, Vanoni, Ramelli and De Silva, connected to the house. In 1990, the house was moved to 71 North Palm Street and restored. It is currently being used as a restaurant.

90. John C Fremont Camp 100 Block East Main Street
Designated January 11, 1999

John C. Fremont led an expedition of troops, horses and supplies from Monterey to San Buenaventura during late 1846 and early 1847, during the War with Mexico. The trip south was arduous and, in the afternoon of January 5, 1847, Fremont and his remaining expedition entered San Buenaventura and camped overnight in the orchard west of the San Buenaventura Mission Garden wall. On the rise above the Mission, a small bank of Californians was seen and Fremont and his troops fired on them. The Californians scattered and Fremont's men guarded the top of the hill all night. During that night, Fremont captured Don Jose Arnaz, a local merchant and threatened his life until Arnaz gave Fremont military information and supplies. Arnaz was released. Land that Arnaz had purchased from the Mission in 1846 was taken from him by the United States government, which did not recognize his title to the land. The land was later returned to him by the U.S. Courts. In 1850, Arnaz sold the land to Dr. Manual R. de Poli, a Spanish physician.

91. China Alley Historic Area 200 Block East Main

In the late nineteenth century, a flourishing Chinese settlement made up of merchants, laborers, and families settled on Figueroa Street, between Main and Santa Clara Street and China Alley, a former street that ran perpendicular to Figueroa Street in the middle of the newly incorporated township of San Buenaventura.

92. Louis Rudolph 958 E. Santa Clara Street
Craftsman Bungalow
Designated March, 2002

This single-story Craftsman Bungalow was built by local contractor Louis Rudolph in 1922 and lived in by his family until 1925, when he sold the lot to Amos Lovoorn, Manager of the J.C. Penney Company. Mr. Rudolph built the house next door and also built the Elk's Lodge on Main Street and Ash Street.

The house is a well-designed bungalow with a basement. The low-pitched hipped gable roof has exposed rafters under the broad eaves. Two large square stuccoed columns supported the hipped gable roof and cross-beam. A half brick design is featured on both the columns and the

fireplace. The house has narrow clapboard on the upper portion and shingles on the lower portion.

93. Five Trees Hilltop above Ventura Ventura County LM

Joseph Sexton, a Ventura horticulturist noted for his work with walnuts, avocados, and pampas grass, hired his neighbor Owen Marron to plant a row of 13 blue gum eucalyptus trees on the hilltop to mark the western boundary of his ranch. In 1903 a brush fire destroyed all but five of the trees. Old mariners charts show the five trees as a navigating landmark. Vandals cut down three of the approximately 60' tall trees on Halloween 1940 leaving only two standing. Local citizens replaced the lost trees but on Halloween 1956 vandals struck again, leaving only one original tree and one replacement tree standing. Replacement trees were again planted but two died. In 1966 the Ventura Junior Womens Club planted more replacement trees. Now, only two trees remain standing.

94. Saticoy Walnut Growers Association Warehouse 1235-1255 East Wells Road Ventura County LM

This warehouse was built for drying and shipping Diamond Brand walnuts for the California Walnut Growers Association. The association was established by leaders of the Sunkist citrus industry. Many of the techniques perfected by the citrus industry, including Charles C. Teagues' cooperative marketing methods, were used to market walnuts. Eugene C. Kimball, a local resident, perfected a new way to dry walnuts which greatly reduced product losses. The building is one of two large agricultural warehouses in Saticoy located on opposite sides of a Southern Pacific Railroad spur track.

95. Saticoy Bean Warehouse 10995 Azahar Street Ventura County LM

This warehouse served the area's important local lima bean industry. The bean warehouse and neighboring Saticoy Walnut Growers warehouse, stand today as important reminders of the agricultural history and the growth of the farming cooperative movement in California.

96. The Farmers & Merchants Bank of Santa Paula 1203 Los Angeles Avenue Ventura County LM

This neo-classical building housed the first branch bank in Ventura County. It stands as a reminder of Saticoy's vitality as an important agricultural shipping community around the turn of the century.

HISTORIC DISTRICTS

Mission Historic District	Boundaries:	E. Santa Clara Street Ventura Avenue Poli Street Palm Street
Mitchell Block Historic District	Boundaries:	Plaza Park/Houses

on Thompson Boulevard
608, 620, 632, 644,
658, 670, 682 and 692

Selwyn Shaw Historic District

Boundaries:

Buena Vista Street
Ann Street
Hemlock Street
Poli Street

Simpson Tract Historic District

Boundaries:

Sheridan Way
Ventura Avenue
W. Prospect Street
W. Simpson Street

Appendix E

Traffic Study

CITY OF SAN BUENAVENTURA

General Plan Circulation Element Update Traffic Study

August 2005



DRAFT

**CITY OF SAN BUENAVENTURA
GENERAL PLAN CIRCULATION ELEMENT UPDATE
Traffic Study**

Prepared by:

Austin-Foust Associates, Inc.
2020 North Tustin Avenue
Santa Ana, California 92705-7827
(714) 667-0496

August 19, 2005

CONTENTS

Page

1.0 INTRODUCTION

Background and Scope.....	1-1
Street System Performance Criteria	1-2
Definitions	1-4
References	1-7

2.0 EXISTING CONDITIONS

Arterial Street System	2-1
Transit.....	2-4
Bicycles	2-10

3.0 LONG-RANGE TRAFFIC ANALYSIS

Overall Approach	3-1
Future Growth Alternatives.....	3-2
Baseline Transportation Improvements.....	3-2
Scenario 1 – Intensification/Reuse Only	3-3
Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra.....	3-3
Scenario 3 – Intensification/Reuse + North Avenue + Olivas	3-23
Scenario 4 – Intensification/Reuse + North Avenue + Serra	3-34
Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga	3-45
Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia	3-50

4.0 ARTERIAL STREET SYSTEM

Overview	4-1
Street Classification System.....	4-1
Principal Intersections	4-6
Citywide Street Classification	4-6
Scenario 1 – Intensification/Reuse Only	4-12
Scenario 2 – Intensification/Reuse + North Avenue + Olivas + Serra.....	4-12
Scenario 3 – Intensification/Reuse + North Avenue + Olivas	4-12
Scenario 4 – Intensification/Reuse + North Avenue + Serra	4-19
Scenario 5 – Intensification/Reuse + North Avenue + Western Cañada Larga	4-19
Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia	4-19
Traffic Calming	4-26

5.0 SPECIAL ISSUES

Cedar Street Northerly Extension.....	5-1
Additional Crossing Of The Santa Clara River.....	5-3
Olivas Park Drive Extension.....	5-3

APPENDIX A: Intersection Capacity Utilization Worksheets

CONTENTS (cont)

Page

APPENDIX B: Circulation Element Community Input

Ventura Vision B-1
General Plan Advisory Committee (GPAC) B-2
Arterial Streets..... B-2
Public Transit B-6
Bikeways B-8

LIST OF FIGURES

Page

FIGURES

2-1	Existing Midblock Lanes	2-2
2-2	Existing ADT Volumes (000s)	2-3
2-3	Intersection Location Map	2-5
2-4	Existing Intersection Capacity Utilization (ICU)	2-8
2-5	Existing Bus Routes.....	2-9
2-6	Existing System of Bikeways	2-13
2-7	Bikeway Classifications.....	2-14
3-1	Existing and Future ADT by Subarea - Scenario 1.....	3-5
3-2	2025 ADT Volumes (000s) – Scenario 1 (Baseline Network)	3-6
3-3	2025 Intersection Capacity Utilization (ICU) – Scenario 1 (Baseline Network)	3-7
3-4	Existing and Future ADT by Subarea - Scenario 2.....	3-13
3-5	2025 ADT Volumes (000s) – Scenario 2 (Baseline Network)	3-15
3-6	2025 Intersection Capacity Utilization (ICU) – Scenario 2 (Baseline Network)	3-16
3-7	Existing and Future ADT by Subarea - Scenario 3.....	3-25
3-8	2025 ADT Volumes (000s) – Scenario 3 (Baseline Network)	3-26
3-9	2025 Intersection Capacity Utilization (ICU) – Scenario 3 (Baseline Network)	3-27
3-10	Existing and Future ADT by Subarea - Scenario 4.....	3-36
3-11	2025 ADT Volumes (000s) – Scenario 4 (Baseline Network)	3-37
3-12	2025 Intersection Capacity Utilization (ICU) – Scenario 4 (Baseline Network)	3-38
3-13	Existing and Future ADT by Subarea - Scenario 5.....	3-47
3-14	2025 ADT Volumes (000s) – Scenario 5 (Baseline Network)	3-48
3-15	2025 Intersection Capacity Utilization (ICU) – Scenario 5 (Baseline Network)	3-49
3-16	Existing and Future ADT by Subarea - Scenario 6.....	3-58
3-17	2025 ADT Volumes (000s) – Scenario 6 (Baseline Network)	3-59
3-18	2025 Intersection Capacity Utilization (ICU) – Scenario 6 (Baseline Network)	3-60
4-1	Functional Classifications – Conceptual Cross-Sections.....	4-4
4-2	Roadway Cross-Sections	4-7
4-3	Roadway Cross-Sections (Continued).....	4-8
4-4	Roadway Cross-Sections (Continued).....	4-9
4-5	Principal Intersections	4-11
4-6	Roadway Classifications – Scenario 1.....	4-13
4-7	2025 ADT Volumes (000s) – Scenario 1 (Baseline Network)	4-14
4-8	Roadway Classifications – Scenario 2.....	4-15
4-9	2025 ADT Volumes (000s) – Scenario 2 (Alternative Network).....	4-16
4-10	Roadway Classifications – Scenario 3.....	4-17
4-11	2025 ADT Volumes (000s) – Scenario 3 (Alternative Network).....	4-18
4-12	Roadway Classifications – Scenario 4.....	4-20
4-13	2025 ADT Volumes (000s) – Scenario 4 (Alternative Network).....	4-21
4-14	Roadway Classifications – Scenario 5.....	4-22
4-15	2025 ADT Volumes (000s) – Scenario 5 (Alternative Network).....	4-23
4-16	Roadway Classifications – Scenario 6.....	4-24
4-17	2025 ADT Volumes (000s) – Scenario 6 (Alternative Network).....	4-25

5-1	2025 ADT Volumes (000s) – Scenario 5 (Alternative Network with Cedar Street Extension)	5-2
5-2	2025 ADT Volumes (000s)–Scenario 2 (Alternative Network with Santa Clara River Crossing).....	5-4
5-3	2025 ADT Volumes (000s)–Scenario 6 (Alternative Network with Olivas Park Extension)	5-6
A-1	Intersection Location Map.....	A-5

LIST OF TABLES

	Page
TABLES	
1-1	Arterial Intersection Performance Criteria 1-3
1-2	Level of Service Descriptions – Urban Streets..... 1-5
1-3	Level of Service Descriptions – Signalized Intersections..... 1-6
2-1	Existing ICU Summary..... 2-6
3-1	Land Use and Trip Generation by Sub-Area – 2025 Scenario 1 3-4
3-2	Roadway Improvements – Scenario 1 3-8
3-3	2025 ICU Summary - Scenario 1..... 3-9
3-4	Land Use and Trip Generation by Sub-Area – 2025Scenario 2 3-12
3-5	Roadway Improvements – Scenario 2 3-17
3-6	2025 ICU Summary - Scenario 2..... 3-19
3-7	Land Use and Trip Generation by Sub-Area – 2025 Scenario 3 3-24
3-8	Roadway Improvements – Scenario 3 3-28
3-9	2025 ICU Summary - Scenario 3 3-30
3-10	Land Use and Trip Generation by Sub-Area – 2025 Scenario 4 3-35
3-11	Roadway Improvements – Scenario 4 3-39
3-12	2025 ICU Summary - Scenario 4..... 3-41
3-13	Land Use and Trip Generation by Sub-Area – 2025 Scenario 5 3-46
3-14	Roadway Improvements – Scenario 5 3-51
3-15	2025 ICU Summary - Scenario 5 3-53
3-16	Land Use and Trip Generation by Sub-Area – 2025 Scenario 6 3-57
3-17	Roadway Improvements – Scenario 6 3-62
3-18	2025 ICU Summary - Scenario 6..... 3-64
4-1	Street Classifications 4-3
4-2	Street Section Space Allocation Examples..... 4-10
4-3	Traffic Calming Toolbox..... 4-28
B-1	Arterial Streets GPAC and Public Comments – March 13, 2202..... B-3
B-2	Public Transit GPAC and Public Comments – March 13, 2202..... B-7
B-3	General Bikeway Plan B-9

Chapter 1.0

INTRODUCTION

This technical report has been prepared as a resource document for the General Plan Circulation Element update being undertaken by the City of San Buenaventura. It is intended to provide technical material and other information pertaining to the Circulation Element Update.

BACKGROUND AND SCOPE

This report provides baseline information with respect to circulation, and then focuses on specific aspects of circulation planning such as performance criteria, future traffic demands, long-range highway capacity needs, and issues pertaining to transit and bicycle circulation. Technical information and discussions are provided as appropriate, and additional detailed data is attached as Appendices.

The remainder of this chapter discusses performance criteria for the arterial street system, indicating the policy and technical aspects of this important aspect of circulation planning. Chapter 2.0 then describes existing conditions for all modes of transportation. The arterial street system performance criteria are applied to recent traffic count data to provide a description of existing conditions.

Chapter 3.0 presents future traffic forecasts and analyzes long-range capacity needs on the Citywide street network. Various land use and network alternatives are tested and evaluated to assist in formulating the arterial street component of the Circulation Element.

Chapter 4.0 addresses the Circulation Element itself, and discusses various issues that have guided the preparation of the Element. Specific components of the Element are discussed here in detail, and in particular, the classification system for the arterial street component. Comments received from public participation in the General Plan process, and notes on how they have been used in preparing the updated Circulation Element can be found in Appendix B.

STREET SYSTEM PERFORMANCE CRITERIA

To evaluate the Circulation Element arterial street system in relation to the Land Use Element, use is made of performance criteria. These criteria include “performance standards” and “thresholds of significance,” the latter being used for identifying project impacts in an EIR context. The performance standards form part of City Policy as contained in the Circulation Element and represent desired operating conditions for the City’s street system. For the Circulation Element to be in “balance” with the Land Use Element, the circulation system must achieve such standards.

Performance Criteria Definitions

The performance criteria used here are based on two primary measures. The first is “capacity” which establishes the vehicle carrying ability of a roadway and the second is “volume.” The ratio between the volume and the capacity gives a volume/capacity (V/C) ratio and based on that V/C ratio, a corresponding level of service (LOS) is defined. A later section of this chapter contains level of service descriptions for arterial roadways and freeways as contained in the 2000 Highway Capacity Manual (HCM) 2000 (see Reference 2 at the end of this chapter).

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. The intersection capacity utilization (ICU) methodology is applied using peak hour volumes and the geometric configuration of the intersection. This methodology sums the V/C ratios for the critical movements of an intersection and is generally compatible with the intersection capacity analysis methodology outlined in the HCM 2000.

The ICU calculation methodology and associated impact criteria used for the study area arterial system are summarized in Table 1-1. The performance standards (level of service “D” or “E” depending on location) are established by City Policy in the Circulation Element. The calculation methodology, which includes saturation flow rate and clearance interval parameters that are representative values for planning purposes, could change over time in response to changes in technical procedures used for such purposes.

Table 1-1

ARTERIAL INTERSECTION PERFORMANCE CRITERIA

V/C Calculation Methodology

Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following values:

Saturation Flow Rate: 1,600 vehicles/hour/lane.

Clearance Interval: none

Performance Standard

Level of Service E (peak hour ICU less than or equal to 1.00) for freeway ramp intersections.

Level of Service D (peak hour ICU less than or equal to 0.90) for all other Principal Intersections*.

Threshold of Significance (for impact analyses)

For an intersection that is forecast to operate worse than it's performance standard, the impact of a given project is considered to be significant if the project increases the ICU by more than 0.01. An ICU increase of more than .01 does not cause the threshold of significance to be exceeded if the with-project ICU does not exceed the maximum ICU value.

Level of Service

Level of service ranges are as follows:

ICU	LEVEL OF SERVICE (LOS)
0.00 – 0.60	A
0.61 – 0.70	B
0.71 – 0.80	C
0.81 – 0.90	D
0.91 – 1.00	E
Above 1.00	F

* See definition of Principal Intersections in Chapter 4

Level Of Service Descriptions

Tables 1-2 and 1-3 summarize the level of service descriptions for arterial highways and intersections, respectively. These descriptions are taken from material contained in HCM 2000.

DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT	Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.
DU	Dwelling Unit. Used in quantifying residential land use.
ICU	Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.
LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.
TSF	Thousand Square Feet. Used in quantifying non-residential land uses, and refers to building floor area.
V/C	Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.
VPD	Vehicles Per Day. Similar to ADT, but more typically applied to trip generation (i.e., the amount of traffic generated by a given amount of land use).
VPH	Vehicles Per Hour. Used for roadway volumes (counts or forecasts) and trip generation estimates. Measures the number of vehicles in a one hour period, typically the AM or PM peak hour.

Table 1-2

LEVEL OF SERVICE DESCRIPTIONS – URBAN STREETS

The average travel speed along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section, or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. The following general statements characterize LOS along urban streets and show the relationship to free flow speeds (FFS)

LOS	DESCRIPTION	PERCENT OF FFS
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the FFS for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is normal.	90
B	LOS B describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. Vehicles are completely unimpeded in their ability to maneuver with the traffic stream. Control delay at signalized intersections is minimal.	70
C	LOS C describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.	50
D	LOS D borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS	40
E	LOS E is characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	33
F	LOS F is characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	25

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council

Table 1-3

LEVEL OF SERVICE DESCRIPTIONS – SIGNALIZED INTERSECTIONS

Levels of service (LOS) for signalized intersections are defined in terms of control delay as follows:

LOS	DESCRIPTION	DELAY PER VEHICLE (secs)
A	LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	< 10
B	LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than the LOS A, causing higher levels of delay.	10 – 20
C	LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20 – 35
D	LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35 – 55
E	LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55 – 80
F	LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	> 80

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council

REFERENCES

1. City of Ventura Comprehensive Plan Update, Baseline Conditions Assessment, July 2002.
2. "Highway Capacity Manual 2000," Transportation Research Board, National Research Council.
3. City of Ventura, Annual Transportation Report, May 2005.
4. "General Bikeway Plan," City of Ventura, January 2005.
5. "City of Ventura Traffic Model Description and Validation," June 2005.

Chapter 2.0

EXISTING CONDITONS

This chapter discusses the transportation setting for the City of Ventura circulation system. Existing conditions are described for the various circulation system components addressed in the Circulation Element.

ARTERIAL STREET SYSTEM

The Citywide street system is illustrated in Figure 2-1. Shown here are those streets that are included in the Circulation Element, together with the existing midblock lanes on each street segment. Traffic conditions on the street network are described in terms of traffic volumes on the individual streets and also in terms of intersection operation. The former uses average daily traffic (ADT) as the measure of traffic usage, while the latter examines peak hour volumes to determine how well an intersection performs during rush hours. Specific “performance criteria” are used to evaluate intersections throughout the City, and these were discussed in Chapter 1.0.

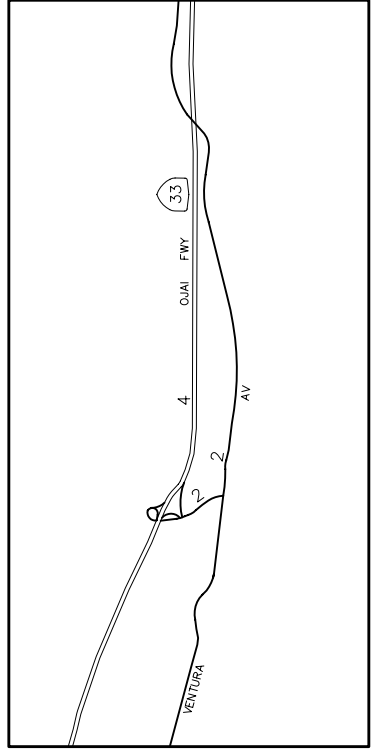
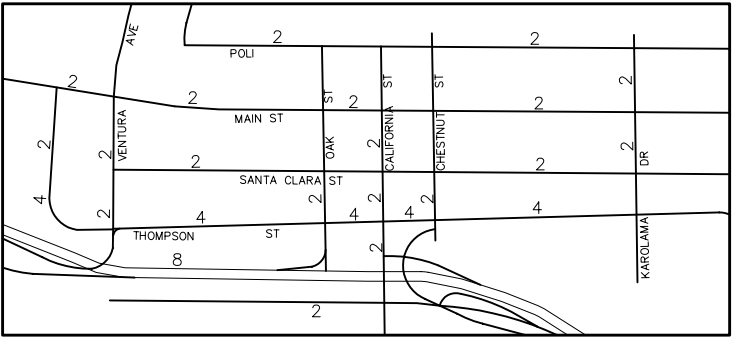
The City prepares an annual monitoring report which provides traffic count data, level of service summaries and information on planned improvements at individual intersections. The latest report was released in October 2003 (see Reference 3 at the end of Chapter 1.0). Information, such as lane configurations, has been taken from that report.

Existing ADT volumes

Figure 2-2 shows the existing ADT volumes on the arterial street system. These volumes are based on counts taken in 2004 and represent two-direction 24-hour vehicles on an average weekday. As noted in the discussion on performance criteria, such volumes are not used directly in level of service criteria, but serve a number of purposes relative to evaluating the usage of the arterial street system. In particular, they provide one of the criteria for determining functional classification (see discussion on functional classifications in Chapter 4.0 of this report and also in the Circulation Element).



SEE WINDOW BELOW



Legend

x Total number of midblock (or through) lanes for this roadway.

Figure 2-1

EXISTING MIDBLOCK LANES

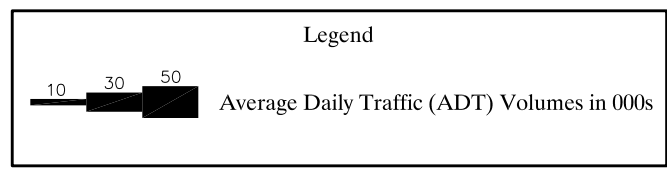
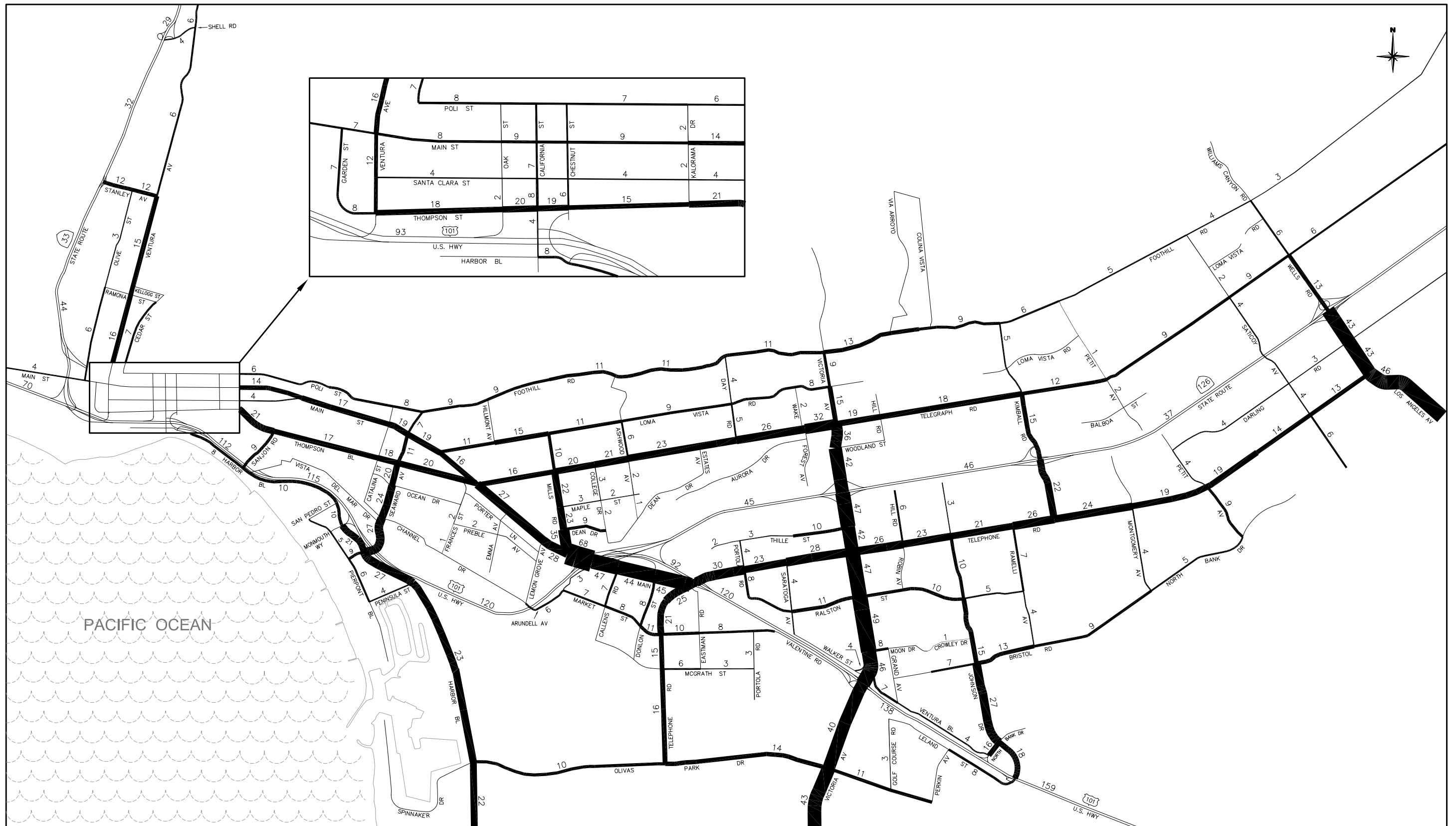


Figure 2-2
EXISTING ADT VOLUMES (000s)

Existing Levels Of Service

As discussed in the performance criteria section of Chapter 1.0, level of service (LOS) on the arterial street system is defined according to peak hour intersection performance using Intersection Capacity Utilization (ICU) values. Figure 2-3 shows the intersections included in this evaluation and Table 2-1 lists the current ICUs and corresponding LOS values (ICU calculations can be found in Appendix A). The ICUs and LOS values are also illustrated in Figure 2-4, which shows the highest of the AM or PM ICU values at each intersection. As can be seen here, one location does not meet the performance standard. This location is Ventura Boulevard at North Bank Drive (PM LOS “F”).

Improvements at several intersections in the City (including Ventura Boulevard and North Bank Drive) are noted in the City’s annual transportation report referenced earlier.

TRANSIT

The bus routes currently serving the City are illustrated in Figure 2-5. Service is provided by South Coast Area Transit (SCAT), with all six routes operating on both weekdays and weekend days. The routes serve major activity centers throughout the City, and as discussed in the bicycle section later in this chapter, buses are able to transport bicycles by means of special racks mounted on the buses.

Ventura Intercity Service Transit Authority (VISTA) provides bus service between Ventura and Santa Barbara via the transit center at Pacific View Mall, and intercity service to Oxnard, Camarillo, Thousand Oaks, Santa Paula, Fillmore and Los Angeles.

Rail transit service is provided by Metrolink and AMTRAK, and the above referenced figure shows the station locations.

Metrolink provides rail service between Ventura and Union Station in Los Angeles on the Ventura County line. A Metrolink station operates in the City of Ventura at Ventura Boulevard and Inez Street (the Montalvo Station). Presently, two trains in both the AM and PM operate the entire length of the route between Ventura and Union Station.

Rail service to the City of Ventura is also provided by AMTRAK via the Pacific Surfliner, which runs between San Luis Obispo to the north and San Diego to the south. The station is an unstaffed facility



Legend

----- Future Roadway

Figure 2-3
INTERSECTION LOCATION MAP

Table 2-1
EXISTING ICU SUMMARY

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.46	A	.47	A
2. Victoria & Loma Vista	.51	A	.45	A
3. Victoria & Telegraph	.57	A	.69	B
4. Victoria & Woodland	.64	B	.50	A
5. Victoria & SR 126 SB Ramps	.53	A	.78	C
6. Victoria & Thille	.49	A	.51	A
7. Victoria & Telephone	.57	A	.63	B
8. Victoria & Ralston	.59	A	.74	C
10. Victoria & Moon	.50	A	.53	A
14. Hill & Telephone	.53	A	.45	A
15. Johnson & Telephone	.42	A	.52	A
18. Seaward & US 101 NB Ramps	.47	A	.54	A
19. Monmouth/US 101 SB & Harbor	.48	A	.62	B
20. Harbor & Olivas Park	.39	A	.54	A
23. Mills & Loma Vista	.33	A	.40	A
24. Mills & Telegraph	.45	A	.48	A
25. Mills & Maple	.47	A	.48	A
26. Mills & Dean	.51	A	.53	A
27. Mills & Main	.59	A	.61	B
28. US 101 NB Ramps & Main	.60	A	.67	B
29. SR 126 EB Ramps & Main	.37	A	.51	A
30. Callens & Main	.34	A	.55	A
31. Donlon & Main	.45	A	.69	B
32. Telephone & Main	.43	A	.63	B
33. US 101 NB Ramps & Telephone	.39	A	.60	A
34. Portola & Telephone	.38	A	.45	A
35. Saratoga & Telephone	.32	A	.42	A
38. Telephone & Market	.38	A	.57	A
42. Telephone & McGrath	.24	A	.45	A
45. Catalina & Main	.48	A	.48	A
46. Seaward & Main	.49	A	.55	A
47. Main & Loma Vista	.48	A	.44	A
49. Main & Telegraph	.38	A	.54	A
50. Emma & Main	.31	A	.41	A
51. Lemon Grove & Main	.31	A	.41	A
53. Kimball & Telephone	.69	B	.53	A
55. Kimball & SR 126 EB Ramps	.35	A	.34	A
56. Kimball & SR 126 WB Ramps	.60	A	.34	A
58. Kimball & Telegraph	.21	A	.30	A
60. Ramelli & Telephone	.29	A	.53	A
61. Montgomery & Telephone	.54	A	.36	A
63. Petit & Telephone	.43	A	.58	A
65. Sanjon & Thompson	.35	A	.40	A
68. Seaward & Thompson	.42	A	.55	A
71. Sanjon & Harbor	.32	A	.53	A
75. Ashwood & Telegraph	.29	A	.42	A
77. Day & Telegraph	.40	A	.37	A
85. Victoria & Olivas Park	.77	C	.79	C
86. Telephone & Olivas Park	.53	A	.66	B
91. Johnson & Ralston	.53	A	.62	B

Table 2-1 (cont)
EXISTING ICU SUMMARY

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
	ICU	LOS	ICU	LOS
92. Johnson & Bristol	.74	C	.80	C
94. Johnson & North Bank	.60	A	.70	B
95. Bristol & Ramelli	.42	A	.21	A
96. Montgomery & North Bank	.39	A	.29	A
100. Saticoy & Telephone	.43	A	.41	A
101. Saticoy & Telegraph	.46	A	.42	A
102. Wells & Telegraph	.54	A	.52	A
104. Wells & SR 126 EB Ramps	.73	C	.63	B
105. Wells & Darling	.72	C	.78	C
106. Wells & Telephone	.78	C	.72	C
114. California & Thompson	.52	A	.54	A
115. Chestnut & Thompson	.42	A	.50	A
120. Ventura & Main	.35	A	.60	A
132. Ventura & Stanley	.55	A	.61	B
136. US 101 SB Ramps & Valentine	.40	A	.44	A
138. Johnson & US 101 SB Ramps	.42	A	.51	A
160. Victoria & US 101 NB Ramps	.66	B	.60	A
161. Victoria & Valentine	.43	A	.61	B
162. California & Harbor	.16	A	.29	A
163. Santa Clara & Main	.23	A	.23	A
164. Seaward & Poli	.39	A	.44	A
165. Seaward & Harbor	.57	A	.59	A
166. College & Telegraph	.33	A	.38	A
168. Day & Foothill	.71	C	.72	C
169. Kimball & Foothill	.46	A	.40	A
170. Petit & Foothill	.26	A	.12	A
171. Saticoy & Foothill	.27	A	.23	A
172. Wells & Foothill	.22	A	.16	A
173. Victoria & SR 126 WB Ramps	.65	B	.61	B
174. Petit & Telegraph	.34	A	.24	A
175. Ventura & Northbank	.51	A	1.22	F
176. Saticoy & Darling	.31	A	.23	A
177. Wells & SR 126 WB Ramps	.24	A	.33	A
178. SR-33 Ramps & Stanley	.49	A	.56	A
179. SR-33 Ramps & Shell	.71	C	.70	B
180. Estates & Telegraph	.26	A	.39	A
181. Ventura & Ramona	.31	A	.45	A
182. Olive & Main	.47	A	.47	A

Level of service ranges: .00 - .60 A
 .61 - .70 B
 .71 - .80 C
 .81 - .90 D
 .91 - 1.00 E
 Above 1.00 F

Note: Gray shading denotes intersection locations that exceed performance criteria.



LEGEND

.XX Highest ICU value during the AM or PM peak hour

LOS A-C
 LOS D
 LOS E-F

Level of service (LOS) ranges:

LOS A .00-.60	LOS D .81-.90
LOS B .61-.70	LOS E .91-1.00
LOS C .71-.80	LOS F Above 1.00

Figure 2-4
EXISTING INTERSECTION CAPACITY UTILIZATION (ICU)

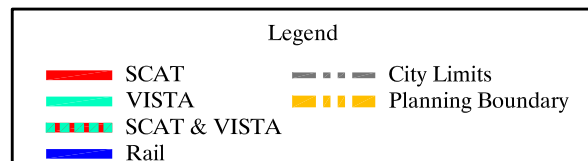
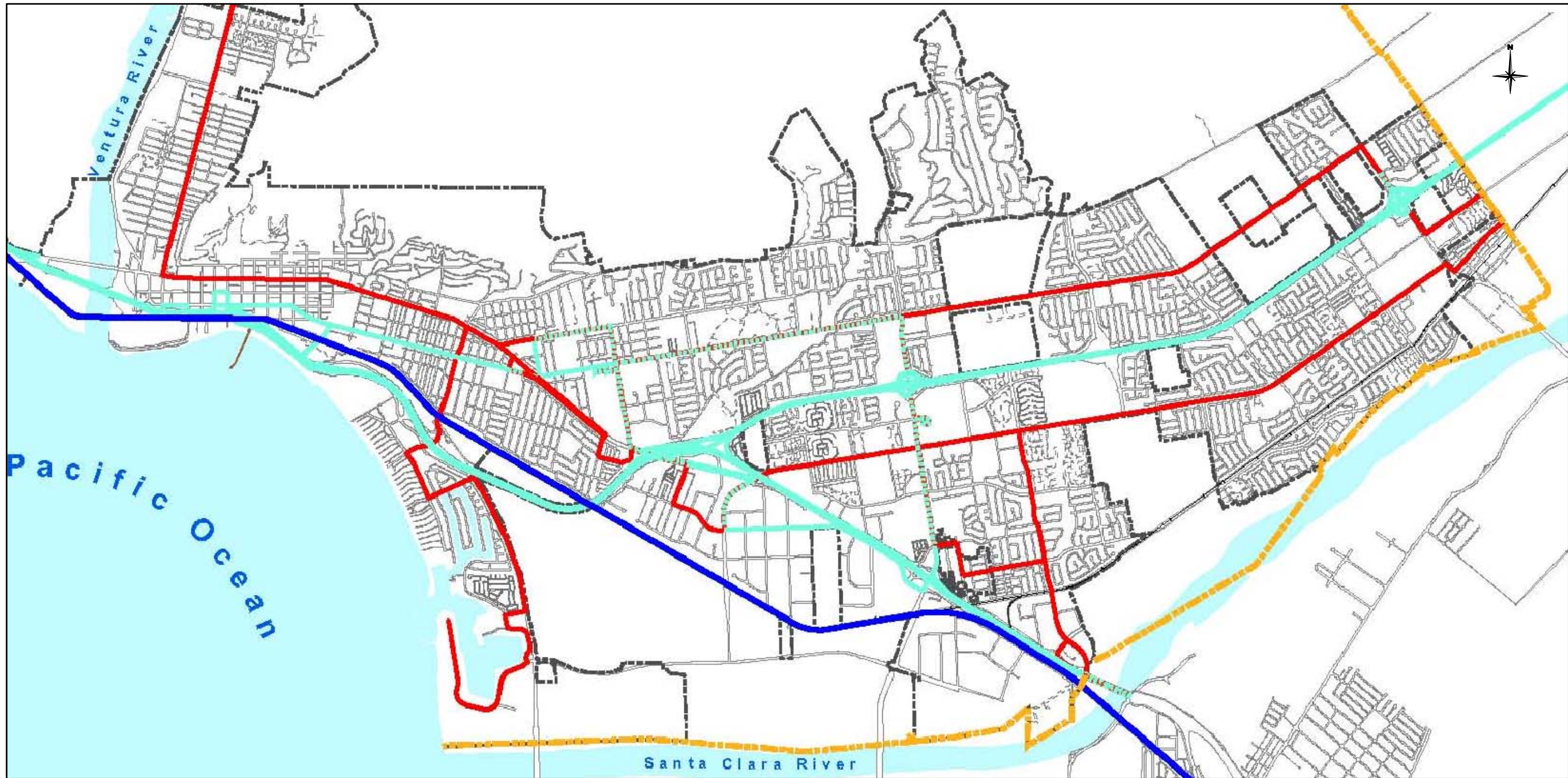


Figure 2-5
EXISTING TRANSIT ROUTES

located at Harbor Boulevard and Figueroa Street adjacent to the Ventura County Fairgrounds (Seaside Park). Four trains operate daily, with one additional train on the weekends and one additional train that operates only during the weekdays.

BICYCLES

The City has a comprehensive report labeled the “General Bikeway Plan” which was adopted by the City Council in January 2005 (see Reference 4 at the end of Chapter 1.0). It provides detailed information on the current Bikeway Plan, and an implementation program for augmenting the existing system. The plan seeks a *“citywide bikeway system that serves the needs of both commuter and recreational cyclists.”* The following discussion summarizes key information from that report.

Overview

The City’s General Plan contains policies within the Circulation Element and the Park and Recreation Element that relate to bikeways and support facilities within the City. The Select System of Bikeways Map, adopted by the City Council on December 13, 1999, delineates existing and proposed bikeways which connect major destinations such as schools, businesses, public facilities, transit centers, and regional trails. The Map also indicates the location of amenities such as bike racks, restrooms, and shower facilities. Also, the City has sections in its Ordinance Code which require standards for bicycle parking facilities in new development thereby encouraging greater use of bicycles as an alternate form of transportation.

The General Bikeway Plan is designed to facilitate the following actions:

- Address and expand upon existing City policies and establish related goals.
- Recommend bikeway design standards.
- Evaluate existing bicycle safety and education programs and make recommendations for enhancement.
- Identify priorities and a phasing plan for implementation of the Select System of Bikeways Map.
- Identify and recommend potential funding alternatives and other opportunities for inter-agency cooperation.

The Plan serves as a flexible, comprehensive and long-range guide for future bicycle planning and design and budgetary decisions, and helps ensure that the City's bicycle transportation and recreational needs are met.

Bicycle Advisory Team (BAT)

The BAT is an eight-member advisory committee, representing the Traffic Engineering, Planning, Parks, Recreation, and Police functions of the City. The BAT participates in preparing the City's Select System of Bikeways Plan and the General Bikeway Plan. In addition, BAT members work directly with the public in public workshops and meetings, and the committee has a major role in helping to meet the needs of commuter and recreational cyclists.

Bikeway Plan Components

The California Bicycle Transportation Act outlines the basic elements to be included in a general bikeway plan in order to be acceptable by the California Department of Transportation. This General Bikeway Plan addresses these requirements under the following headings.

- **Route Selection** – The current recommended bicycle routing within the City is based on the City's Select System of Bikeways Map, which was adopted by the City Council on December, 1999 as part of the General Bikeway Plan noted earlier in this section. The Select System of Bikeways Map was developed in concert with the Linear Park Network, the Land Use Plan Map and the Circulation Plan Map to integrate land use, circulation and recreational considerations.
- **Citizen and Community Involvement** – Development of a bikeway plan has had considerable community involvement. Entities contributing to this process include the Bicycle Advisory Team (BAT) discussed earlier, and the Parks and Recreation Commission. The Ventura County Transportation Commission was consulted to ensure long-term coordination of the General Bikeway Plan with the Regional Transportation Plan.
- **Flexibility and Coordination with Long-Range Transportation Planning** – The City's general bikeway plan has been developed to be consistent with local and regional

transportation plans. The City's Engineering, Planning, Police, and Public Works Departments work together to address bicycle transportation issues. These include safety, upgrading of bicycle facilities, maintenance, and the impacts on bicycle travel of capital improvement and major maintenance projects. The City coordinates with the Ventura County Transportation Commission on an annual basis to update the Ventura County Bikeways Map, which depicts bicyclist amenities throughout Ventura County. In addition, Local Bikeway Plans from Ventura County and adjoining Cities, including Oxnard, Santa Paula, Ojai, the Southern California Association of Governments, and Caltrans are reviewed for consistency with the City's Select System of Bikeways Map.

- **Rest Facilities and Parking Facilities** – The City's Select System of Bikeways Map indicates the location of bicyclist amenities within the system, including access to bicycle parking, storage facilities, and restrooms. City Resolution No. 81-74 establishes guidelines for bicycle parking facilities in conjunction with new construction within the City. The City's Community Development Department has also adopted bicycle rack guidelines as directed in the Resolution. In this regard, the provision of bicycle storage facilities, shower and dressing areas and other amenities is encouraged in the planning of public and private developments.
- **Bicycle Safety Education** – The General Bikeway Plan provides both physical recommendations (such as bike lanes) and program recommendations. The latter includes efforts to educate bicyclists and motorists, and efforts to increase the use of bicycles as a transportation alternative.

The City's bikeway system is illustrated in Figure 2-6. Bikeways in this system conform to standards and designations established by the California Department of Transportation (Caltrans). Figure 2-7 illustrates the three classes of bikeway facilities, and some discussion on each class of bikeway follows.

Bike Path (Class I)

Class I bike paths are separated from roads by distance or barriers, and cross traffic by motor vehicles is minimized. Bike paths offer opportunities not provided by the road system and can provide recreational opportunities or serve as desirable commuter routes.

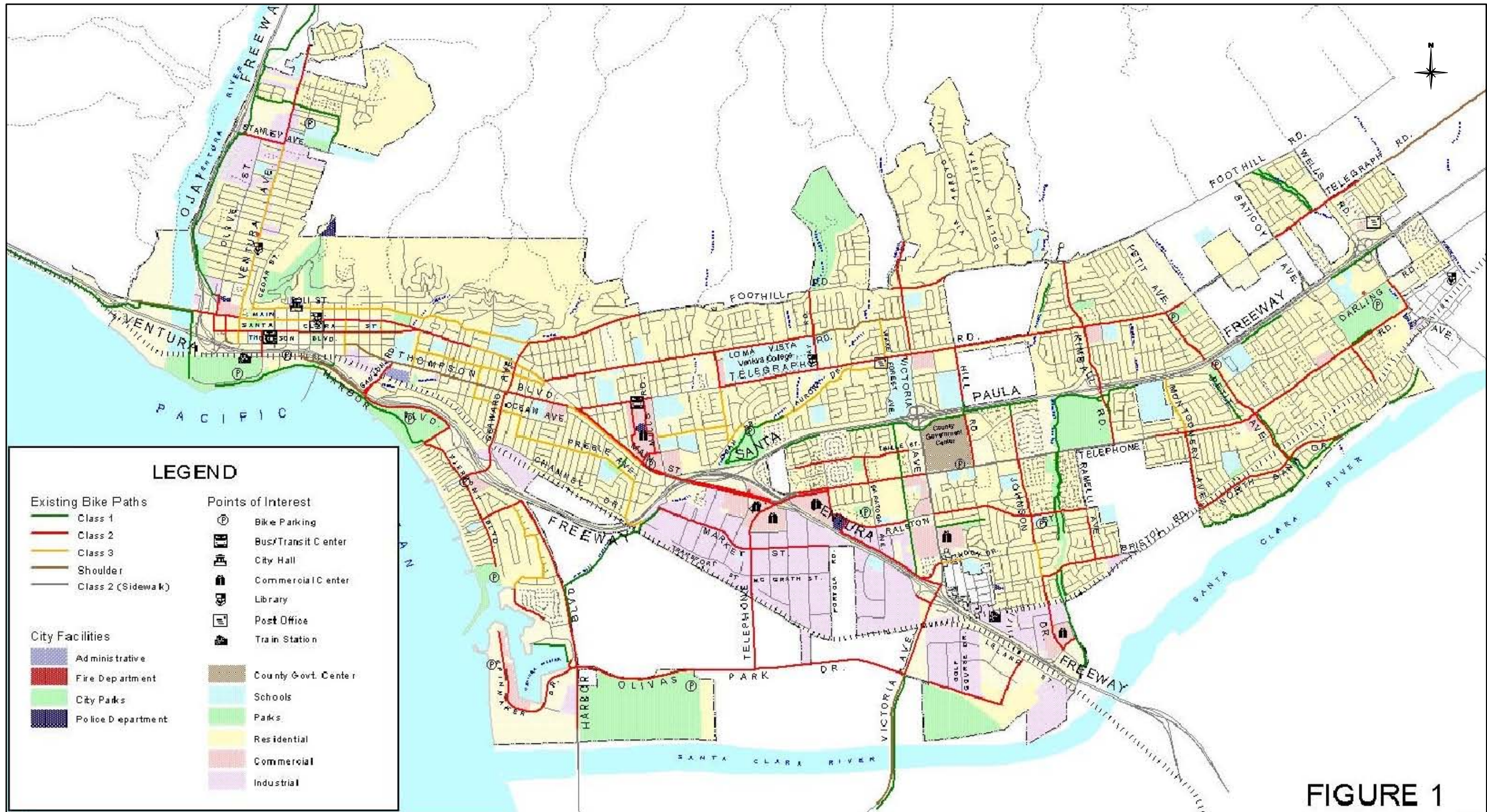
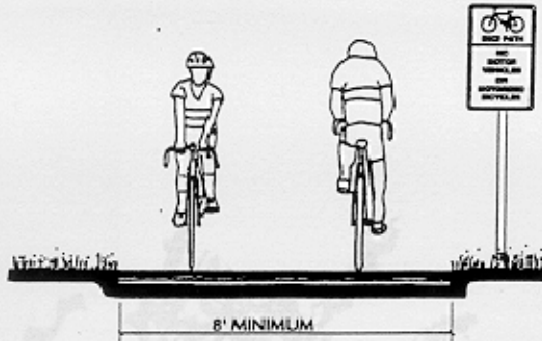
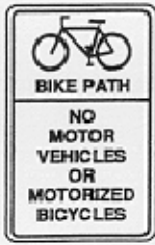


FIGURE 1

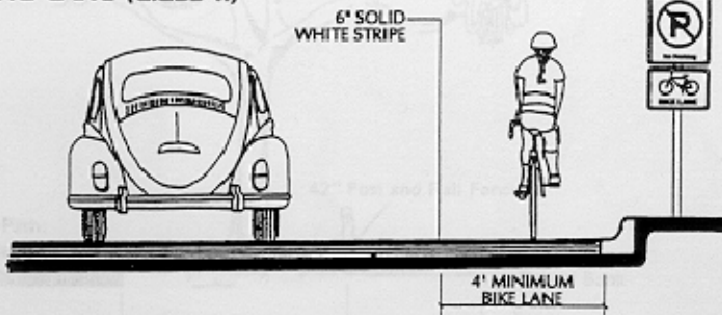
Figure 2-6
EXISTING SYSTEM OF BIKEWAYS

General Bikeway Plan

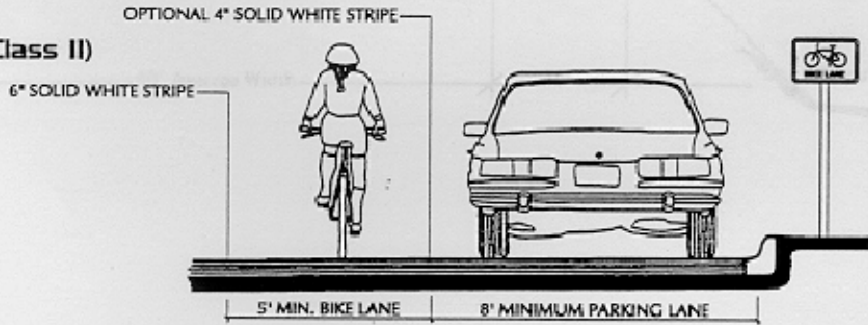
BIKE PATH (Class I)



BIKE LANE WITHOUT PARKING LANE (Class II)



BIKE LANE WITH PARKING LANE (Class II)



BIKE ROUTE (Class III)

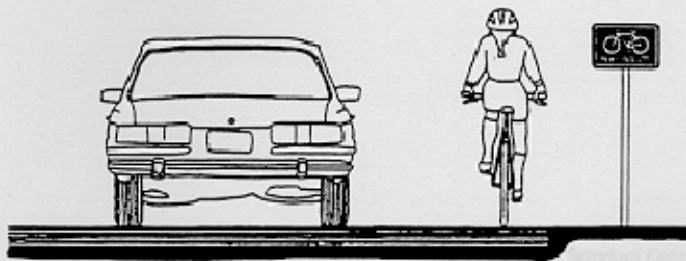


Figure 8

Classes of Bikeway Signs and Designations

Figure 2-7

BIKEWAY CLASSIFICATIONS

Design standards require two-way bicycle paths to be a minimum of eight feet wide plus shoulders. Bike paths are usually shared with pedestrians and if pedestrian use is expected to be significant, the desirable width is greater than eight feet, preferably 12 feet wide. Where equestrians are expected, a separate facility is generally recommended. Sidewalks and meandering paths are not considered appropriate to serve as bike paths because they are primarily intended to serve pedestrians, and generally do not meet Caltrans' design standards.

Bike Lane (Class II)

A Class II bikeway is a lane on a road that is reserved for bicycles. The lane is painted with pavement lines and markings and is signed. The lane markings decrease the potential for conflicts between motorists and bicyclists.

With respect to design standards, bike lanes are one-way, with a lane provided on each side of the roadway. They are located between the travel lane and the edge of paving or, if parking is permitted, between the travel lane and the parking lane. The lanes are four feet minimum width and five feet minimum width if parking is permitted.

Bike Route (Class III)

Class III bike routes share existing roads and provide continuity to other bikeways or designated preferred routes through high traffic areas. However, there is no separate lane and bike routes are established by placing "Bike Route" signs along roadways. Signs direct the cyclist and warn drivers of the presence of bicyclists. Since bicyclists are permitted on all roads, the decision to sign a road as a bike route is based on several factors including the advisability of encouraging bicycle travel on the route, serving bicycle demand corridors, and connecting discontinuous segments of bike lanes.

A previous section of this chapter showed the South Coast Area Transit System (SCAT)'s bus routes within the City of San Buenaventura. As noted there, these routes connect most of the major destinations within the City, including the Downtown, the County Government Center, Ventura College and the Arundell Community. The SCAT buses are equipped to transport bicycles. The Pacific View Mall, the National Guard Armory, and the Park and Ride Lot provide bikeway interface with transit routes, enhancing the opportunities to employ multiple modes of transportation in reaching a particular destination.

Chapter 3.0

LONG-RANGE TRAFFIC ANALYSIS

This chapter discusses future growth in the City and presents traffic forecast data for the Citywide street system. Long-range capacity needs on the street network are then evaluated with specific emphasis on potential new roadways or upgrades to existing roadways. The analysis results provide the basic input for formulating the arterial street component of the Circulation Element (see discussion in next chapter).

OVERALL APPROACH

The arterial street system as depicted in the Circulation Element is designed to be adequate to serve future land uses as depicted in the Land Use Element. It thereby represents a circulation system that is in “balance” with future land uses. The analysis results presented here use long-range traffic forecast data based on buildout of the General Plan land uses to assess future needs and thereby identify a future street network that is adequate to serve those needs.

The approach used here is to apply year 2025 traffic forecasts to the existing system plus committed improvements (i.e., those that are funded and planned for implementation). The resulting information is then used to identify where deficiencies can be anticipated. Additional or expanded roadways are then added to the committed arterial street system until there is adequate capacity to serve the future traffic demands (these are referred to as non-committed improvements). Where appropriate, alternative strategies for achieving a balanced system were tested and evaluated.

Traffic forecast data presented here was produced using the Ventura citywide traffic forecasting model. The model uses future land use and circulation system assumptions to derive corresponding traffic forecast data. A detailed description of the modeling procedures can be found in the traffic model documentation report (Reference 5 at the end of Chapter 1.0).

The evaluation of land use and circulation system alternatives uses the performance criteria described in Chapter 1.0. As discussed there, the procedure is based on peak hour intersection performance with emphasis on the Principal Intersections identified throughout the City. Peak hour intersection capacity utilization (ICU) values are calculated using a “Baseline” set of roadway system

improvements. As discussed in Chapter 1.0, level of service (LOS) “E” (ICU not to exceed 1.00) is the performance standard for freeway ramp intersections and LOS “D” (ICU not to exceed .90) is the performance standard for all other Principal Intersections. Locations not operating at an acceptable LOS with the Baseline Network assumptions are considered deficient, and improvements needed to mitigate the deficiencies are identified.

FUTURE GROWTH ALTERNATIVES

A number of alternatives have been developed for potential growth within the City and its Sphere of Influence (SOI). They portray potential growth in four different area designations:

1. Districts – Commercial and industrial areas that have intensification potential.
2. Corridors – Linear commercial areas along designated arterials that have intensification potential.
3. Expansion Areas – Undeveloped land that is either outside the SOI or requires a “Save Our Agricultural Resources” (SOAR) vote, but has development potential.
4. Infill – General infill throughout the city.

Detailed discussions on these can be found in the reports documenting the development of the land use projections. Six scenarios have been defined which combine individual growth assumptions in the above four area designations. Total citywide growth is similar under each scenario, the differences largely affecting the geographic locations of the growth. In the sections which follow, each scenario is analyzed separately and the corresponding circulation needs evaluated.

BASELINE TRANSPORTATION IMPROVEMENTS

A number of transportation improvements throughout the city are currently committed for construction. They have identified funding sources and are programmed for implementation either through the City’s Capital Improvement Program (CIP) or other mechanisms. They are referred to here as the “Baseline Improvements”. Although the Baseline improvements are common to all scenarios, for convenience, they are listed as part of the overall improvements recommended with each scenario.

SCENARIO 1 – INTENSIFICATION/REUSE ONLY

This scenario adds an estimated 8,539 new dwelling units and 5.2 million square feet of non-residential development¹. It does not have any development in the growth areas, allocating all growth to the other three area designations.

Table 3-1 summarizes the growth for this scenario by a set of sub-areas, and Figure 3-1 shows this growth in diagrammatic form. Shown here is the existing daily trip generation by sub-area and the corresponding growth under this scenario. The overall trip generation increase citywide is 18.7 percent, and the growth is generally spread throughout the City. This scenario establishes a basic set of infill and intensification assumptions that are retained in the other five scenarios.

Year 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-2, and the corresponding ICUs are illustrated in Figure 3-3. Transportation improvements to provide adequate capacity for this scenario can be seen in Table 3-2. The corresponding ICU values are listed in Table 3-3 (ICU calculations can be found in Appendix A), which shows the ICU values under Baseline improvements only, and then the values obtained by adding the recommended additional improvements (labeled “non-committed” improvements).

Scenario 1 results in one location requiring additional (non-committed) improvements. This location is the Wells Road and Darling Road intersection.

SCENARIO 2 – INTENSIFICATION/REUSE + NORTH AVENUE + OLIVAS + SERRA

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue, Olivas, and Serra expansion areas. Citywide, this scenario would add an estimated 11,241 dwelling units and 6.4 million square feet of non-residential development.

Table 3-4 summarizes the growth by sub-area for this scenario, and Figure 3-4 shows this growth in diagrammatic form. Overall growth in trip generation is 22.5 percent, somewhat higher than the 18.7 percent increase in Scenario 1 due to the addition of the two expansion areas.

¹Future estimates of development differ slightly than those in the EIR project description. However, estimates are similar enough to reflect possible impacts. Text continues on Page 3-14

Table 3-1

LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 1

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	213	22	105	400	0	527
2	1,109	43	95	50	0	188
3	1,665	103	170	0	362	635
4	512	282	60	0	0	342
5	431	96	0	9	107	213
6	440	132	100	0	0	232
7	200	43	343	1,016	0	1,402
8	0	0	0	0	0	0
9	50	155	23	725	0	904
10	844	15	149	173	0	338
11	200	50	70	25	0	145
12	10	0	0	0	0	0
13	17	0	0	0	0	0
14	1,147	17	20	0	0	37
15	70	0	0	25	0	25
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	8,539	1,124	1,147	2,424	469	5,163
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	50,323	7,756	6,237	12,324	2,682	28,999
% Growth	20.4	16.9	22.5	24.5	21.2	21.7

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	6,740	14,378	21,119	46.9
2	11,400	51,744	63,143	22.0
3	22,036	84,647	106,683	26.0
4	28,432	110,423	138,855	25.7
5	13,280	50,251	63,530	26.4
6	9,795	163,583	173,378	6.0
7	16,417	84,677	101,094	19.4
8	0	5,104	5,104	0.0
9	10,252	21,147	31,399	48.5
10	8,895	140,508	149,403	6.3
11	10,404	17,419	27,823	59.7
12	197	18,885	19,082	1.0
13	288	15,114	15,402	1.9
14	9,995	14,969	24,964	66.8
15	618	8,047	8,665	7.7
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	172,290	921,119	1,093,408	18.7

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

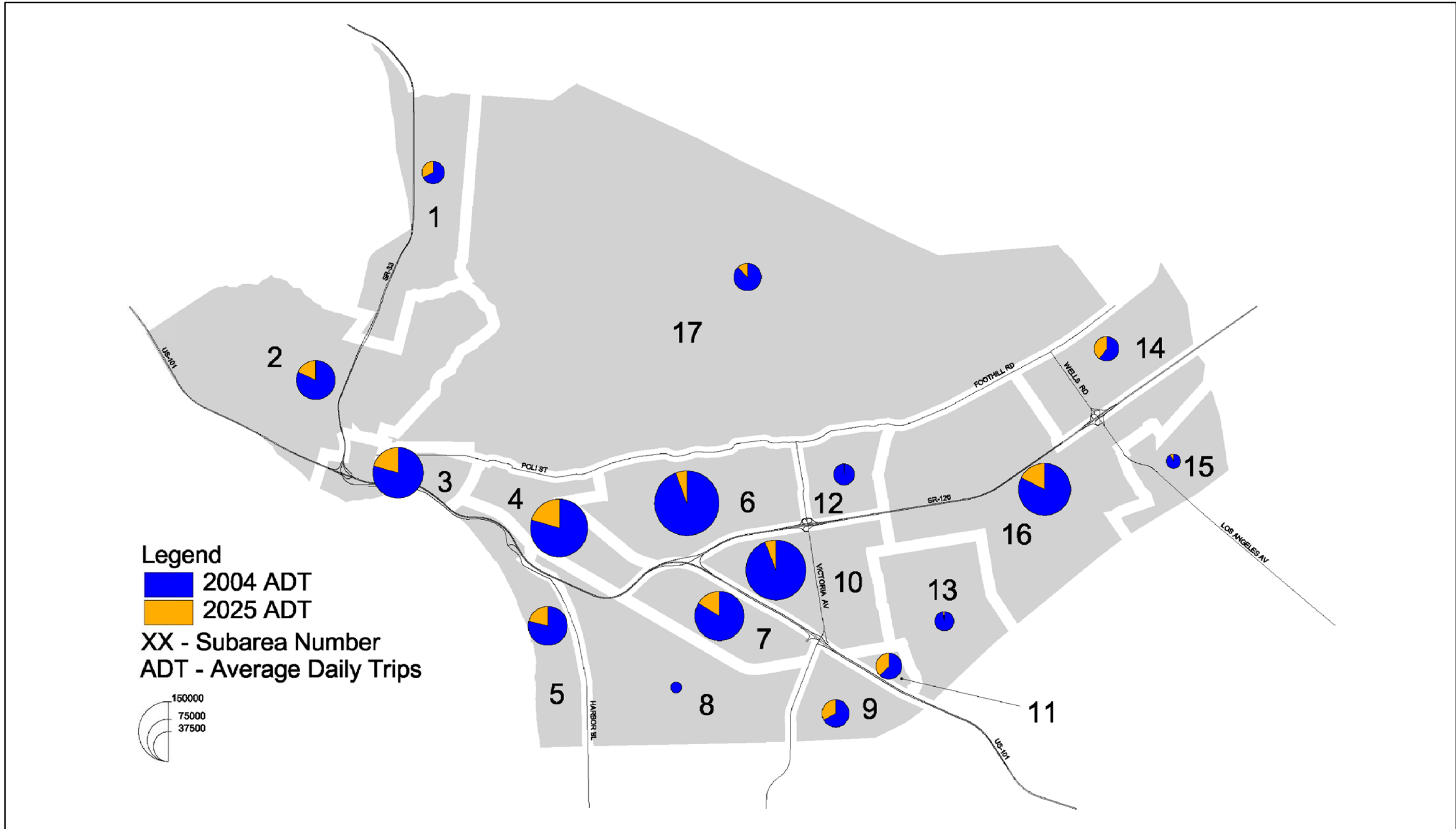


Figure 3-1
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 1

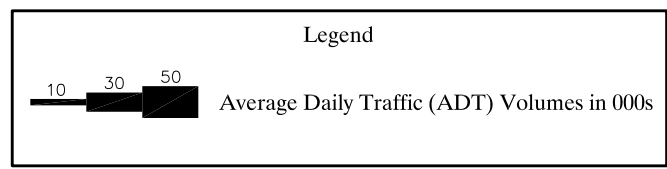
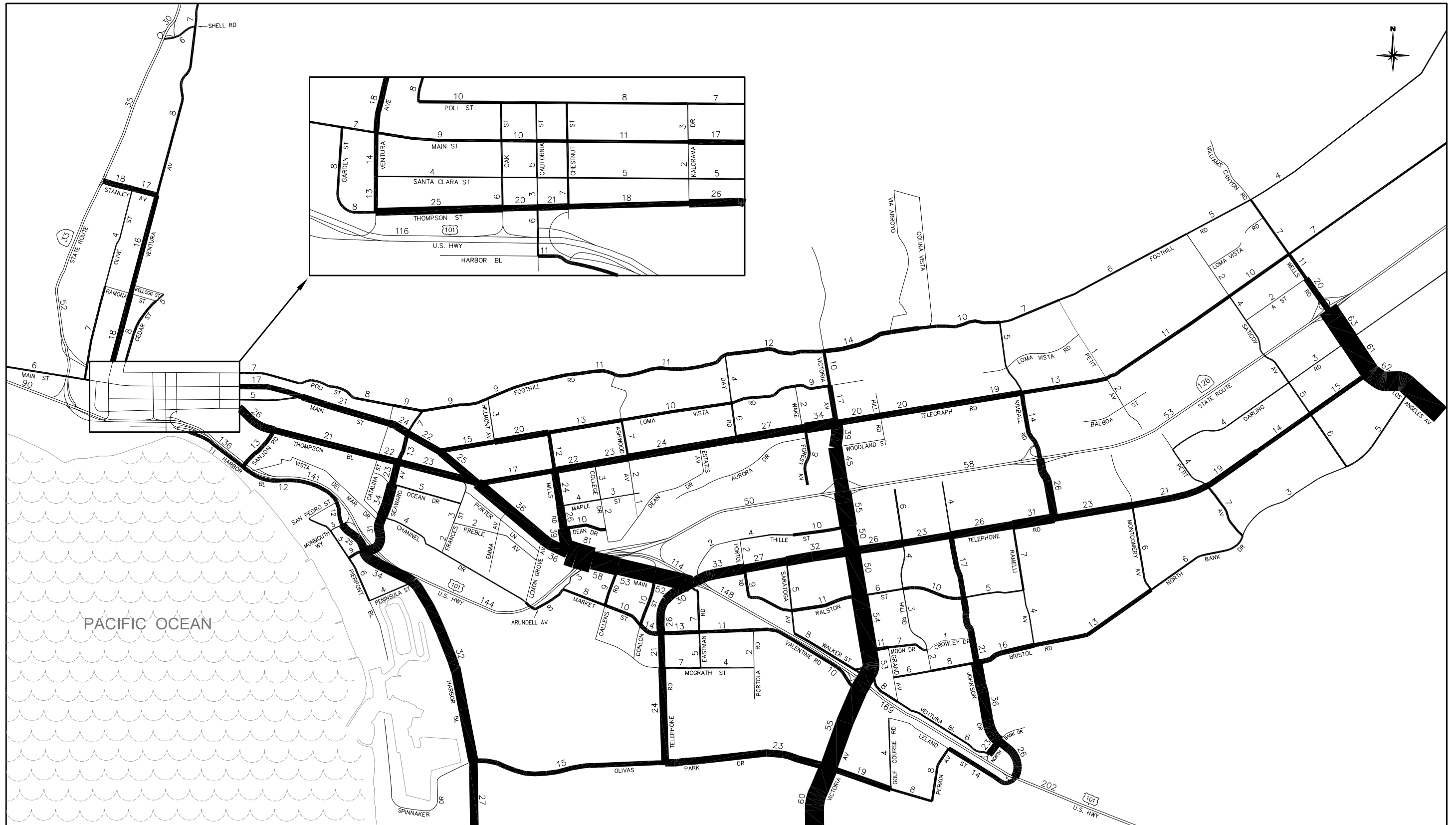


Figure 3-2
 2025 ADT VOLUMES (000s)
 - SCENARIO 1 (BASELINE NETWORK)

Table 3-2
ROADWAY IMPROVEMENTS – SCENARIO 1

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane
II. Non-Committed	
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane

Table 3-3

2025 ICU SUMMARY – SCENARIO 1

Intersection	Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.54	A	--		--	
2. Victoria & Loma Vista	.55	A	.51	A	--		--	
3. Victoria & Telegraph	.62	B	.77	C	--		--	
4. Victoria & Woodland	.71	C	.56	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.84	D	--		--	
6. Victoria & Thille	.52	A	.60	A	--		--	
7. Victoria & Telephone	.63	B	.72	C	--		--	
8. Victoria & Ralston	.69	B	.77	C	--		--	
10. Victoria & Moon	.56	A	.62	B	--		--	
14. Hill & Telephone	.53	A	.60	A	--		--	
15. Johnson & Telephone	.49	A	.74	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.62	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.56	A	.80	C	--		--	
20. Harbor & Olivas Park	.41	A	.76	C	--		--	
23. Mills & Loma Vista	.33	A	.42	A	--		--	
24. Mills & Telegraph	.50	A	.52	A	--		--	
25. Mills & Maple	.53	A	.52	A	--		--	
26. Mills & Dean	.54	A	.53	A	--		--	
27. Mills & Main	.69	B	.73	C	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.83	D	--		--	
29. SR-126 EB Ramps & Main (a)	.53	A	.65	B	--		--	
30. Callens & Main	.46	A	.68	B	--		--	
31. Donlon & Main	.56	A	.84	D	--		--	
32. Telephone & Main (a)	.61	B	.86	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.67	B	--		--	
34. Portola & Telephone	.36	A	.50	A	--		--	
35. Saratoga & Telephone	.30	A	.56	A	--		--	
38. Telephone & Market	.60	A	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--	
45. Catalina & Main	.38	A	.35	A	--		--	
46. Seaward & Main	.53	A	.69	B	--		--	
47. Main & Loma Vista	.52	A	.54	A	--		--	
49. Main & Telegraph	.46	A	.71	C	--		--	
50. Emma & Main	.40	A	.51	A	--		--	
51. Lemon Grove & Main	.41	A	.47	A	--		--	
53. Kimball & Telephone	.76	C	.66	B	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.77	C	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--	
60. Ramelli & Telephone	.38	A	.67	B	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--	
65. Sanjon & Thompson	.48	A	.59	A	--		--	
68. Seaward & Thompson	.51	A	.65	B	--		--	

Table 3-3 (Continued)
SCENARIO 1 ICU SUMMARY

Intersection	Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
71. Sanjon & Harbor	.36	A	.66	B	--		--	
75. Ashwood & Telegraph	.29	A	.48	A	--		--	
77. Day & Telegraph	.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.66	B	.80	C	--		--	
86. Telephone & Olivas Park	.56	A	.69	B	--		--	
91. Johnson & Ralston	.71	C	.80	C	--		--	
92. Johnson & Bristol	.71	C	.73	C	--		--	
94. Johnson & North Bank	.70	B	.82	D	--		--	
95. Bristol & Ramelli	.49	A	.26	A	--		--	
96. Montgomery & North Bank	.55	A	.47	A	--		--	
100. Saticoy & Telephone	.47	A	.46	A	--		--	
101. Saticoy & Telegraph	.47	A	.51	A	--		--	
102. Wells & Telegraph	.63	B	.63	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.65	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.06	F	.63	B	.88	D
106. Wells & Telephone	.72	C	.73	C	--		--	
114. California & Thompson	.39	A	.46	A	--		--	
115. Chestnut & Thompson	.48	A	.59	A	--		--	
120. Ventura & Main	.40	A	.71	C	--		--	
132. Ventura & Sanley	.75	C	.83	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.48	A	.53	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.52	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.81	D	.66	B	--		--	
161. Victoria & Valentine (a)	.69	B	.78	C	--		--	
162. California & Harbor	.26	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--	
164. Seaward & Poli	.41	A	.50	A	--		--	
165. Seaward & Harbor	.58	A	.70	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.30	A	--		--	
172. Wells & Foothill	.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.86	D	.74	C	--		--	
174. Petit & Telegraph	.42	A	.28	A	--		--	
175. Ventura & North Bank (a)	.41	A	.88	D	--		--	
176. Saticoy & Darling	.35	A	.29	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.50	A	--		--	
178. SR-33 Ramps & Stanley (a)	.67	B	.76	C	--		--	
179. SR-33 Ramps & Shell (a)	.83	D	.86	D	--		--	
180. Estates & Telegraph	.29	A	.39	A	--		--	
181. Ventura & Ramona	.32	A	.49	A	--		--	
182. Olive & Main	.52	A	.58	A	--		--	
190. Petit & North Bank	.20	A	.26	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--	

Table 3-3 (Continued)
SCENARIO 1 ICU SUMMARY

Intersection	Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
192. Los Angeles & North Bank	.71	C	.85	D	--		--	
193. Saticoy & A Street	.17	A	.13	A	--		--	
194. Wells & A Street	.43	A	.41	A	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90 is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.

Table 3-4
 LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 2

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	389	40	105	600	0	745
2	1,109	43	95	100	0	238
3	1,665	103	170	0	362	635
4	512	28	60	0	0	88
5	431	96	0	9	107	213
6	440	82	100	0	0	182
7	200	43	343	1,216	0	1,602
8	1,484	110	439	0	0	549
9	50	155	58	765	0	979
10	844	15	149	173	0	338
11	200	50	70	50	0	170
12	10	0	0	0	0	0
13	1,059	91	256	0	0	347
14	1,147	17	20	0	0	37
15	70	0	0	75	0	75
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	11,241	1,038	1,877	2,988	469	6,372
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	53,025	7,670	6,967	12,889	2,682	30,208
% Growth	26.9	15.6	36.9	30.2	21.2	26.7

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	11,589	14,378	25,968	80.6
2	11,748	51,744	63,492	22.7
3	22,036	84,647	106,683	26.0
4	6,965	110,423	117,388	6.3
5	13,280	50,251	63,530	26.4
6	8,936	163,583	172,518	5.5
7	17,801	84,677	102,477	21.0
8	30,295	5,104	35,399	593.6
9	11,016	21,147	32,164	52.1
10	8,895	140,508	149,403	6.3
11	9,086	17,419	26,505	52.2
12	197	18,885	19,082	1.0
13	20,609	15,114	35,723	136.4
14	9,995	14,969	24,964	66.8
15	916	8,047	8,963	11.4
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	206,905	921,119	1,128,024	22.5

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

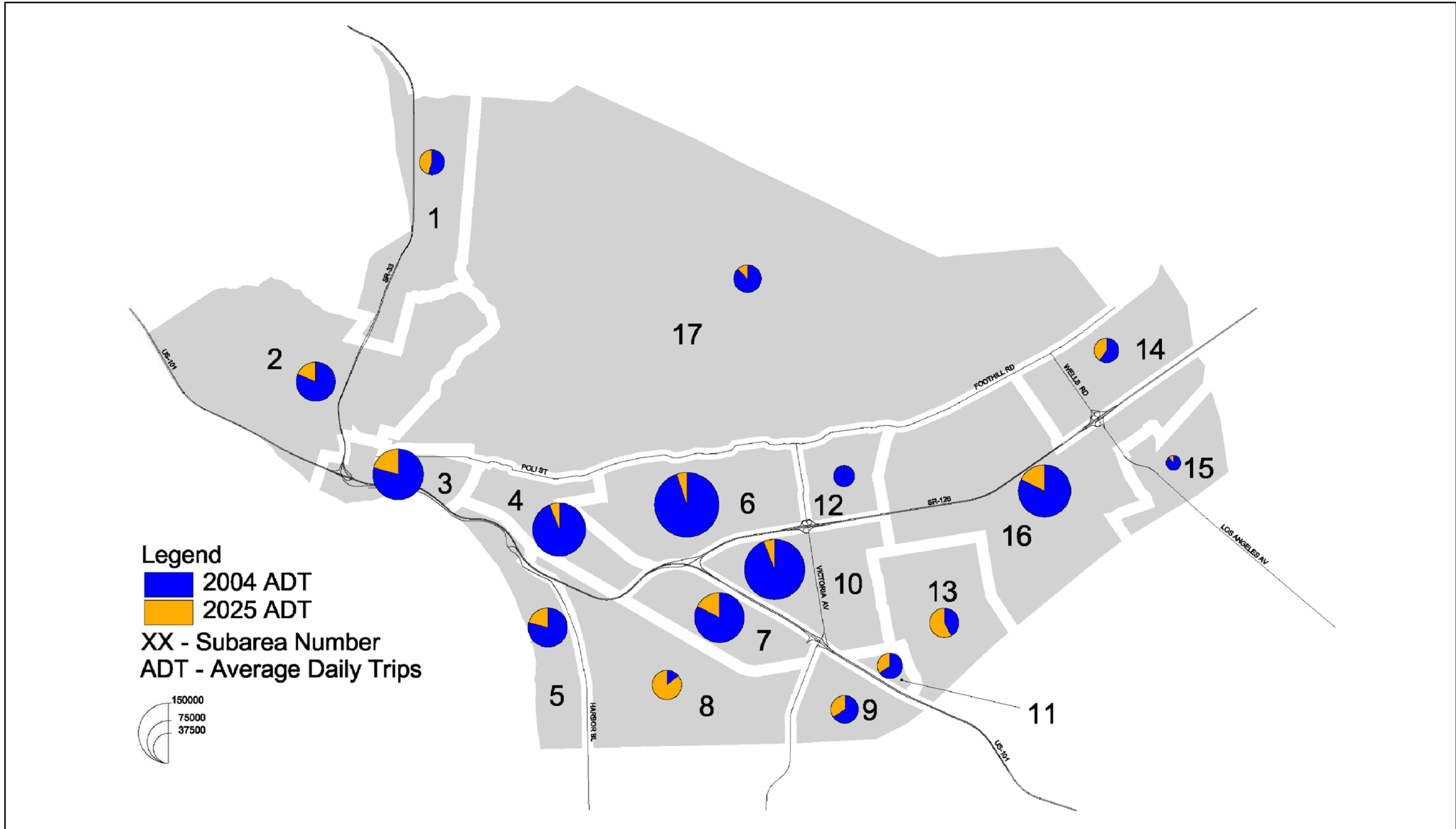


Figure 3-4
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 2

The 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-5, and the corresponding ICUs are depicted in Figure 3-6. To serve this scenario, it is proposed that the following new roadway links be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Mills Road extension to Harbor Boulevard (connection at Schooner Drive)
2. New collector between Mills Road and Telephone Road in the Olivas expansion area
3. North Bank Drive extension from Johnson Drive to Bristol Road
4. Kimball Road extension from Telephone Road to North Bank Drive
5. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Table 3-5 summarizes the overall roadway and intersection improvements for this scenario, and Table 3-6 lists the ICU values with Baseline Improvements and with the recommended additional improvements (ICU calculations can be found in Appendix A). Comparative ADT volumes for the arterial street system with the added roadways can be found in Chapter 4.0 where the recommended roadway classifications for the scenarios are presented. It should be noted that with North Bank Drive extended from Johnson Drive to Bristol Road in the Alternative Network, the six lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline Network is not needed.

Scenario 2 results in a total of four locations that require additional (non-committed) improvements, with one deficiency occurring under the Baseline Network and four deficiencies occurring under the Alternative Network. The deficient locations are as follows:

Baseline Network

- Wells Road at Darling Road

Alternative Network

- Mills Road at Main Street
- Johnson Drive at North Bank Drive
- Wells Road at Darling Road
- Ventura Boulevard at North Bank Drive

Text continues on Page 3-23

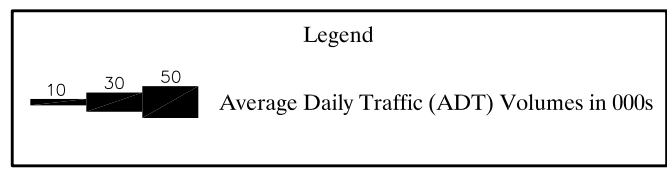
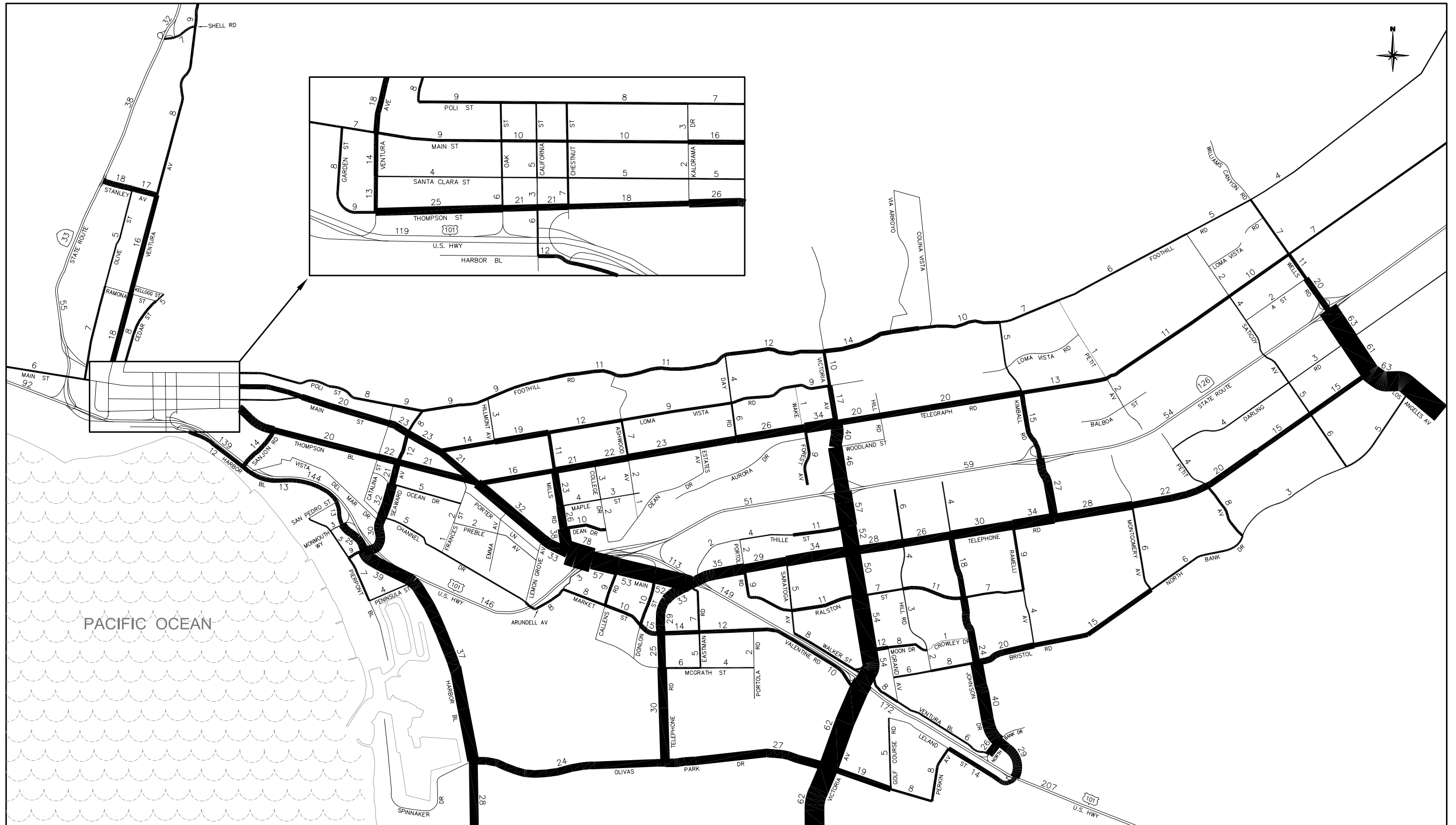


Figure 3-5
 2025 ADT VOLUMES (000s)
 - SCENARIO 2 (BASELINE NETWORK)



LEGEND

.XX Highest ICU value during the AM or PM peak hour

LOS A-C
 LOS D
 LOS E-F

Level of service (LOS) ranges:

LOS A .00-.60	LOS D .81-.90
LOS B .61-.70	LOS E .91-1.00
LOS C .71-.80	LOS F Above 1.00

Figure 3-6
2025 INTERSECTION CAPACITY UTILIZATION (ICU)
- SCENARIO 2 (BASELINE NETWORK)

Table 3-5
ROADWAY IMPROVEMENTS – SCENARIO 2

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes (a)
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane

(Table Continued)

Table 3-5
ROADWAY IMPROVEMENTS – SCENARIO 2

LOCATION	IMPROVEMENT
II. Non-Committed	
1a. Streets (Alternative Network)	
B Street (Mills Road to Telephone Road)	New two-lane roadway
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
Mills Road (Arundell Avenue to Harbor Boulevard)	New four-lane roadway
North Bank Drive (Johnson Drive to Bristol Road)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
27. Mills Road at Main Street	Add northbound left-turn lane and second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Improve eastbound approach to provide two left-turn lanes, three through lanes and a separate right-turn lane, and improve westbound approach to provide three left-turn lanes and two through lanes
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
175. Ventura Boulevard at North Bank Drive	Add third eastbound through lane
(a) This widening is not needed in the Alternative Network for this scenario, which includes an extension of North Bank Drive from Johnson Drive to Bristol Road.	

Table 3-6

2025 ICU SUMMARY – SCENARIO 2

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.53	A	--		--		.51	A	.54	A	--		--	
2. Victoria & Loma Vista	.57	A	.51	A	--		--		.55	A	.51	A	--		--	
3. Victoria & Telegraph	.64	B	.77	C	--		--		.61	B	.76	C	--		--	
4. Victoria & Woodland	.73	C	.57	A	--		--		.69	B	.54	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.89	D	--		--		.54	A	.82	D	--		--	
6. Victoria & Thille	.53	A	.62	B	--		--		.50	A	.56	A	--		--	
7. Victoria & Telephone	.66	B	.75	C	--		--		.60	A	.68	B	--		--	
8. Victoria & Ralston	.70	B	.80	C	--		--		.63	B	.80	C	--		--	
10. Victoria & Moon	.57	A	.66	B	--		--		.54	A	.59	A	--		--	
14. Hill & Telephone	.56	A	.65	B	--		--		.51	A	.55	A	--		--	
15. Johnson & Telephone	.52	A	.85	D	--		--		.45	A	.47	A	--		--	
18. Seaward & US 101 NB Ramps (a)	.59	A	.66	B	--		--		.50	A	.54	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.57	A	.87	D	--		--		.58	A	.85	D	--		--	
20. Harbor & Olivas Park	.52	A	.82	D	--		--		.52	A	.79	C	--		--	
23. Mills & Loma Vista	.34	A	.43	A	--		--		.33	A	.44	A	--		--	
24. Mills & Telegraph	.49	A	.52	A	--		--		.49	A	.55	A	--		--	
25. Mills & Maple	.51	A	.52	A	--		--		.57	A	.60	A	--		--	
26. Mills & Dean	.54	A	.52	A	--		--		.58	A	.59	A	--		--	
27. Mills & Main	.70	B	.69	B	--		--		.83	D	1.14	F	.59	A	.76	C
28. US 101 NB Ramps & Main (a)	.82	D	.80	C	--		--		.72	C	.72	C	--		--	
29. SR 126 EB Ramps & Main (a)	.55	A	.63	B	--		--		.47	A	.58	A	--		--	
30. Callens & Main	.47	A	.67	B	--		--		.41	A	.61	B	--		--	
31. Donlon & Main	.58	A	.86	D	--		--		.51	A	.79	C	--		--	
32. Telephone & Main (a)	.69	B	.95	E	--		--		.63	B	.90	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.57	A	.71	C	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.36	A	.51	A	--		--		.36	A	.51	A	--		--	

Table 3-6
2025 ICU SUMMARY – SCENARIO 2

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
35. Saratoga & Telephone	.31	A	.57	A	--		--		.30	A	.55	A	--		--	
38. Telephone & Market	.67	B	.77	C	--		--		.62	B	.74	C	--		--	
42. Telephone & McGrath	.41	A	.84	D	--		--		.29	A	.70	B	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.38	A	.34	A	--		--	
46. Seaward & Main	.58	A	.70	B	--		--		.54	A	.66	B	--		--	
47. Main & Loma Vista	.55	A	.51	A	--		--		.53	A	.50	A	--		--	
49. Main & Telegraph	.45	A	.68	B	--		--		.44	A	.68	B	--		--	
50. Emma & Main	.41	A	.45	A	--		--		.42	A	.47	A	--		--	
51. Lemon Grove & Main	.40	A	.42	A	--		--		.46	A	.51	A	--		--	
53. Kimball & Telephone	.76	C	.71	C	--		--		.49	A	.38	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.36	A	.34	A	--		--		.40	A	.34	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.78	C	.43	A	--		--		.92	E	.47	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.27	A	.34	A	--		--	
60. Ramelli & Telephone	.42	A	.71	C	--		--		.28	A	.35	A	--		--	
61. Montgomery & Telephone	.60	A	.39	A	--		--		.55	A	.40	A	--		--	
63. Petit & Telephone	.46	A	.60	A	--		--		.49	A	.62	B	--		--	
65. Sanjon & Thompson	.49	A	.57	A	--		--		.48	A	.55	A	--		--	
68. Seaward & Thompson	.50	A	.61	B	--		--		.50	A	.60	A	--		--	
71. Sanjon & Harbor	.37	A	.69	B	--		--		.36	A	.69	B	--		--	
75. Ashwood & Telegraph	.29	A	.47	A	--		--		.31	A	.46	A	--		--	
77. Day & Telegraph	.42	A	.39	A	--		--		.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.72	C	.89	D	--		--		.72	C	.86	D	--		--	
86. Telephone & Olivas Park	.64	B	.87	D	--		--		.55	A	.65	B	--		--	
91. Johnson & Ralston	.52	A	.57	A	--		--		.43	A	.53	A	--		--	
92. Johnson & Bristol	.75	C	.79	C	--		--		.33	A	.51	A	--		--	
94. Johnson & North Bank	.74	C	.89	D	--		--		.99	E	1.32	F	.79	C	.97	E
95. Bristol & Ramelli	.51	A	.31	A	--		--		.12	A	.14	A	--		--	
96. Montgomery & North Bank	.62	B	.47	A	--		--		.54	A	.43	A	--		--	
100. Saticoy & Telephone	.50	A	.48	A	--		--		.46	A	.45	A	--		--	
101. Saticoy & Telegraph	.50	A	.51	A	--		--		.49	A	.52	A	--		--	

Table 3-6
2025 ICU SUMMARY – SCENARIO 2

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
102. Wells & Telegraph	.65	B	.63	B	--		--		.63	B	.61	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.66	B	.75	C	--		--		.63	B	.73	C	--		--	
105. Wells & Darling	.69	B	1.07	F	.63	B	.88	D	.67	B	1.03	F	.61	B	.83	D
106. Wells & Telephone	.74	C	.73	C	--		--		.68	B	.70	B	--		--	
114. California & Thompson	.43	A	.47	A	--		--		.41	A	.46	A	--		--	
115. Chestnut & Thompson	.50	A	.59	A	--		--		.49	A	.56	A	--		--	
120. Ventura & Main	.42	A	.71	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.75	C	.83	D	--		--		.75	C	.83	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.54	A	.64	B	--		--		.55	A	.63	B	--		--	
138. Johnson & US 101 SB Ramps (a)	.57	A	.86	D	--		--		.59	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.86	D	.72	C	--		--		.81	D	.68	B	--		--	
161. Victoria & Valentine (a)	.79	C	.91	E	--		--		.75	C	.86	D	--		--	
162. California & Harbor	.29	A	.37	A	--		--		.31	A	.37	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--		.25	A	.28	A	--		--	
164. Seaward & Poli	.42	A	.51	A	--		--		.41	A	.48	A	--		--	
165. Seaward & Harbor	.64	B	.77	C	--		--		.57	A	.64	B	--		--	
166. College & Telegraph	.34	A	.40	A	--		--		.34	A	.41	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--		.75	C	.74	C	--		--	
169. Kimball & Foothill	.51	A	.44	A	--		--		.53	A	.51	A	--		--	
170. Petit & Foothill	.35	A	.18	A	--		--		.34	A	.19	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.32	A	--		--	
172. Wells & Foothill	.33	A	.25	A	--		--		.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.89	D	.75	C	--		--		.83	D	.71	C	--		--	
174. Petit & Telegraph	.42	A	.27	A	--		--		.44	A	.27	A	--		--	
175. Ventura & North Bank (a)	.46	A	.92	E	--		--		.48	A	1.13	F	.48	A	.78	C
176. Saticoy & Darling	.35	A	.29	A	--		--		.35	A	.28	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.50	A	--		--		.32	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.69	B	.75	C	--		--		.69	B	.75	C	--		--	
179. SR-33 Ramps & Shell (a)	.93	E	.93	E	--		--		.93	E	.93	E	--		--	
180. Estates & Telegraph	.28	A	.40	A	--		--		.28	A	.38	A	--		--	

Table 3-6
2025 ICU SUMMARY – SCENARIO 2

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
181. Ventura & Ramona	.33	A	.50	A	--		--		.33	A	.50	A	--		--	
182. Olive & Main	.54	A	.61	B	--		--		.55	A	.61	B	--		--	
190. Petit & North Bank	.22	A	.27	A	--		--		.24	A	.30	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.13	A	--		--	
192. Los Angeles & North Bank	.72	C	.86	D	--		--		.66	B	.82	D	--		--	
193. Saticoy & A St	.17	A	.12	A	--		--		.18	A	.12	A	--		--	
194. Wells & A St	.44	A	.41	A	--		--		.43	A	.42	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.33	A	.37	A	--		--	
197. Kimball & Ralston	--		--		--		--		.32	A	.46	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.26	A	.23	A	--		--	
199. Kimball & North Bank	--		--		--		--		.69	B	.64	B	--		--	
200. Harbor & Mills	--		--		--		--		.42	A	.59	A	--		--	
201. Mills & B St	--		--		--		--		.73	C	.75	C	--		--	
202. Telephone & B St	--		--		--		--		.48	A	.65	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.

SCENARIO 3 – INTENSIFICATION/REUSE + NORTH AVENUE + OLIVAS

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Olivas expansion areas. In this case, the amount of development in Expansion Area 2 is greater than in Scenario 1 (2,394 dwelling units versus no added dwelling units). Citywide, this scenario would add an estimated, 11,255 dwelling units and 6.4 million square feet of non-residential development.

Table 3-7 summarizes the growth by sub-area for this scenario, and Figure 3-7 shows this growth in diagrammatic form. The citywide increase in trip generation is 21.9 percent, similar to that of Scenario 2 but with different geographic distribution due to most of the expansion area growth being allocated to the Olivas Expansion Area.

The 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-8, and the corresponding ICUs are depicted in Figure 3-9. Deficiencies shown here are addressed by selected intersection improvements and by new roadway links serving the Olivas Expansion Area (the Mills Road extension and a new collector between the extension of Mills Road and Telephone Road). Table 3-8 summarizes the overall roadway and intersection improvements for this scenario, and Table 3-9 lists the ICU values with Baseline improvements and with the recommended additional improvements (ICU calculations can be found in Appendix A). Comparative ADT volumes for the arterial street system with the added roadways can be found in Chapter 4.0 where the recommended roadway classifications for the scenarios are presented.

Scenario 3 results in two locations that require additional (non-committed) improvements, with one deficiency occurring under the Baseline Network and two occurring under the Alternative Network. The deficient locations are as follows:

Baseline Network

- Wells Road at Darling Road

Alternative Network

- Mills Road at Main Street
- Wells Road at Darling Road

Text continues on Page 3-34

Table 3-7
 LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 3

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	535	59	160	600	0	819
2	1,109	43	95	100	0	238
3	1,665	103	170	0	362	635
4	512	28	60	0	0	88
5	431	96	0	9	107	213
6	440	82	100	0	0	182
7	200	43	343	1,216	0	1,602
8	2,394	183	640	0	0	823
9	50	155	58	765	0	979
10	844	15	149	173	0	338
11	200	50	70	50	0	170
12	10	0	0	0	0	0
13	17	0	0	0	0	0
14	1,147	17	20	0	0	37
15	70	0	0	75	0	75
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	11,255	1,039	1,877	2,988	469	6,373
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	53,039	7,671	6,967	12,889	2,682	30,209
% Growth	26.9	15.7	36.9	30.2	21.2	26.7

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	14,731	14,378	29,109	102.5
2	11,748	51,744	63,492	22.7
3	22,036	84,647	106,683	26.0
4	6,965	110,423	117,388	6.3
5	13,280	50,251	63,530	26.4
6	7,363	163,583	170,945	4.5
7	17,801	84,677	102,477	21.0
8	42,664	5,104	47,768	835.9
9	11,019	21,147	32,167	52.1
10	8,895	140,508	149,403	6.3
11	10,559	17,419	27,977	60.6
12	197	18,885	19,082	1.0
13	288	15,114	15,402	1.9
14	9,995	14,969	24,964	66.8
15	916	8,047	8,963	11.4
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	201,998	921,119	1,123,116	21.9

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

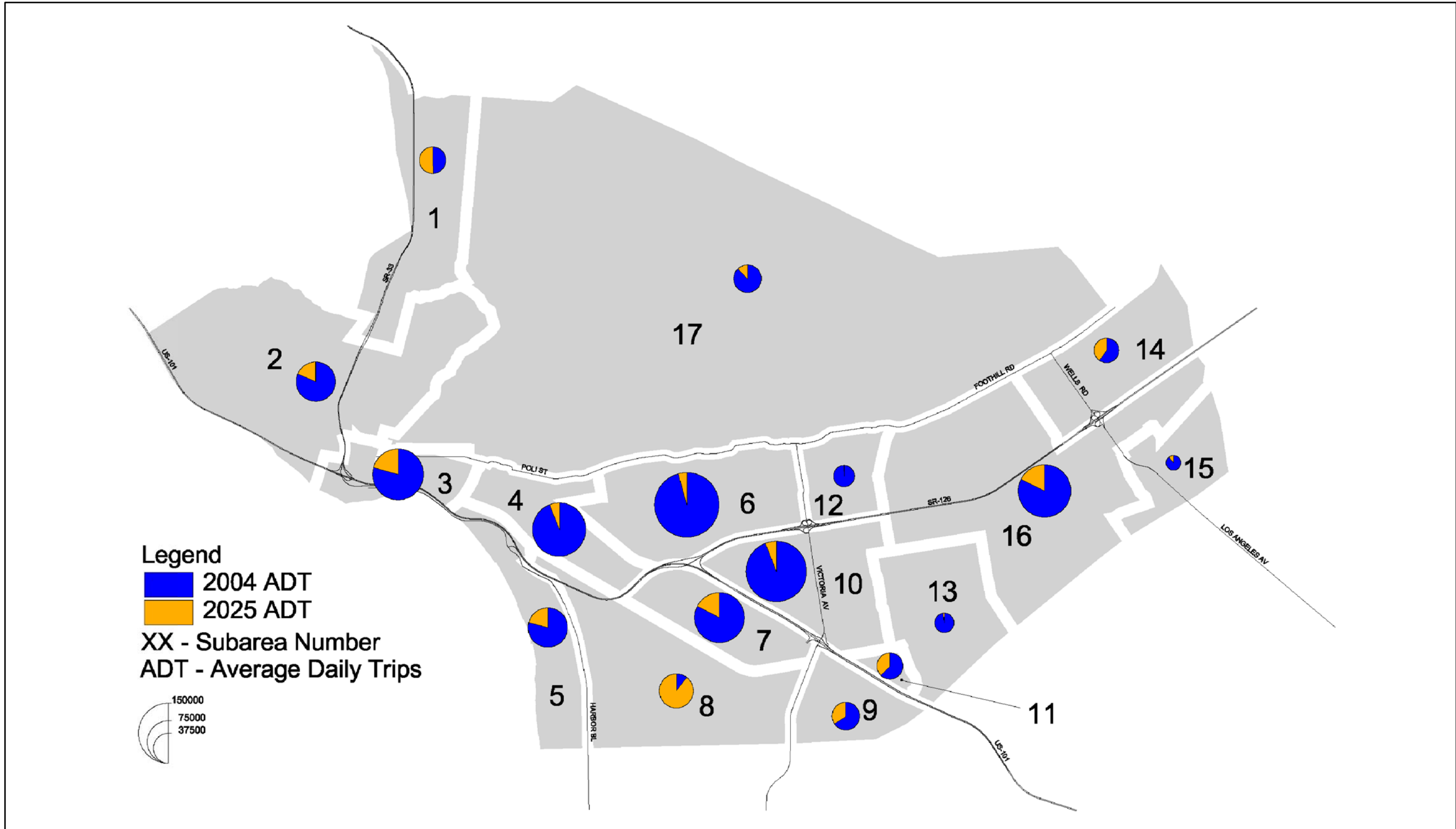


Figure 3-7
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 3

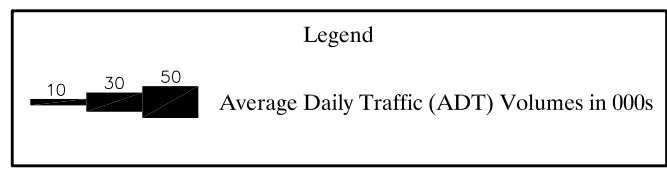
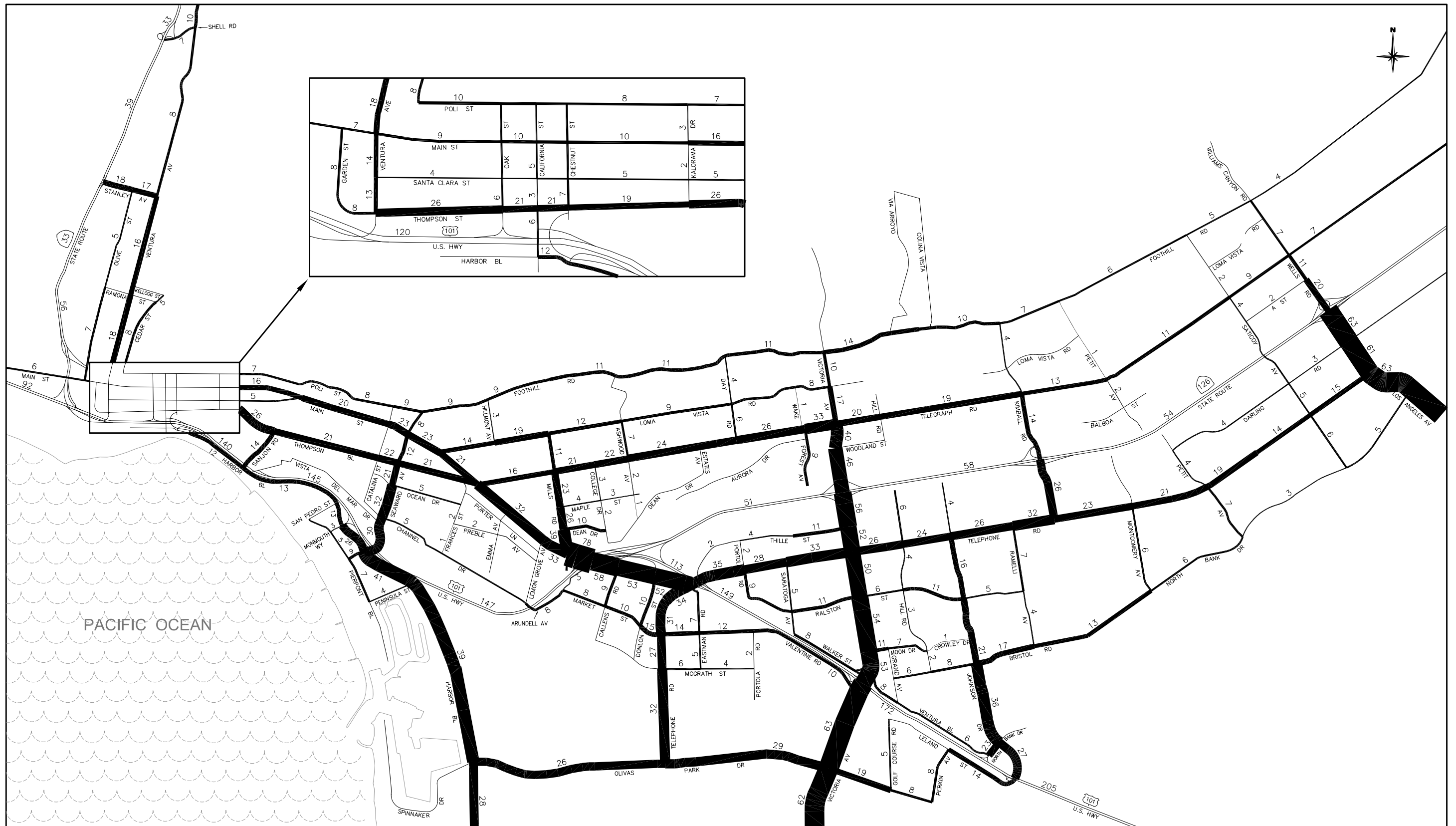


Figure 3-8
 2025 ADT VOLUMES (000s)
 - SCENARIO 3 (BASELINE NETWORK)

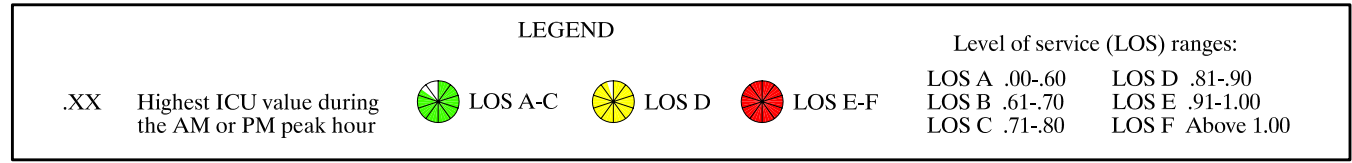


Figure 3-9
 2025 INTERSECTION CAPACITY UTILIZATION (ICU)
 - SCENARIO 3 (BASELINE NETWORK)

Table 3-8
ROADWAY IMPROVEMENTS – SCENARIO 3

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane

(Table Continued)

Table 3-8
ROADWAY IMPROVEMENTS – SCENARIO 3

LOCATION	IMPROVEMENT
II. Non-Committed	
1a. Streets (Alternative Network)	
B Street (Mills Road to Telephone Road)	New two-lane roadway
Mills Road (Arundell Avenue to Harbor Boulevard)	New four-lane roadway
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add second southbound left-turn lane, second westbound left-turn lane and eastbound left-turn lane
2a. Intersections (Alternative Network)	
27. Mills Road at Main Street	Add northbound left-turn lane and second northbound and southbound through lanes
105. Wells Road at Darling Road	Add second southbound left-turn lane, second westbound left-turn lane and eastbound left-turn lane

Table 3-9

2025 ICU SUMMARY – SCENARIO 3

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.49	A	.53	A	--		--		.50	A	.52	A	--		--	
2. Victoria & Loma Vista	.56	A	.50	A	--		--		.55	A	.49	A	--		--	
3. Victoria & Telegraph	.63	B	.77	C	--		--		.61	B	.75	C	--		--	
4. Victoria & Woodland	.71	C	.56	A	--		--		.69	B	.55	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.87	D	--		--		.56	A	.84	D	--		--	
6. Victoria & Thille	.53	A	.61	B	--		--		.51	A	.60	A	--		--	
7. Victoria & Telephone	.64	B	.72	C	--		--		.61	B	.70	B	--		--	
8. Victoria & Ralston	.69	B	.80	C	--		--		.68	B	.79	C	--		--	
10. Victoria & Moon	.57	A	.63	B	--		--		.57	A	.62	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.53	A	.61	B	--		--	
15. Johnson & Telephone	.48	A	.74	C	--		--		.48	A	.73	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.60	A	.67	B	--		--		.52	A	.55	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.57	A	.89	D	--		--		.58	A	.86	D	--		--	
20. Harbor & Olivas Park	.55	A	.82	D	--		--		.53	A	.81	D	--		--	
23. Mills & Loma Vista	.34	A	.44	A	--		--		.33	A	.45	A	--		--	
24. Mills & Telegraph	.49	A	.50	A	--		--		.50	A	.54	A	--		--	
25. Mills & Maple	.52	A	.51	A	--		--		.58	A	.60	A	--		--	
26. Mills & Dean	.54	A	.54	A	--		--		.57	A	.58	A	--		--	
27. Mills & Main	.70	B	.71	C	--		--		.95	E	1.27	F	.60	A	.82	D
28. US 101 NB Ramps & Main (a)	.82	D	.80	C	--		--		.71	C	.70	B	--		--	
29. SR 126 EB Ramps & Main (a)	.55	A	.63	B	--		--		.47	A	.57	A	--		--	
30. Callens & Main	.47	A	.68	B	--		--		.42	A	.59	A	--		--	
31. Donlon & Main	.59	A	.85	D	--		--		.54	A	.79	C	--		--	
32. Telephone & Main (a)	.69	B	.96	E	--		--		.65	B	.90	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.57	A	.70	B	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.37	A	.51	A	--		--		.35	A	.50	A	--		--	
35. Saratoga & Telephone	.31	A	.55	A	--		--		.30	A	.55	A	--		--	

Table 3-9
2025 ICU SUMMARY – SCENARIO 3

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
42. Telephone & McGrath	.46	A	.88	D	--		--		.29	A	.70	B	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.38	A	.34	A	--		--	
46. Seaward & Main	.59	A	.70	B	--		--		.56	A	.67	B	--		--	
47. Main & Loma Vista	.55	A	.53	A	--		--		.53	A	.51	A	--		--	
49. Main & Telegraph	.46	A	.68	B	--		--		.45	A	.67	B	--		--	
50. Emma & Main	.41	A	.45	A	--		--		.42	A	.47	A	--		--	
51. Lemon Grove & Main	.40	A	.43	A	--		--		.49	A	.49	A	--		--	
53. Kimball & Telephone	.76	C	.66	B	--		--		.76	C	.65	B	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--		.34	A	.32	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.76	C	.40	A	--		--		.76	C	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.24	A	.33	A	--		--	
60. Ramelli & Telephone	.37	A	.68	B	--		--		.38	A	.67	B	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--		.58	A	.36	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--		.46	A	.59	A	--		--	
65. Sanjon & Thompson	.49	A	.57	A	--		--		.48	A	.57	A	--		--	
68. Seaward & Thompson	.53	A	.60	A	--		--		.50	A	.58	A	--		--	
71. Sanjon & Harbor	.38	A	.70	B	--		--		.37	A	.68	B	--		--	
75. Ashwood & Telegraph	.29	A	.46	A	--		--		.31	A	.48	A	--		--	
77. Day & Telegraph	.42	A	.39	A	--		--		.43	A	.39	A	--		--	
85. Victoria & Olivas Park	.74	C	.90	D	--		--		.73	C	.85	D	--		--	
86. Telephone & Olivas Park	.68	B	.87	D	--		--		.56	A	.66	B	--		--	
91. Johnson & Ralston	.67	B	.80	C	--		--		.71	C	.81	D	--		--	
92. Johnson & Bristol	.72	C	.74	C	--		--		.71	C	.74	C	--		--	
94. Johnson & North Bank	.71	C	.85	D	--		--		.71	C	.81	D	--		--	
95. Bristol & Ramelli	.50	A	.27	A	--		--		.47	A	.26	A	--		--	
96. Montgomery & North Bank	.55	A	.48	A	--		--		.54	A	.46	A	--		--	
100. Saticoy & Telephone	.48	A	.46	A	--		--		.47	A	.46	A	--		--	
101. Saticoy & Telegraph	.47	A	.51	A	--		--		.47	A	.51	A	--		--	

Table 3-9
2025 ICU SUMMARY – SCENARIO 3

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
102. Wells & Telegraph	.66	B	.62	B	--		--		.66	B	.62	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.66	B	.74	C	--		--		.66	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.07	F	.63	B	.89	D	.69	B	1.06	F	.63	B	.88	D
106. Wells & Telephone	.72	C	.73	C	--		--		.72	C	.73	C	--		--	
114. California & Thompson	.44	A	.47	A	--		--		.43	A	.47	A	--		--	
115. Chestnut & Thompson	.50	A	.59	A	--		--		.50	A	.58	A	--		--	
120. Ventura & Main	.40	A	.72	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.85	D	--		--		.74	C	.84	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.56	A	.66	B	--		--		.56	A	.63	B	--		--	
138. Johnson & US 101 SB Ramps (a)	.58	A	.85	D	--		--		.58	A	.85	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.87	D	.73	C	--		--		.82	D	.71	C	--		--	
161. Victoria & Valentine (a)	.82	D	.94	E	--		--		.80	C	.90	D	--		--	
162. California & Harbor	.28	A	.38	A	--		--		.31	A	.38	A	--		--	
163. Santa Clara & Main	.25	A	.30	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.42	A	.51	A	--		--		.41	A	.49	A	--		--	
165. Seaward & Harbor	.65	B	.77	C	--		--		.56	A	.68	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--		.34	A	.42	A	--		--	
168. Day & Foothill	.73	C	.75	C	--		--		.73	C	.73	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--		.51	A	.46	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.31	A	--		--	
172. Wells & Foothill	.33	A	.26	A	--		--		.33	A	.26	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.87	D	.73	C	--		--		.84	D	.71	C	--		--	
174. Petit & Telegraph	.41	A	.27	A	--		--		.41	A	.27	A	--		--	
175. Ventura & North Bank (a)	.42	A	.91	E	--		--		.42	A	.89	D	--		--	
176. Saticoy & Darling	.34	A	.30	A	--		--		.34	A	.29	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.68	B	.74	C	--		--		.68	B	.74	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	
180. Estates & Telegraph	.29	A	.39	A	--		--		.28	A	.39	A	--		--	

Table 3-9
2025 ICU SUMMARY – SCENARIO 3

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.51	A	--		--	
182. Olive & Main	.55	A	.61	B	--		--		.56	A	.61	B	--		--	
190. Petit & North Bank	.21	A	.26	A	--		--		.20	A	.26	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.15	A	--		--	
192. Los Angeles & North Bank	.71	C	.86	D	--		--		.71	C	.86	D	--		--	
193. Saticoy & A St	.16	A	.13	A	--		--		.16	A	.13	A	--		--	
194. Wells & A St	.44	A	.42	A	--		--		.44	A	.41	A	--		--	
200. Harbor & Mills	--		--		--		--		.42	A	.64	B	--		--	
201. Mills & B St	--		--		--		--		.77	C	.83	D	--		--	
202. Telephone & B St	--		--		--		--		.49	A	.65	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.

SCENARIO 4 – INTENSIFICATION/REUSE + NORTH AVENUE + SERRA

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Serra expansion areas. Citywide, this scenario would add an estimated 11,241 dwelling units and 6.4 million square feet of non-residential development.

Table 3-10 summarizes the growth by sub-area for this scenario, and Figure 3-10 shows this growth in diagrammatic form. The citywide increase in trip generation for this scenario is 21.7 percent with the expansion area growth allocated to the Serra Expansion Area (2,397 dwelling units versus 1,059 in Scenario 2).

The 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-11, and the corresponding ICUs are shown in Figure 3-12. To serve this scenario, it is proposed that the following new roadway links be added as an alternative to the Baseline Network along with selected intersection improvements:

1. North Bank Drive extension from Johnson Drive to Bristol Road
2. Kimball Road extension from Telephone Road to North Bank Drive
3. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Table 3-11 summarizes the overall roadway and intersection improvements for this scenario, and Table 3-12 lists the ICU values with Baseline Improvements and with the recommended additional improvements (ICU calculations can be found in Appendix A). Comparative ADT volumes for the arterial street system with the added roadways can be found in Chapter 4.0 where the recommended roadway classifications for the scenarios are presented. It should be noted that with North Bank Drive extended from Johnson Drive to Bristol Road in the Alternative Network, the six-lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline Network is not needed.

Text continues on Page 3-45

Table 3-10
 LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 4

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	535	59	160	600	0	819
2	1,109	43	95	100	0	238
3	1,665	103	170	0	362	635
4	512	28	60	0	0	88
5	431	96	0	9	107	213
6	440	82	100	0	0	182
7	200	43	343	1,216	0	1,602
8	0	0	0	0	0	0
9	50	155	58	764	0	978
10	844	15	149	173	0	338
11	200	50	70	50	0	170
12	10	0	0	0	0	0
13	2,397	183	640	0	0	823
14	1,147	17	20	0	0	37
15	70	0	0	75	0	75
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	11,241	1,039	1,877	2,988	469	6,372
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	53,025	7,671	6,967	12,888	2,682	30,208
% Growth	26.9	15.7	36.9	30.2	21.2	26.7

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	14,731	14,378	29,109	102.5
2	13,505	51,744	65,249	26.1
3	22,036	84,647	106,683	26.0
4	2,135	110,423	112,558	1.9
5	13,280	50,251	63,530	26.4
6	9,293	163,583	172,876	5.7
7	17,801	84,677	102,477	21.0
8	0	5,104	5,104	0.0
9	11,015	21,147	32,162	52.1
10	8,895	140,508	149,403	6.3
11	10,559	17,419	27,977	60.6
12	197	18,885	19,082	1.0
13	41,898	15,114	57,013	277.2
14	9,995	14,969	24,964	66.8
15	916	8,047	8,963	11.4
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	199,798	921,119	1,120,916	21.7

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

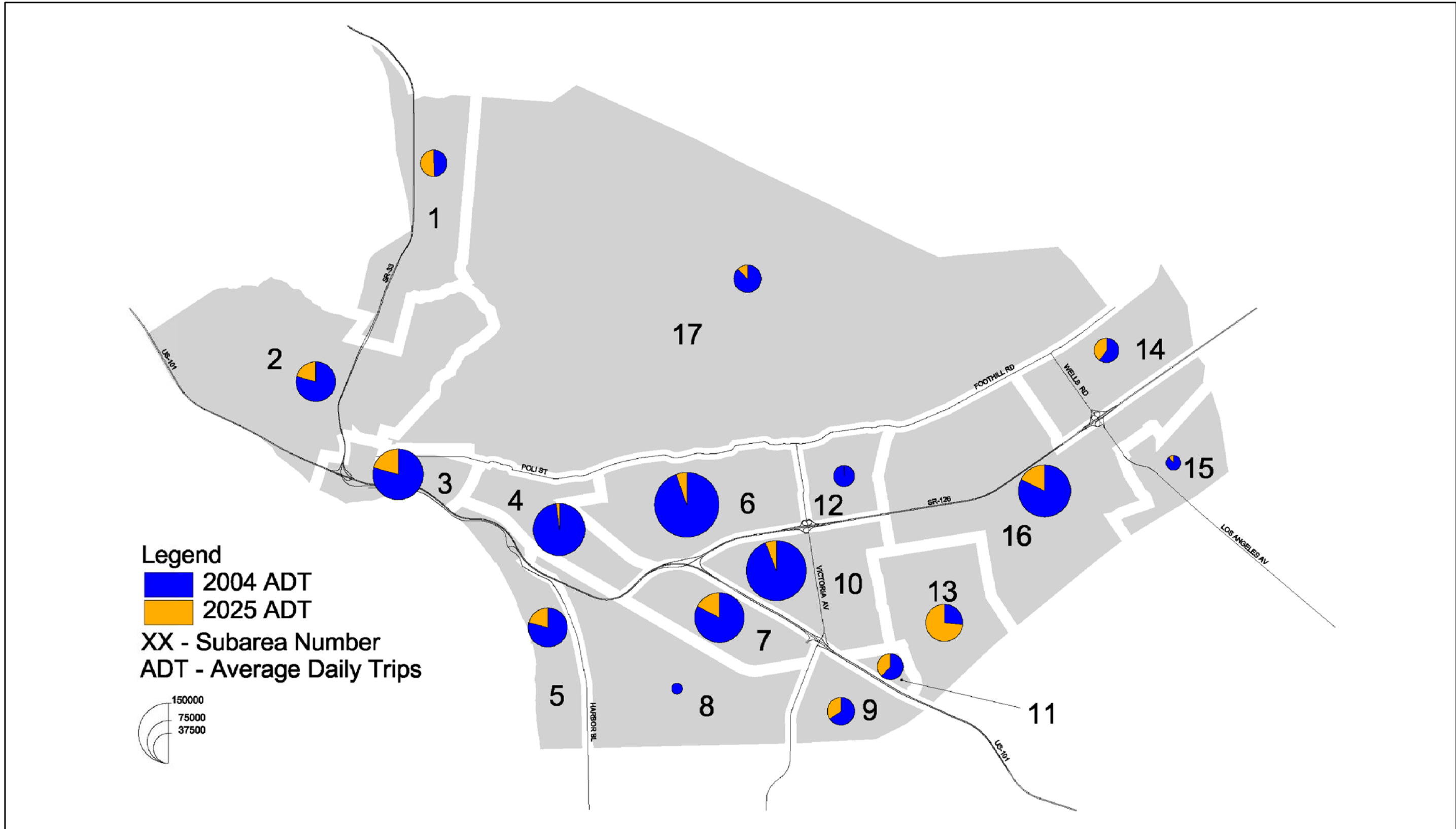


Figure 3-10
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 4

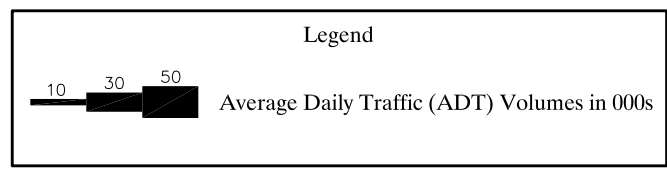
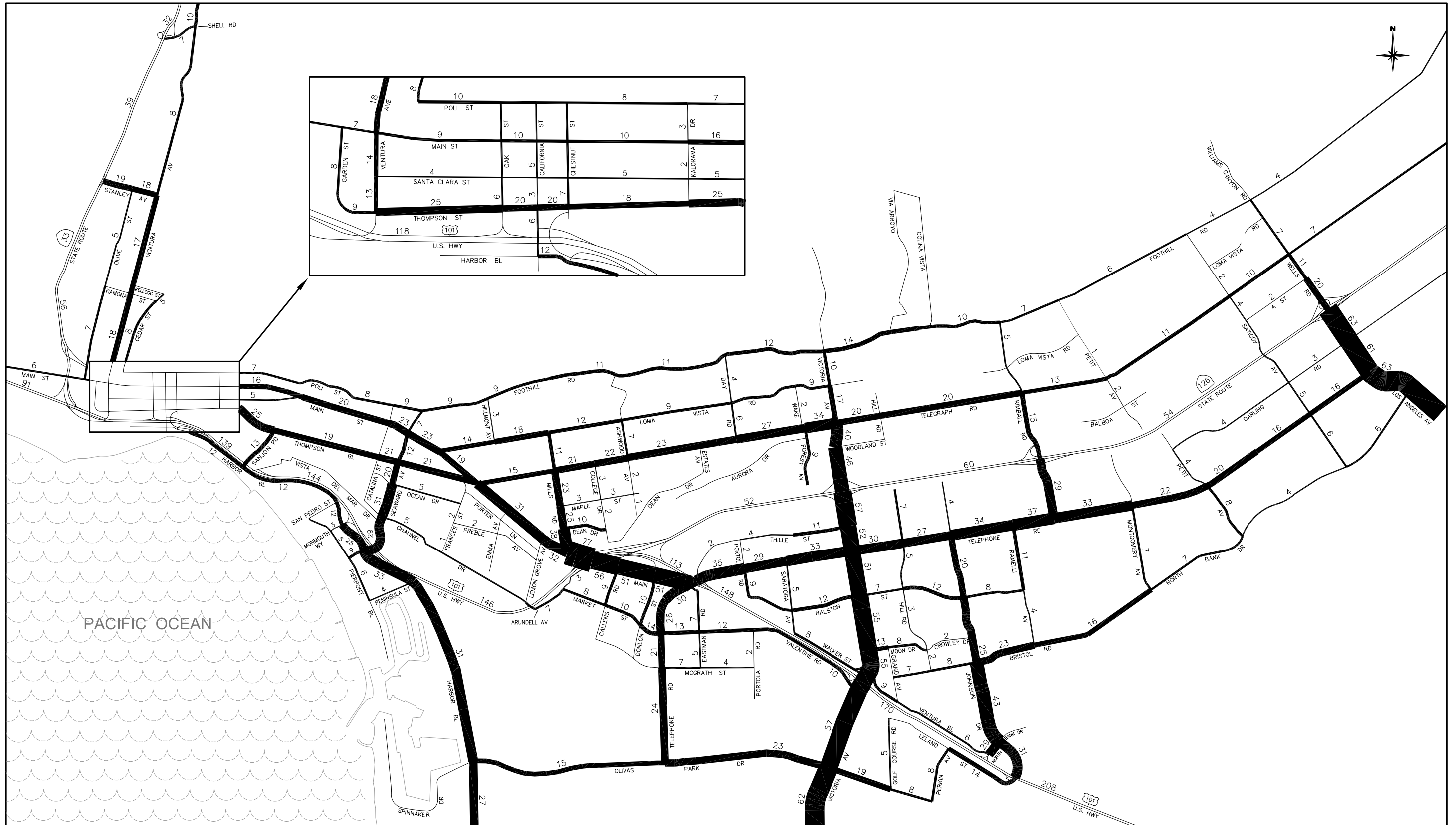


Figure 3-11
 2025 ADT VOLUMES (000s)
 - SCENARIO 4 (BASELINE NETWORK)



LEGEND

.XX Highest ICU value during the AM or PM peak hour

LOS A-C
 LOS D
 LOS E-F

Level of service (LOS) ranges:

LOS A .00-.60	LOS D .81-.90
LOS B .61-.70	LOS E .91-1.00
LOS C .71-.80	LOS F Above 1.00

Figure 3-12
 2025 INTERSECTION CAPACITY UTILIZATION (ICU)
 - SCENARIO 4 (BASELINE NETWORK)

Table 3-11
ROADWAY IMPROVEMENTS – SCENARIO 4

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes (a)
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane

(Table Continued)

Table 3-11
ROADWAY IMPROVEMENTS – SCENARIO 4

LOCATION	IMPROVEMENT
II. Non-Committed	
1a. Streets (Alternative Network)	
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
North Bank Drive (Johnson Drive to Bristol Road)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway
2. Intersections (Baseline Network)	
15. Johnson Drive & Telephone Road	Add separate eastbound right-turn lane
94. Johnson Drive at North Bank Drive	Add southbound right-turn lane
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
94. Johnson Drive at North Bank Drive	Improve eastbound approach to provide two left-turn lanes, three through lanes and a separate right-turn lane, and improve westbound approach to provide three left-turn lanes and two through lanes
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
175. Ventura Boulevard at North Bank Drive	Add third eastbound through lane

(a) This widening is not needed in the Alternative Network for this scenario, which includes an extension of North Bank Drive from Johnson Drive to Bristol Road.

Table 3-12

2025 ICU SUMMARY – SCENARIO 4

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.50	A	.54	A	--		--		.50	A	.53	A	--		--	
2. Victoria & Loma Vista	.58	A	.51	A	--		--		.59	A	.52	A	--		--	
3. Victoria & Telegraph	.64	B	.78	C	--		--		.64	B	.77	C	--		--	
4. Victoria & Woodland	.72	C	.57	A	--		--		.71	C	.57	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.57	A	.91	E	--		--		.56	A	.83	D	--		--	
6. Victoria & Thille	.53	A	.64	B	--		--		.52	A	.62	B	--		--	
7. Victoria & Telephone	.64	B	.77	C	--		--		.63	B	.72	C	--		--	
8. Victoria & Ralston	.71	C	.85	D	--		--		.69	B	.87	D	--		--	
10. Victoria & Moon	.60	A	.68	B	--		--		.58	A	.64	B	--		--	
14. Hill & Telephone	.57	A	.66	B	--		--		.53	A	.58	A	--		--	
15. Johnson & Telephone	.55	A	.92	E	.52	A	.85	D	.46	A	.66	B	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.61	B	--		--		.52	A	.61	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.55	A	.84	D	--		--		.55	A	.84	D	--		--	
20. Harbor & Olivas Park	.41	A	.78	C	--		--		.41	A	.78	C	--		--	
23. Mills & Loma Vista	.33	A	.43	A	--		--		.33	A	.42	A	--		--	
24. Mills & Telegraph	.49	A	.52	A	--		--		.49	A	.51	A	--		--	
25. Mills & Maple	.52	A	.50	A	--		--		.51	A	.50	A	--		--	
26. Mills & Dean	.54	A	.53	A	--		--		.54	A	.54	A	--		--	
27. Mills & Main	.69	B	.68	B	--		--		.67	B	.68	B	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.78	C	--		--		.77	C	.78	C	--		--	
29. SR 126 EB Ramps & Main (a)	.53	A	.62	B	--		--		.52	A	.62	B	--		--	
30. Callens & Main	.46	A	.66	B	--		--		.45	A	.65	B	--		--	
31. Donlon & Main	.57	A	.81	D	--		--		.56	A	.81	D	--		--	
32. Telephone & Main (a)	.62	B	.90	D	--		--		.62	B	.89	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.70	B	--		--		.56	A	.69	B	--		--	
34. Portola & Telephone	.36	A	.52	A	--		--		.35	A	.50	A	--		--	

Table 3-12
2025 ICU SUMMARY – SCENARIO 4

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
35. Saratoga & Telephone	.31	A	.57	A	--		--		.31	A	.56	A	--		--	
38. Telephone & Market	.62	B	.72	C	--		--		.62	B	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.29	A	.75	C	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.37	A	.33	A	--		--	
46. Seaward & Main	.55	A	.68	B	--		--		.55	A	.68	B	--		--	
47. Main & Loma Vista	.56	A	.54	A	--		--		.56	A	.53	A	--		--	
49. Main & Telegraph	.45	A	.63	B	--		--		.45	A	.62	B	--		--	
50. Emma & Main	.40	A	.44	A	--		--		.40	A	.44	A	--		--	
51. Lemon Grove & Main	.40	A	.42	A	--		--		.40	A	.42	A	--		--	
53. Kimball & Telephone	.75	C	.74	C	--		--		.63	B	.44	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.37	A	.33	A	--		--		.38	A	.34	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.81	D	.44	A	--		--		.84	D	.48	A	--		--	
58. Kimball & Telegraph	.25	A	.32	A	--		--		.25	A	.33	A	--		--	
60. Ramelli & Telephone	.45	A	.74	C	--		--		.35	A	.42	A	--		--	
61. Montgomery & Telephone	.61	B	.42	A	--		--		.52	A	.42	A	--		--	
63. Petit & Telephone	.46	A	.60	A	--		--		.49	A	.62	B	--		--	
65. Sanjon & Thompson	.47	A	.55	A	--		--		.47	A	.54	A	--		--	
68. Seaward & Thompson	.49	A	.61	B	--		--		.49	A	.61	B	--		--	
71. Sanjon & Harbor	.36	A	.69	B	--		--		.36	A	.69	B	--		--	
75. Ashwood & Telegraph	.30	A	.45	A	--		--		.29	A	.45	A	--		--	
77. Day & Telegraph	.43	A	.39	A	--		--		.44	A	.39	A	--		--	
85. Victoria & Olivas Park	.68	B	.82	D	--		--		.68	B	.83	D	--		--	
86. Telephone & Olivas Park	.56	A	.70	B	--		--		.56	A	.70	B	--		--	
91. Johnson & Ralston	.56	A	.62	B	--		--		.48	A	.60	A	--		--	
92. Johnson & Bristol	.79	C	.85	D	--		--		.66	B	.86	D	--		--	
94. Johnson & North Bank	.76	C	.91	E	.71	C	.87	D	.92	E	1.19	F	.77	C	.88	D
95. Bristol & Ramelli	.54	A	.37	A	--		--		.32	A	.29	A	--		--	
96. Montgomery & North Bank	.66	B	.47	A	--		--		.45	A	.39	A	--		--	
100. Saticoy & Telephone	.49	A	.48	A	--		--		.48	A	.49	A	--		--	
101. Saticoy & Telegraph	.49	A	.51	A	--		--		.48	A	.52	A	--		--	
102. Wells & Telegraph	.63	B	.62	B	--		--		.64	B	.62	B	--		--	

Table 3-12
2025 ICU SUMMARY – SCENARIO 4

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
104. Wells & SR 126 EB Ramps (a)	.66	B	.74	C	--		--		.66	B	.74	C	--		--	
105. Wells & Darling	.69	B	1.06	F	.63	B	.89	D	.69	B	1.08	F	.63	B	.87	D
106. Wells & Telephone	.74	C	.73	C	--		--		.73	C	.73	C	--		--	
114. California & Thompson	.42	A	.46	A	--		--		.42	A	.46	A	--		--	
115. Chestnut & Thompson	.49	A	.57	A	--		--		.50	A	.55	A	--		--	
120. Ventura & Main	.42	A	.73	C	--		--		.41	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.87	D	--		--		.74	C	.87	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.46	A	.54	A	--		--		.49	A	.55	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.56	A	.91	E	--		--		.58	A	.87	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.83	D	.70	B	--		--		.81	D	.68	B	--		--	
161. Victoria & Valentine (a)	.73	C	.78	C	--		--		.70	B	.78	C	--		--	
162. California & Harbor	.28	A	.36	A	--		--		.28	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.29	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.41	A	.49	A	--		--		.41	A	.50	A	--		--	
165. Seaward & Harbor	.58	A	.70	B	--		--		.58	A	.70	B	--		--	
166. College & Telegraph	.33	A	.40	A	--		--		.32	A	.38	A	--		--	
168. Day & Foothill	.74	C	.75	C	--		--		.74	C	.75	C	--		--	
169. Kimball & Foothill	.51	A	.45	A	--		--		.51	A	.48	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.31	A	--		--		.36	A	.31	A	--		--	
172. Wells & Foothill	.33	A	.25	A	--		--		.33	A	.25	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.89	D	.76	C	--		--		.87	D	.75	C	--		--	
174. Petit & Telegraph	.42	A	.26	A	--		--		.41	A	.27	A	--		--	
175. Ventura & North Bank (a)	.48	A	.95	E	--		--		.47	A	1.06	F	.47	A	.74	C
176. Saticoy & Darling	.37	A	.29	A	--		--		.36	A	.30	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.68	B	.77	C	--		--		.68	B	.77	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	
180. Estates & Telegraph	.29	A	.40	A	--		--		.29	A	.40	A	--		--	
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.53	A	--		--	
182. Olive & Main	.55	A	.62	B	--		--		.55	A	.62	B	--		--	

Table 3-12
2025 ICU SUMMARY – SCENARIO 4

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
190. Petit & North Bank	.22	A	.29	A	--		--		.22	A	.28	A	--		--	
191. Saticoy & North Bank	.08	A	.16	A	--		--		.08	A	.14	A	--		--	
192. Los Angeles & North Bank	.73	C	.86	D	--		--		.71	C	.85	D	--		--	
193. Saticoy & A St	.18	A	.13	A	--		--		.18	A	.12	A	--		--	
194. Wells & A St	.44	A	.42	A	--		--		.45	A	.41	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.48	A	.57	A	--		--	
197. Kimball & Ralston	--		--		--		--		.26	A	.38	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.25	A	.24	A	--		--	
199. Kimball & North Bank	--		--		--		--		.71	C	.64	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.

Scenario 4 results in four locations that require additional (non-committed) improvements, with three deficiencies occurring under each network scenario (Baseline and Alternative). The deficient locations are as follows:

Baseline Network

- Johnson Drive at Telephone Road
- Johnson Drive at North Bank Drive
- Wells Road at Darling Road

Alternative Network

- Johnson Drive at North Bank Drive
- Wells Road at Darling Road
- Ventura Boulevard at North Bank Drive

SCENARIO 5 – INTENSIFICATION/REUSE + NORTH AVENUE + WESTERN CAÑADA LARGA

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Western Cañada Larga expansion areas. Citywide, this scenario would add an estimated 11,246 dwelling units and 6.25 million square feet of non-residential development.

Table 3-13 summarizes the growth by sub-area for this scenario, and Figure 3-13 shows this growth in diagrammatic form. The citywide increase in trip generation is 20.6 percent, which is fairly comparable to that of Scenarios 2, 3, and 4. In this case, the Expansion Area growth is allocated to northwestern part of the city (North Avenue and Western Cañada Larga).

The 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-14, and the corresponding ICUs are depicted in Figure 3-15. To serve this scenario, it is proposed that the following new roadway links be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Cedar Street extension from Kellogg Street to Stanley Avenue
2. Stanley Avenue extension from Ventura Avenue to Cedar Street

Text continues on page 3-50

Table 3-13
 LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 5

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	2,920	223	764	600	0	1,587
2	1,109	43	95	100	0	238
3	1,665	103	170	0	362	635
4	512	28	60	0	0	88
5	431	96	0	9	107	213
6	440	82	100	0	0	182
7	200	43	343	1,198	0	1,584
8	0	0	0	0	0	0
9	50	155	58	714	0	928
10	844	15	149	173	0	338
11	200	50	70	50	0	170
12	10	0	0	0	0	0
13	17	0	0	0	0	0
14	1,147	17	20	0	0	37
15	70	0	0	75	0	75
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	11,246	1,020	1,841	2,920	469	6,249
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	53,030	7,652	6,931	12,820	2,682	30,085
% Growth	26.9	15.4	36.2	29.5	21.2	26.2

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	44,438	14,378	58,816	309.1
2	13,505	51,744	65,248	26.1
3	19,836	84,647	104,483	23.4
4	6,965	110,423	117,388	6.3
5	13,280	50,251	63,530	26.4
6	9,293	163,583	172,876	5.7
7	17,675	84,677	102,352	20.9
8	0	5,104	5,104	0.0
9	10,667	21,147	31,814	50.4
10	8,895	140,508	149,403	6.3
11	10,559	17,419	27,977	60.6
12	197	18,885	19,082	1.0
13	288	15,114	15,402	1.9
14	9,995	14,969	24,964	66.8
15	916	8,047	8,963	11.4
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	190,050	921,119	1,111,169	20.6

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

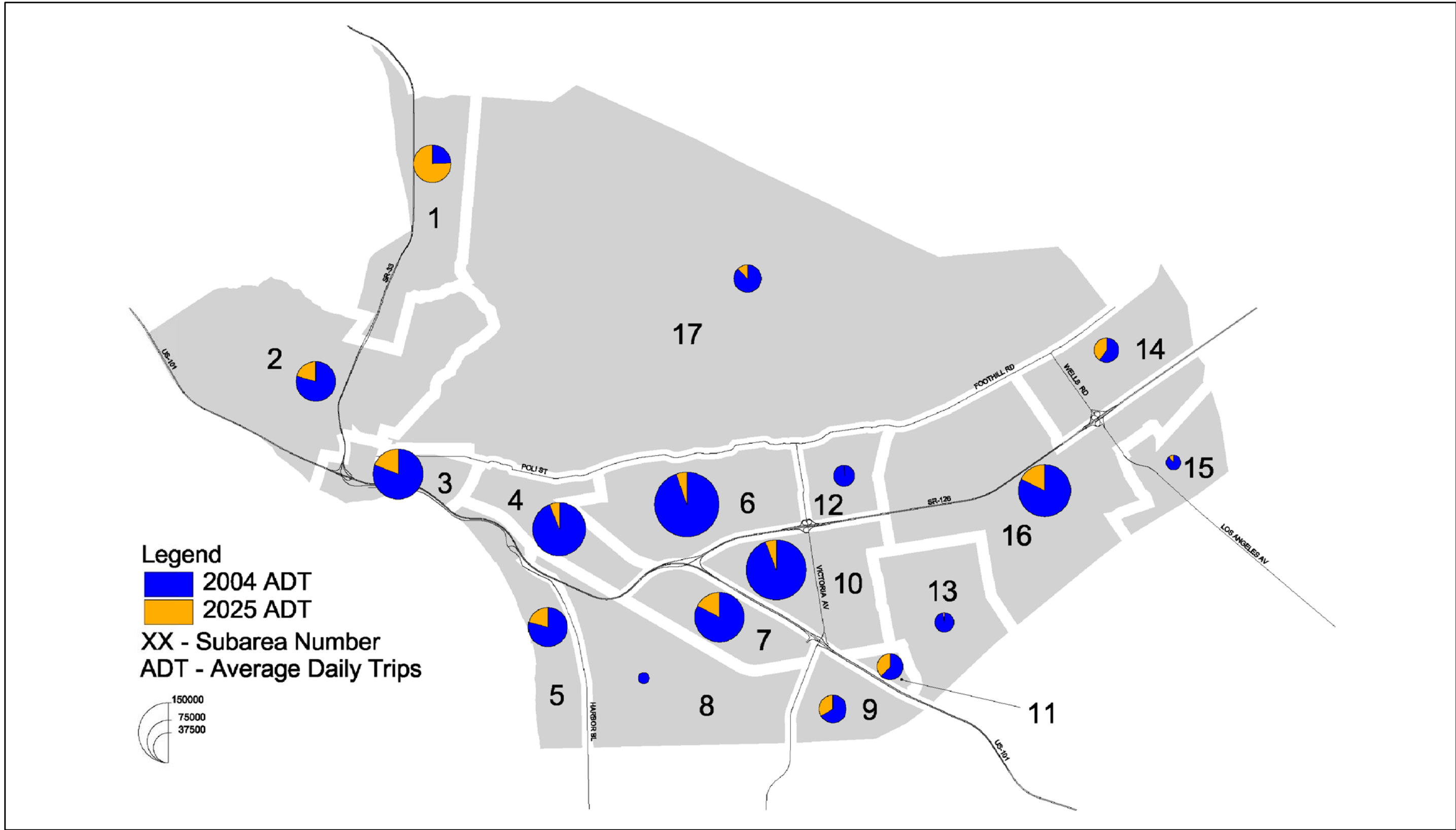


Figure 3-13
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 5

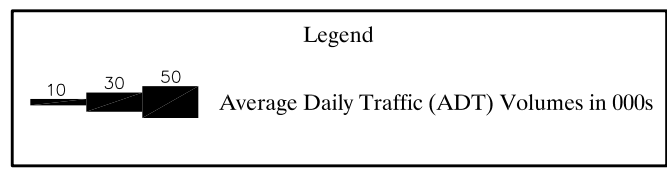
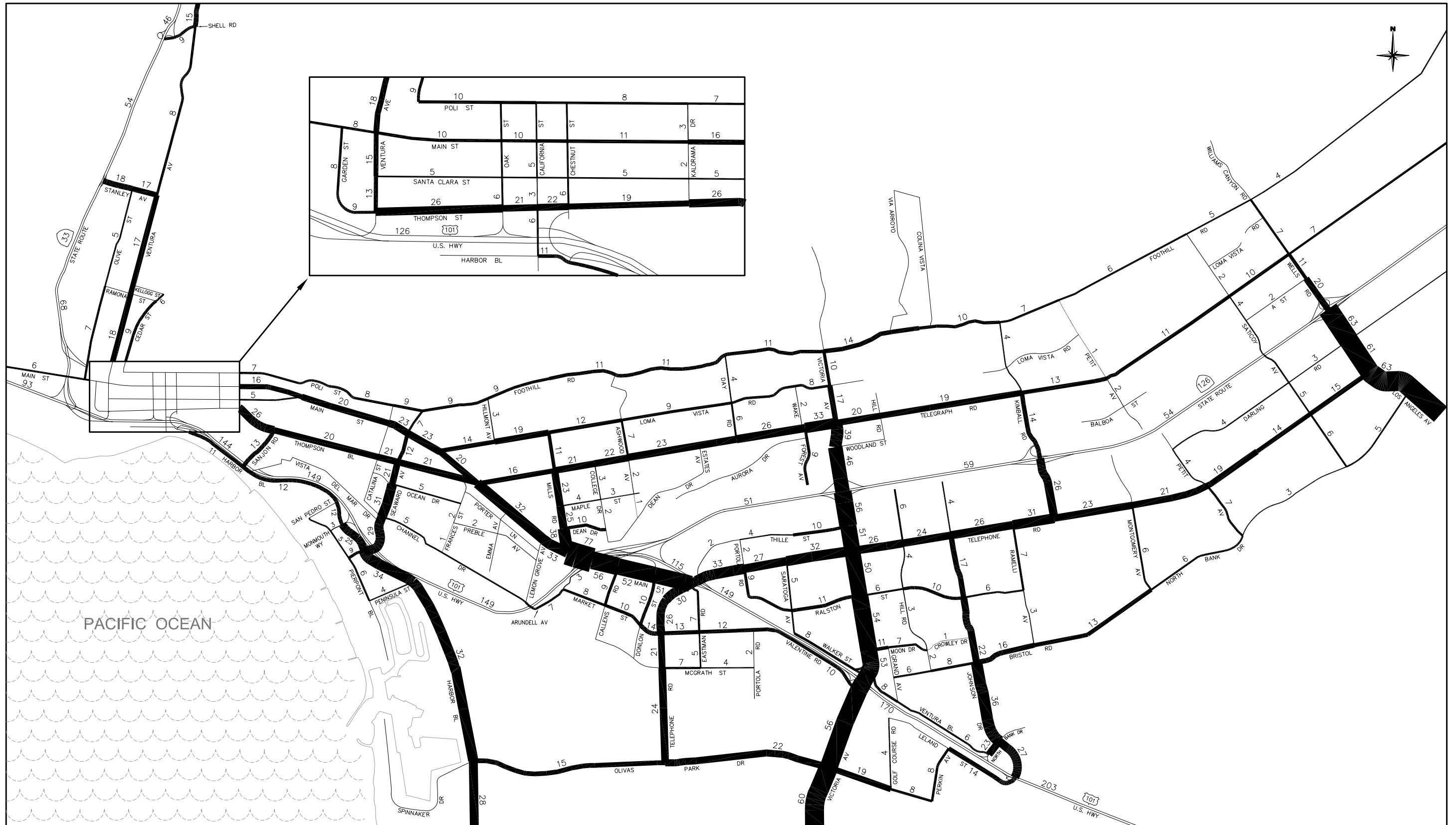
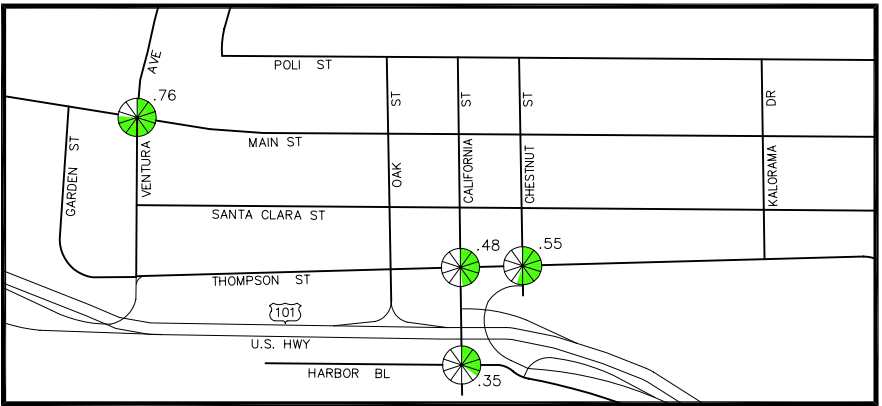


Figure 3-14
 2025 ADT VOLUMES (000s)
 - SCENARIO 5 (BASELINE NETWORK)



LEGEND		Level of service (LOS) ranges:	
.XX	Highest ICU value during the AM or PM peak hour	LOS A	.00-.60
	LOS A-C	LOS B	.61-.70
	LOS D	LOS C	.71-.80
	LOS E-F	LOS D	.81-.90
		LOS E	.91-1.00
		LOS F	Above 1.00

Figure 3-15
2025 INTERSECTION CAPACITY UTILIZATION (ICU)
- SCENARIO 5 (BASELINE NETWORK)

Table 3-14 summarizes the overall roadway and intersection improvements for this scenario, and Table 3-15 lists the ICU values with Baseline improvements and with the recommended additional improvements (ICU calculations can be found in Appendix A). Comparative ADT volumes for the arterial street system with the added roadways can be found in Chapter 4.0 where the recommended roadway classifications for the scenarios are presented. It should be noted that the Cedar Street and associated Stanley Avenue extensions suggested here are not included in the Scenario 5 circulation plan that is recommended in Chapter 4.0. The reason for this is discussed as a Special Issue in Chapter 5.0.

Scenario 5 results in two locations that require additional (non-committed) improvements, with both deficiencies occurring under each network scenario (Baseline and Alternative). The deficient locations are as follows:

Baseline Network

- SR-33 Ramps at Shell Road
- Wells Road at Darling Road

Alternative Network

- SR-33 Ramps at Shell Road
- Wells Road at Darling Road

SCENARIO 6 – INTENSIFICATION/REUSE + NORTH AVENUE + POINSETTIA

This scenario adds to the intensification and infill development of Scenario 1 by adding residential and non-residential development in the North Avenue and Poinsettia expansion areas. Citywide, this scenario would add an estimated 11,241 dwelling units and 6.4 million square feet of non-residential development.

Table 3-16 summarizes the growth by sub-area for this scenario, and Figure 3-16 shows this growth in diagrammatic form. Citywide growth in trip generation is 21.7 percent, relatively similar to Scenarios 2, 3, 4, and 5, but with the Expansion Area growth allocated to the Poinsettia area in the northeast part of the city.

The 2025 ADT volumes on the baseline circulation system for this scenario can be seen in Figure 3-17, and the corresponding ICUs are depicted in Figure 3-18. To serve this scenario, it is proposed that

Text continues on Page 3-61

Table 3-14
ROADWAY IMPROVEMENTS – SCENARIO 5

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane

(Table Continued)

Table 3-14
ROADWAY IMPROVEMENTS – SCENARIO 5

LOCATION	IMPROVEMENT
II. Non-Committed	
1a. Streets (Alternative Network)	
Cedar Street (Kellogg Street to Stanley Avenue)	New two-lane roadway
Kimball Road (Telephone Road to North Bank Drive)	New four-lane roadway
Ralston Street (Ramelli Avenue to Montgomery Avenue)	New two-lane roadway
Stanley Avenue (Cedar Street to Ventura Avenue)	New two-lane roadway
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
179. SR-33 Ramps at Shell Road	Add southbound right-turn lane, second westbound through lane and separate westbound right-turn lane
2a. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
179. SR-33 Ramps at Shell Road	Add southbound right-turn lane, second westbound through lane and separate westbound right-turn lane

Table 3-15

2025 ICU SUMMARY – SCENARIO 5

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.49	A	.53	A	--		--		.49	A	.53	A	--		--	
2. Victoria & Loma Vista	.56	A	.50	A	--		--		.57	A	.51	A	--		--	
3. Victoria & Telegraph	.63	B	.76	C	--		--		.62	B	.76	C	--		--	
4. Victoria & Woodland	.70	B	.56	A	--		--		.70	B	.55	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.59	A	.86	D	--		--		.58	A	.85	D	--		--	
6. Victoria & Thille	.52	A	.62	B	--		--		.51	A	.61	B	--		--	
7. Victoria & Telephone	.63	B	.72	C	--		--		.61	B	.71	C	--		--	
8. Victoria & Ralston	.67	B	.79	C	--		--		.71	C	.82	D	--		--	
10. Victoria & Moon	.55	A	.63	B	--		--		.57	A	.61	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.53	A	.60	A	--		--	
15. Johnson & Telephone	.48	A	.73	C	--		--		.48	A	.73	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.53	A	.61	B	--		--		.53	A	.59	A	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.56	A	.86	D	--		--		.55	A	.88	D	--		--	
20. Harbor & Olivas Park	.43	A	.80	C	--		--		.43	A	.80	C	--		--	
23. Mills & Loma Vista	.33	A	.42	A	--		--		.33	A	.42	A	--		--	
24. Mills & Telegraph	.48	A	.52	A	--		--		.48	A	.50	A	--		--	
25. Mills & Maple	.51	A	.50	A	--		--		.51	A	.50	A	--		--	
26. Mills & Dean	.53	A	.54	A	--		--		.53	A	.54	A	--		--	
27. Mills & Main	.68	B	.70	B	--		--		.68	B	.70	B	--		--	
28. US 101 NB Ramps & Main (a)	.78	C	.79	C	--		--		.78	C	.79	C	--		--	
29. SR 126 EB Ramps & Main (a)	.53	A	.63	B	--		--		.53	A	.62	B	--		--	
30. Callens & Main	.46	A	.66	B	--		--		.46	A	.66	B	--		--	
31. Donlon & Main	.56	A	.84	D	--		--		.56	A	.83	D	--		--	
32. Telephone & Main (a)	.62	B	.87	D	--		--		.62	B	.87	D	--		--	
33. US 101 NB Ramps & Telephone (a)	.55	A	.68	B	--		--		.56	A	.68	B	--		--	
34. Portola & Telephone	.35	A	.49	A	--		--		.35	A	.49	A	--		--	

Table 3-15
2025 ICU SUMMARY – SCENARIO 5

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
35. Saratoga & Telephone	.30	A	.56	A	--		--		.30	A	.56	A	--		--	
38. Telephone & Market	.61	B	.73	C	--		--		.61	B	.72	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.29	A	.75	C	--		--	
45. Catalina & Main	.38	A	.34	A	--		--		.38	A	.33	A	--		--	
46. Seaward & Main	.56	A	.69	B	--		--		.56	A	.68	B	--		--	
47. Main & Loma Vista	.55	A	.53	A	--		--		.56	A	.52	A	--		--	
49. Main & Telegraph	.45	A	.67	B	--		--		.45	A	.67	B	--		--	
50. Emma & Main	.41	A	.46	A	--		--		.41	A	.46	A	--		--	
51. Lemon Grove & Main	.40	A	.43	A	--		--		.40	A	.43	A	--		--	
53. Kimball & Telephone	.76	C	.67	B	--		--		.66	B	.44	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.35	A	.33	A	--		--		.38	A	.33	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.77	C	.39	A	--		--		.85	D	.40	A	--		--	
58. Kimball & Telegraph	.24	A	.34	A	--		--		.24	A	.35	A	--		--	
60. Ramelli & Telephone	.38	A	.67	B	--		--		.35	A	.38	A	--		--	
61. Montgomery & Telephone	.58	A	.35	A	--		--		.56	A	.39	A	--		--	
63. Petit & Telephone	.46	A	.58	A	--		--		.46	A	.56	A	--		--	
65. Sanjon & Thompson	.48	A	.57	A	--		--		.49	A	.57	A	--		--	
68. Seaward & Thompson	.50	A	.60	A	--		--		.49	A	.59	A	--		--	
71. Sanjon & Harbor	.35	A	.68	B	--		--		.35	A	.70	B	--		--	
75. Ashwood & Telegraph	.29	A	.47	A	--		--		.29	A	.47	A	--		--	
77. Day & Telegraph	.42	A	.39	A	--		--		.42	A	.39	A	--		--	
85. Victoria & Olivas Park	.66	B	.81	D	--		--		.66	B	.81	D	--		--	
86. Telephone & Olivas Park	.56	A	.68	B	--		--		.56	A	.68	B	--		--	
91. Johnson & Ralston	.46	A	.55	A	--		--		.67	B	.89	D	--		--	
92. Johnson & Bristol	.70	B	.73	C	--		--		.72	C	.69	B	--		--	
94. Johnson & North Bank	.69	B	.82	D	--		--		.70	B	.82	D	--		--	
95. Bristol & Ramelli	.49	A	.27	A	--		--		.49	A	.31	A	--		--	
96. Montgomery & North Bank	.55	A	.48	A	--		--		.46	A	.32	A	--		--	

Table 3-15
2025 ICU SUMMARY – SCENARIO 5

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
100. Saticoy & Telephone	.46	A	.46	A	--		--		.47	A	.45	A	--		--	
101. Saticoy & Telegraph	.47	A	.52	A	--		--		.48	A	.52	A	--		--	
102. Wells & Telegraph	.63	B	.62	B	--		--		.65	B	.62	B	--		--	
104. Wells & SR 126 EB Ramps (a)	.67	B	.75	C	--		--		.66	B	.76	C	--		--	
105. Wells & Darling	.70	B	1.07	F	.64	B	.88	D	.69	B	1.07	F	.63	B	.88	D
106. Wells & Telephone	.73	C	.73	C	--		--		.73	C	.71	C	--		--	
114. California & Thompson	.44	A	.48	A	--		--		.43	A	.51	A	--		--	
115. Chestnut & Thompson	.51	A	.55	A	--		--		.54	A	.59	A	--		--	
120. Ventura & Main	.43	A	.76	C	--		--		.39	A	.71	C	--		--	
132. Ventura & Stanley	.68	B	.83	D	--		--		.61	B	.62	B	--		--	
136. US 101 SB Ramps & Valentine (a)	.49	A	.57	A	--		--		.49	A	.56	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.57	A	.83	D	--		--		.57	A	.83	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.81	D	.67	B	--		--		.80	C	.67	B	--		--	
161. Victoria & Valentine (a)	.68	B	.78	C	--		--		.68	B	.78	C	--		--	
162. California & Harbor	.29	A	.35	A	--		--		.29	A	.41	A	--		--	
163. Santa Clara & Main	.26	A	.31	A	--		--		.26	A	.30	A	--		--	
164. Seaward & Poli	.41	A	.50	A	--		--		.41	A	.50	A	--		--	
165. Seaward & Harbor	.60	A	.72	C	--		--		.59	A	.71	C	--		--	
166. College & Telegraph	.34	A	.39	A	--		--		.33	A	.40	A	--		--	
168. Day & Foothill	.74	C	.76	C	--		--		.73	C	.76	C	--		--	
169. Kimball & Foothill	.51	A	.44	A	--		--		.51	A	.45	A	--		--	
170. Petit & Foothill	.34	A	.18	A	--		--		.34	A	.18	A	--		--	
171. Saticoy & Foothill	.36	A	.30	A	--		--		.36	A	.31	A	--		--	
172. Wells & Foothill	.33	A	.26	A	--		--		.33	A	.25	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.85	D	.73	C	--		--		.80	C	.73	C	--		--	
174. Petit & Telegraph	.41	A	.28	A	--		--		.41	A	.28	A	--		--	
175. Ventura & North Bank (a)	.42	A	.89	D	--		--		.42	A	.89	D	--		--	
176. Saticoy & Darling	.35	A	.29	A	--		--		.35	A	.28	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.33	A	.49	A	--		--		.33	A	.49	A	--		--	
178. SR-33 Ramps & Stanley (a)	.64	B	.69	B	--		--		.61	B	.62	B	--		--	

Table 3-15
2025 ICU SUMMARY – SCENARIO 5

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
179. SR-33 Ramps & Shell (a)	1.13	F	1.11	F	.80	C	.78	C	1.12	F	1.10	F	.80	C	.76	C
180. Estates & Telegraph	.28	A	.39	A	--		--		.28	A	.39	A	--		--	
181. Ventura & Ramona	.36	A	.54	A	--		--		.33	A	.39	A	--		--	
182. Olive & Main	.63	B	.69	B	--		--		.61	B	.67	B	--		--	
190. Petit & North Bank	.20	A	.25	A	--		--		.21	A	.22	A	--		--	
191. Saticoy & North Bank	.08	A	.15	A	--		--		.08	A	.14	A	--		--	
192. Los Angeles & North Bank	.72	C	.86	D	--		--		.71	C	.86	D	--		--	
193. Saticoy & A St	.17	A	.13	A	--		--		.17	A	.13	A	--		--	
194. Wells & A St	.43	A	.41	A	--		--		.44	A	.41	A	--		--	
196. Ramelli & Ralston	--		--		--		--		.39	A	.48	A	--		--	
197. Kimball & Ralston	--		--		--		--		.32	A	.44	A	--		--	
198. Montgomery & Ralston	--		--		--		--		.22	A	.17	A	--		--	
199. Kimball & North Bank	--		--		--		--		.44	A	.47	A	--		--	

(a) LOS E (ICU less than or equal to 1.00 is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90 is the recommended performance standard for all other intersection locations.

Note: Gray shading denotes intersection locations that exceed the performance standard.

Table 3-16
 LAND USE AND TRIP GENERATION BY SUB-AREA – 2025 SCENARIO 6

Growth by Land Use Type

Sub-Area	Residential (DUs)	Non-Residential				Total (TSF)
		Retail (TSF)	Office (TSF)	Industrial (TSF)	Hotel (TSF)	
1	535	59	160	600	0	819
2	1,109	43	95	100	0	238
3	1,665	103	170	0	362	635
4	512	28	60	0	0	88
5	431	96	0	9	107	213
6	440	82	100	0	0	182
7	200	43	343	1,216	0	1,602
8	0	0	0	0	0	0
9	50	155	58	765	0	978
10	844	15	149	173	0	338
11	200	50	70	50	0	170
12	2,390	183	640	0	0	823
13	17	0	0	0	0	0
14	1,147	17	20	0	0	37
15	70	0	0	75	0	75
16	1,196	165	12	0	0	177
17	435	0	0	0	0	0
Total Growth	11,241	1,039	1,877	2,988	469	6,373
Existing	41,784	6,632	5,090	9,900	2,213	23,836
Future	53,025	7,671	6,967	12,889	2,682	30,209
% Growth	26.9	15.7	36.9	30.2	21.2	26.7

Growth in ADT Trip Generation

Sub-Area	Growth (ADT)	Existing (ADT)	Future (ADT)	% Growth
1	14,731	14,378	29,109	102.5
2	11,741	51,744	63,485	22.7
3	22,036	84,647	106,683	26.0
4	6,965	110,423	117,388	6.3
5	13,280	50,251	63,530	26.4
6	7,063	163,583	170,646	4.3
7	17,801	84,677	102,477	21.0
8	0	5,104	5,104	0.0
9	11,018	21,147	32,166	52.1
10	8,895	140,508	149,403	6.3
11	10,559	17,419	27,977	60.6
12	41,108	18,885	59,993	217.7
13	288	15,114	15,402	1.9
14	9,995	14,969	24,964	66.8
15	916	8,047	8,963	11.4
16	19,757	92,749	112,506	21.3
17	3,784	27,476	31,259	13.8
Total	199,936	921,119	1,121,055	21.7

Abbreviations: ADT – Average Daily Trips
 DUs – Dwelling Units
 TSF – Thousand Square Feet

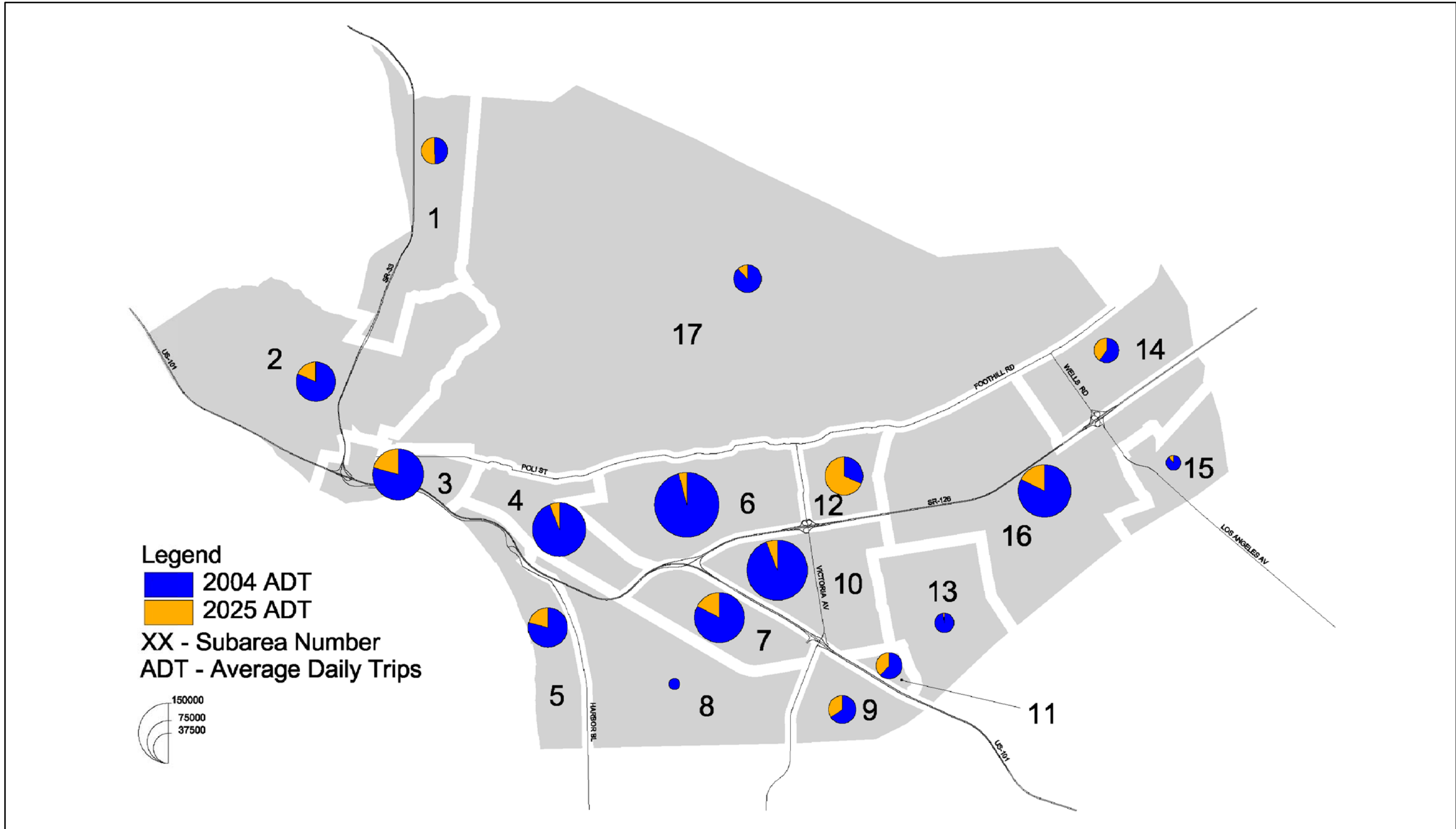


Figure 3-16
 EXISTING AND FUTURE ADT BY SUBAREA
 - SCENARIO 6

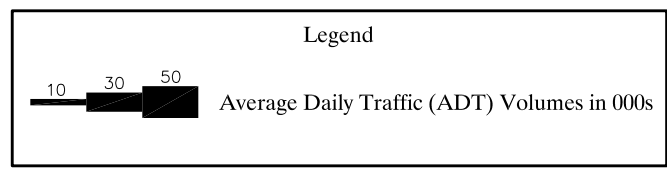
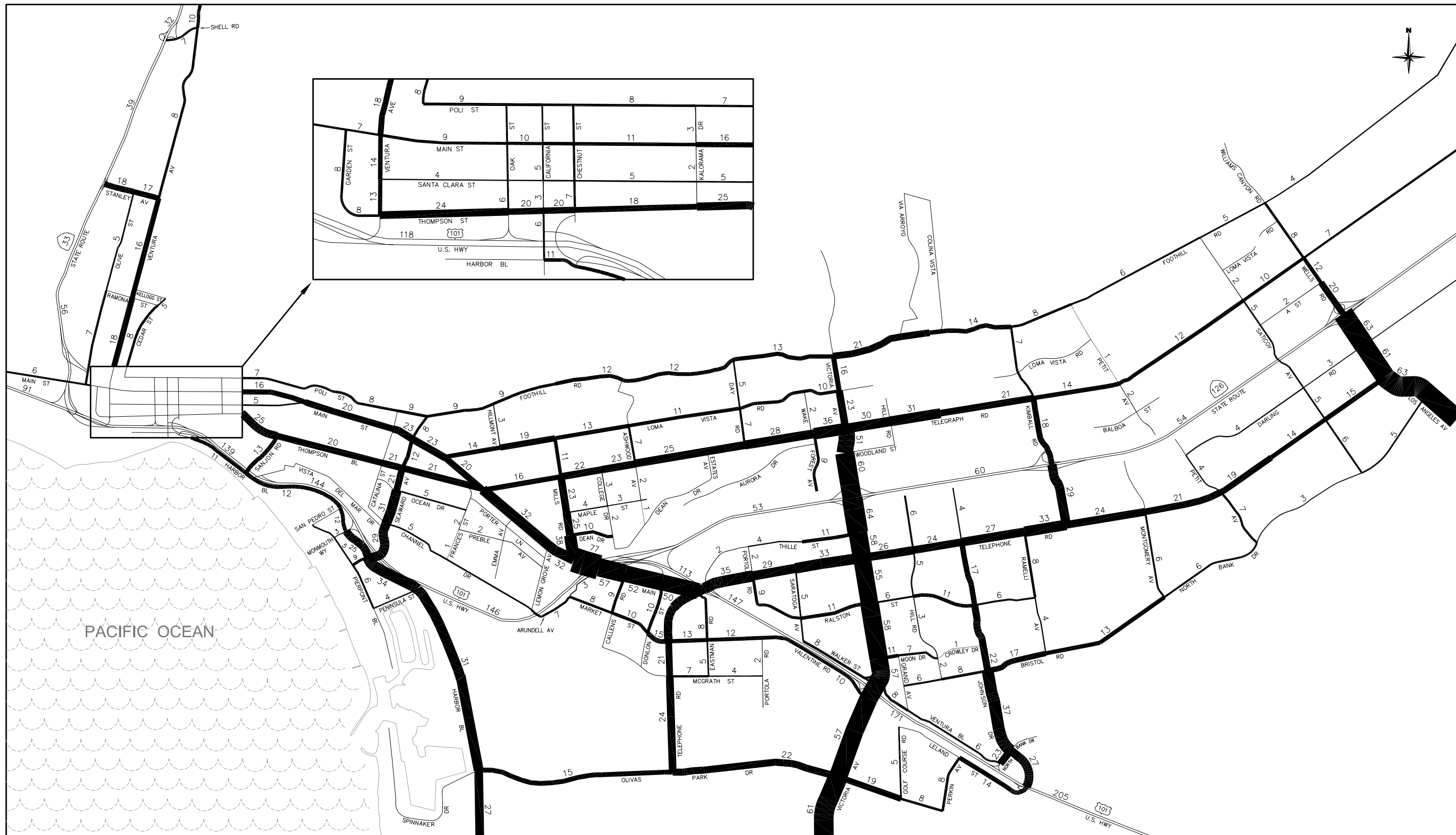


Figure 3-17
 2025 ADT VOLUMES (000s)
 - SCENARIO 6 (BASELINE NETWORK)



LEGEND

.XX Highest ICU value during the AM or PM peak hour

LOS A-C
 LOS D
 LOS E-F

Level of service (LOS) ranges:

LOS A .00-.60	LOS D .81-.90
LOS B .61-.70	LOS E .91-1.00
LOS C .71-.80	LOS F Above 1.00

Figure 3-18
 2025 INTERSECTION CAPACITY UTILIZATION (ICU)
 - SCENARIO 6 (BASELINE NETWORK)

the following links be added as an alternative to the Baseline Network along with selected intersection improvements:

1. Johnson Drive extension from SR-126 to Foothill Avenue
2. Loma Vista Road extension from Victoria Avenue to Kimball Road
3. Woodland Street extension from Hill Road to Johnson Drive

Table 3-17 summarizes the overall roadway and intersection improvements for this scenario, and Table 3-18 lists the ICU values with Baseline improvements and with the recommended additional improvements (ICU calculations can be found in Appendix A). Comparative ADT volumes for the arterial street system with the added roadways can be found in Chapter 4.0 where the recommended roadway classifications for the scenarios are presented.

Scenario 6 results in one location that will require additional (non-committed) improvements, with the deficiency occurring under both network scenarios (Baseline and Alternative). The deficient location is as follows:

Baseline Network

- Wells Road at Darling Road

Alternative Network

- Wells Road at Darling Road

Table 3-17
ROADWAY IMPROVEMENTS – SCENARIO 6

LOCATION	IMPROVEMENT
I. Baseline	
1. Streets	
A Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Harbor Boulevard Bridge over the Santa Clara River	Widen to four lanes
Hill Road (Moon Drive to Ralston Street)	Extend as two-lane roadway
Johnson Drive (North Bank Drive to Bristol Road)	Widen to six lanes
North Bank Drive (City limits to Wells Road)	New two-lane roadway
North Bank Drive (Current terminus to Saticoy Avenue)	New two-lane roadway
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes
Thille Street (Telephone Road to current terminus)	Extend as two-lane roadway
US-101 Off-ramp to California Street	Relocate to Oak Street
Victoria Avenue (US-101 to City limits)	Widen to six lanes
Wells Road (SR-126 to City limits)	Widen to six lanes
Wells Road (Foothill Road to SR-126)	Widen to four lanes
2. Intersections	
20. Harbor Boulevard and Olivas Park Drive	Add second southbound left-turn lane
33. US-101 NB ramps at Telephone Road	Convert southbound left-turn lane to shared left-turn/right-turn lane
35. Saratoga Avenue at Telephone Road	Convert separate westbound right-turn lane to shared through/right-turn lane and add separate southbound right-turn lane
85. Victoria Avenue at Olivas Park Drive	Add second northbound and southbound left-turn lanes, third northbound and southbound through lanes, second eastbound left-turn lane and second westbound through lane
86. Telephone Road at Olivas Park Drive	Add double southbound left-turn lanes, second eastbound left-turn lane and second eastbound and westbound through lanes
91. Johnson Drive at Ralston Street	Add second northbound and southbound through lanes
92. Johnson Drive at Bristol Road	Add second northbound and southbound through lanes
94. Johnson Drive at North Bank Drive	Convert southbound right-turn lane to shared through/right-turn lane
104. Wells Road at SR-126 EB Ramps	Add third northbound and southbound through lanes
105. Wells Road at Darling Road	Add third northbound and southbound through lanes
106. Wells Road at Telephone Road	Add third northbound and southbound through lanes
160. Victoria Avenue at US 101 NB Ramps	Convert westbound shared left-turn/right-turn lane to dedicated left-turn lane and add third westbound right-turn lane
175. Ventura Boulevard at North Bank Drive	Add second eastbound through lane

(Table Continued)

Table 3-17
ROADWAY IMPROVEMENTS – SCENARIO 6

LOCATION	IMPROVEMENT
II. Non-Committed	
1a. Streets (Alternative Network)	
Johnson Drive (Current terminus to Telegraph Road)	New four-lane roadway
Johnson Drive (Telegraph Road to Foothill Road)	New two-lane roadway
Loma Vista Road (Kimball Road to Victoria Avenue)	New two-lane roadway
Woodland Street (Hill Road to Johnson Drive)	New two-lane roadway
2. Intersections (Baseline Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane
2a. Intersections (Alternative Network)	
105. Wells Road at Darling Road	Add eastbound left-turn lane, second southbound left-turn lane and second westbound left-turn lane

Table 3-18

2025 ICU SUMMARY – SCENARIO 6

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Victoria & Foothill	.53	A	.69	B	--		--		.53	A	.56	A	--		--	
2. Victoria & Loma Vista	.68	B	.61	B	--		--		.56	A	.57	A	--		--	
3. Victoria & Telegraph	.74	C	.87	D	--		--		.56	A	.75	C	--		--	
4. Victoria & Woodland	.82	D	.77	C	--		--		.65	B	.51	A	--		--	
5. Victoria & SR 126 SB Ramps (a)	.64	B	.94	E	--		--		.48	A	.70	B	--		--	
6. Victoria & Thille	.57	A	.68	B	--		--		.47	A	.57	A	--		--	
7. Victoria & Telephone	.64	B	.76	C	--		--		.61	B	.78	C	--		--	
8. Victoria & Ralston	.73	C	.81	D	--		--		.75	C	.80	C	--		--	
10. Victoria & Moon	.60	A	.65	B	--		--		.56	A	.61	B	--		--	
14. Hill & Telephone	.53	A	.61	B	--		--		.69	B	.66	B	--		--	
15. Johnson & Telephone	.50	A	.78	C	--		--		.73	C	.79	C	--		--	
18. Seaward & US 101 NB Ramps (a)	.52	A	.62	B	--		--		.52	A	.61	B	--		--	
19. Monmouth/US 101 SB & Harbor (a)	.55	A	.83	D	--		--		.55	A	.81	D	--		--	
20. Harbor & Olivas Park	.41	A	.80	C	--		--		.41	A	.79	C	--		--	
23. Mills & Loma Vista	.35	A	.43	A	--		--		.34	A	.43	A	--		--	
24. Mills & Telegraph	.49	A	.53	A	--		--		.49	A	.51	A	--		--	
25. Mills & Maple	.53	A	.51	A	--		--		.51	A	.48	A	--		--	
26. Mills & Dean	.55	A	.53	A	--		--		.53	A	.56	A	--		--	
27. Mills & Main	.69	B	.71	C	--		--		.66	B	.69	B	--		--	
28. US 101 NB Ramps & Main (a)	.79	C	.80	C	--		--		.76	C	.78	C	--		--	
29. SR 126 EB Ramps & Main (a)	.54	A	.64	B	--		--		.51	A	.61	B	--		--	
30. Callens & Main	.46	A	.67	B	--		--		.44	A	.63	B	--		--	
31. Donlon & Main	.55	A	.84	D	--		--		.54	A	.81	D	--		--	
32. Telephone & Main (a)	.62	B	.90	D	--		--		.64	B	.93	E	--		--	
33. US 101 NB Ramps & Telephone (a)	.56	A	.70	B	--		--		.56	A	.70	B	--		--	
34. Portola & Telephone	.36	A	.52	A	--		--		.36	A	.52	A	--		--	
35. Saratoga & Telephone	.30	A	.58	A	--		--		.33	A	.57	A	--		--	

Table 3-18
2025 ICU SUMMARY – SCENARIO 6

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
38. Telephone & Market	.65	B	.73	C	--		--		.63	B	.74	C	--		--	
42. Telephone & McGrath	.29	A	.75	C	--		--		.28	A	.74	C	--		--	
45. Catalina & Main	.37	A	.34	A	--		--		.37	A	.33	A	--		--	
46. Seaward & Main	.55	A	.69	B	--		--		.56	A	.70	B	--		--	
47. Main & Loma Vista	.56	A	.55	A	--		--		.55	A	.56	A	--		--	
49. Main & Telegraph	.45	A	.68	B	--		--		.45	A	.65	B	--		--	
50. Emma & Main	.40	A	.45	A	--		--		.40	A	.44	A	--		--	
51. Lemon Grove & Main	.39	A	.43	A	--		--		.39	A	.42	A	--		--	
53. Kimball & Telephone	.84	D	.71	C	--		--		.66	B	.53	A	--		--	
55. Kimball & SR 126 EB Ramps (a)	.39	A	.38	A	--		--		.31	A	.24	A	--		--	
56. Kimball & SR 126 WB Ramps (a)	.83	D	.43	A	--		--		.71	C	.35	A	--		--	
58. Kimball & Telegraph	.30	A	.39	A	--		--		.26	A	.35	A	--		--	
60. Ramelli & Telephone	.39	A	.72	C	--		--		.33	A	.56	A	--		--	
61. Montgomery & Telephone	.59	A	.34	A	--		--		.58	A	.35	A	--		--	
63. Petit & Telephone	.44	A	.58	A	--		--		.44	A	.59	A	--		--	
65. Sanjon & Thompson	.49	A	.56	A	--		--		.47	A	.55	A	--		--	
68. Seaward & Thompson	.50	A	.62	B	--		--		.49	A	.60	A	--		--	
71. Sanjon & Harbor	.36	A	.68	B	--		--		.36	A	.67	B	--		--	
75. Ashwood & Telegraph	.31	A	.48	A	--		--		.32	A	.48	A	--		--	
77. Day & Telegraph	.43	A	.41	A	--		--		.43	A	.41	A	--		--	
85. Victoria & Olivas Park	.68	B	.82	D	--		--		.70	B	.81	D	--		--	
86. Telephone & Olivas Park	.56	A	.70	B	--		--		.56	A	.66	B	--		--	
91. Johnson & Ralston	.53	A	.55	A	--		--		.54	A	.63	B	--		--	
92. Johnson & Bristol	.72	C	.76	C	--		--		.66	B	.85	D	--		--	
94. Johnson & North Bank	.72	C	.83	D	--		--		.72	C	.89	D	--		--	
95. Bristol & Ramelli	.47	A	.28	A	--		--		.53	A	.31	A	--		--	
96. Montgomery & North Bank	.54	A	.47	A	--		--		.54	A	.47	A	--		--	
100. Saticoy & Telephone	.47	A	.45	A	--		--		.45	A	.46	A	--		--	

Table 3-18
2025 ICU SUMMARY – SCENARIO 6

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
101. Saticoy & Telegraph	.51	A	.56	A	--		--		.48	A	.51	A	--		--	
102. Wells & Telegraph	.68	B	.69	B	--		--		.63	B	.60	A	--		--	
104. Wells & SR 126 EB Ramps (a)	.67	B	.76	C	--		--		.67	B	.78	C	--		--	
105. Wells & Darling	.70	B	1.08	F	.64	B	.89	D	.69	B	1.08	F	.66	B	.89	D
106. Wells & Telephone	.73	C	.74	C	--		--		.72	C	.73	C	--		--	
114. California & Thompson	.42	A	.47	A	--		--		.41	A	.48	A	--		--	
115. Chestnut & Thompson	.49	A	.57	A	--		--		.47	A	.57	A	--		--	
120. Ventura & Main	.41	A	.71	C	--		--		.40	A	.72	C	--		--	
132. Ventura & Stanley	.74	C	.84	D	--		--		.74	C	.84	D	--		--	
136. US 101 SB Ramps & Valentine (a)	.45	A	.53	A	--		--		.47	A	.53	A	--		--	
138. Johnson & US 101 SB Ramps (a)	.56	A	.86	D	--		--		.52	A	.84	D	--		--	
160. Victoria & US 101 NB Ramps (a)	.84	D	.70	B	--		--		.82	D	.69	B	--		--	
161. Victoria & Valentine (a)	.71	C	.79	C	--		--		.71	C	.78	C	--		--	
162. California & Harbor	.27	A	.36	A	--		--		.28	A	.36	A	--		--	
163. Santa Clara & Main	.25	A	.29	A	--		--		.25	A	.29	A	--		--	
164. Seaward & Poli	.44	A	.51	A	--		--		.42	A	.49	A	--		--	
165. Seaward & Harbor	.57	A	.71	C	--		--		.57	A	.71	C	--		--	
166. College & Telegraph	.36	A	.43	A	--		--		.33	A	.43	A	--		--	
168. Day & Foothill	.80	C	.78	C	--		--		.80	C	.79	C	--		--	
169. Kimball & Foothill	.63	B	.66	B	--		--		.55	A	.43	A	--		--	
170. Petit & Foothill	.37	A	.20	A	--		--		.39	A	.22	A	--		--	
171. Saticoy & Foothill	.38	A	.33	A	--		--		.42	A	.35	A	--		--	
172. Wells & Foothill	.36	A	.28	A	--		--		.37	A	.27	A	--		--	
173. Victoria & SR 126 WB Ramps (a)	.95	E	.87	D	--		--		.80	C	.70	B	--		--	
174. Petit & Telegraph	.44	A	.28	A	--		--		.46	A	.27	A	--		--	
175. Ventura & North Bank (a)	.42	A	.89	D	--		--		.43	A	.95	E	--		--	
176. Saticoy & Darling	.37	A	.28	A	--		--		.34	A	.26	A	--		--	
177. Wells & SR 126 WB Ramps (a)	.34	A	.50	A	--		--		.33	A	.47	A	--		--	
178. SR-33 Ramps & Stanley (a)	.67	B	.74	C	--		--		.67	B	.74	C	--		--	
179. SR-33 Ramps & Shell (a)	.96	E	.98	E	--		--		.96	E	.98	E	--		--	

Table 3-18
2025 ICU SUMMARY – SCENARIO 6

Intersection	BASELINE NETWORK								ALTERNATIVE NETWORK							
	Baseline Improvements				Non-Committed Improvements				Baseline Improvements				Non-Committed Improvements			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
180. Estates & Telegraph	.27	A	.41	A	--		--		.28	A	.41	A	--		--	
181. Ventura & Ramona	.33	A	.52	A	--		--		.33	A	.50	A	--		--	
182. Olive & Main St	.53	A	.62	B	--		--		.53	A	.61	B	--		--	
190. Petit Av & North Bank Dr	.20	A	.27	A	--		--		.19	A	.26	A	--		--	
191. Saticoy Av & North Bank Dr	.08	A	.15	A	--		--		.08	A	.15	A	--		--	
192. Los Angeles Av & North Bank	.72	C	.87	D	--		--		.71	C	.86	D	--		--	
193. Saticoy Av & A St	.19	A	.13	A	--		--		.18	A	.12	A	--		--	
194. Wells Rd & A St	.45	A	.42	A	--		--		.40	A	.41	A	--		--	
205. Johnson & Woodland	--		--		--		--		.66	B	.69	B	--		--	
206. Johnson & Telegraph	--		--		--		--		.78	C	.68	B	--		--	
207. Johnson & Loma Vista	--		--		--		--		.32	A	.49	A	--		--	
208. Johnson & Foothill	--		--		--		--		.52	A	.63	B	--		--	

(a) LOS E (ICU less than or equal to 1.00) is acceptable at this location (freeway ramps). LOS D (ICU less than or equal to .90) is the recommended performance standard for all other intersection locations that are analyzed.

Note: Gray shading denotes intersection locations that exceed the performance standard.

Chapter 4.0

ARTERIAL STREET SYSTEM

This chapter presents material pertaining to the Arterial Street System Component of the Circulation Element. It is intended to provide background discussion and related material for that component of the Element, and to present recommendations for the Citywide Arterial Street Plan.

OVERVIEW

Preparing the Circulation Element Update has involved a comprehensive process with input from numerous sources. Some of these sources were described in Chapter 2.0 as part of the existing conditions data that was compiled relative to existing physical features of the circulation system. Other information sources include community input (see Appendix B) and technical analyses as described in this report.

The discussion in this chapter focuses on the arterial street system and uses information prepared in the previous chapter (Chapter 3.0) to present Arterial Street Plans to be considered for inclusion in the Circulation Element. A customized Street Classification System is first described and then recommendations presented for each of the six land use scenarios discussed in the previous chapter.

STREET CLASSIFICATION SYSTEM

The arterial street component of the Circulation Element has two features which define the physical attributes of individual roadways on the Citywide street system. These are:

1. Design Classification
2. Functional Classification

The first establishes standards for right-of-way dedication when new construction occurs and shows the maximum number of lanes that would be accommodated on a given street. It essentially sets the maximum size of the street. There are three design classifications used in the Circulation Element, Primary Arterial, Secondary Arterial and Collector. Design specifications for these can be found in the City's Standard Detail Number 105.

The functional classification addresses lane deployment, medians, parking, and streetscape attributes designed to achieve objectives other than simply moving traffic. It addresses the “character” of a street as well as its size. Labels used in naming the functional classifications include the following:

- Boulevard – a street with a raised planted median
- Arterial – a street with a striped median
- Street – a street with no median

The first two are used in differentiating Primary Arterials, and all three are used for differentiating Secondary Arterials. Other descriptions are used as appropriate, particularly for collectors which are differentiated by both medians and parking.

The design and functional classifications are listed in Table 4-1. This shows the relationship between the two in conjunction with specific features of each classification and representative average daily traffic (ADT) values. As noted in the table, the ADT values are representative only and do not imply that the street is capable of carrying this volume or that it should carry no more than this volume. Figure 4-1 provides an illustrative guide in the form of cross-sections, and a brief description of each functional classification follows.

Six-Lane Boulevard (6LB) – This is the highest level of functional classification both in terms of its ability to carry traffic and also in terms of aesthetic appearance. It has a landscaped median wherever possible (i.e., where no access is required or where access can be limited) and gives a high quality street appearance. It is not necessary for the raised median to be continuous as long as there are sufficient sections of landscaped median to provide visual continuity. The intervening sections would have a striped median. No curbside parking is allowed under this functional classification. Also, where necessary, the basic six lane section may be augmented with auxiliary lanes (as currently exists on Victoria Avenue which has eight midblock lanes).

Six-Lane Arterial (6LA) – This is the second functional classification with six lanes and is the second of two functional classifications within the Primary Arterial design classification. In this case it has a striped median allowing two-way left turns into adjacent properties. Like the six-lane boulevard, it typically does not allow curbside parking since all the street width is required to accommodate the six lanes plus center turn lane. The only situation where parking would be allowed is where the right-of-way

Table 4-1
STREET CLASSIFICATIONS

DESIGN CLASSIFICATION	FUNCTIONAL CLASSIFICATION	REFERENCE CODE	----- ATTRIBUTES -----			
			LANES	MEDIAN	PARKING	ADT*
Primary Arterial	Six Lane Boulevard	6LB	6	Raised	No parking	54,000
	Six Lane Arterial	6LA	6	Striped	No curb parking unless adequate right-of-way (indents preferred)	50,000
Secondary Arterial	Four Lane Boulevard	4LB	4	Raised	No parking	36,000
	Four Lane Arterial	4LA	4	Striped	If space available (indents preferred)	32,000
	Four Lane Street	4LS	4	None	Parking	24,000
	Two Lane Boulevard	2LB	2	Raised	No Parking	20,000
Collector	Urban Collector	UC	2	Striped**	Parking	16,000
	Residential Collector	RC	2	None**	Parking	12,000
	Special Collector	SC	2	None	Angle parking	10,000

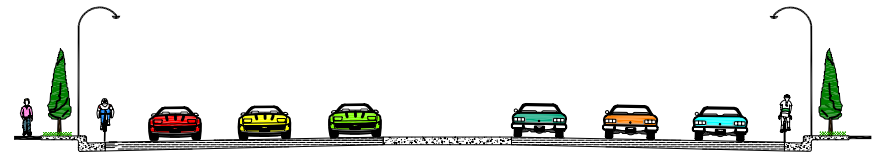
* The ADT value is a guide to the general level of daily traffic that can be carried by a roadway of this classification. Since level of service is determined by intersection performance rather than roadway link performance, this ADT value will vary (up or down) depending on the performance of adjacent intersections.

** Except where traffic calming applications provide for a raised landscaped median

PRIMARY ARTERIAL
(6 OR MORE LANE ROADWAY)



BOULEVARD



AVENUE

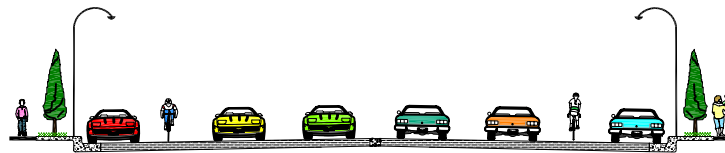
SECONDARY ARTERIAL
(4 LANE ROADWAY)



BOULEVARD

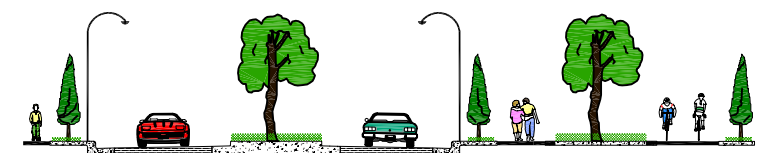


AVENUE

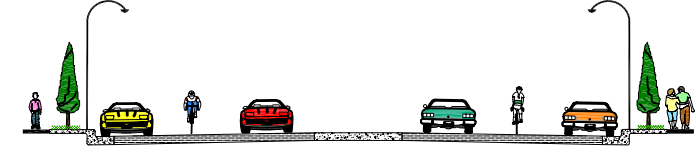


STREET

COLLECTOR
(2 LANE ROADWAY)



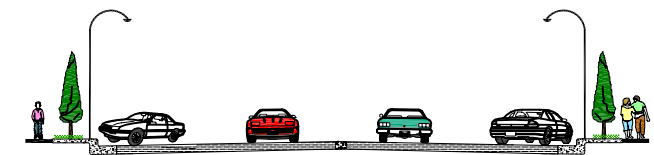
BOULEVARD



AVENUE



STREET



MAIN STREET

Note: Bikeways through agricultural or open land would be constructed only in conjunction with development of area.

Figure 4-1
FUNCTIONAL CLASSIFICATIONS
- CONCEPTUAL CROSS-SECTIONS

is sufficient to accommodate parking as well as the other space components of this classification (i.e., median and bike lanes).

Four-Lane Boulevard (4LB) – This is the secondary arterial equivalent of the six-lane boulevard (6LB). It essentially provides the same type of streetscape, but with only four lanes. As noted for the 6LB, the landscaped median need not be continuous as long as there are sufficient sections to provide visual continuity. No curbside parking is allowed under this functional classification.

Four-Lane Arterial (4LA) – In its highest traffic carrying form, this is similar to the 4LB, but without the landscaped median. Typically, there is no parking and the center striped lane allows for two-way left turns. A variation on this is to allow parking, in which case the median would typically be narrower (no more than the 10 feet needed for the two-way left turn lane) and the parkway would also be narrower (eight feet rather than the desired 12 feet). Ideally the parking would be accommodated by indents, thereby providing designated parking sections along individual sections of roadway.

Four-Lane Street (4LS) – This is a basic four-lane roadway with no median and parking allowed on both sides. At intersections, the parking is removed and a striped median is provided to allow protected left turns.

Two-Lane Boulevard (2LB) – This provides for a high capacity two lane roadway within the Secondary Arterial Street Design Classification. It allows for special treatments such as Class I bikeways or wide parkways. Intersection augmentation is an important feature to enable the high midblock volumes to be accommodated.

Urban Collector (UC) – The Collector is the third level of design classification in the Circulation Element, and the Urban Collector is the highest level of the three functional classifications within this design classification.

Residential Collector (RC) – The Residential Collector recognizes that many streets designated as Collectors are in residential areas, and in many cases have driveways fronting onto the street. This classification has extra wide lanes so that traffic is not blocked by cars turning into driveways. At the same time, the residential character is preserved by not providing a median unless it is part of a special traffic calming program.

Special Collector (SC) – This third functional classification for Collector allows for special treatment such as traffic calming features (raised medians and/or narrowed curb-to-curb width), or special parking provisions (Main Street through the downtown area with its angle parking is an example of this functional classification).

Functional classification cross-sections can be found in Figures 4-2 through 4-4, and Table 4-2 shows roadway space allocation examples for the various functional classifications.

PRINCIPAL INTERSECTIONS

As noted in the discussion on performance criteria, level of service is defined by peak hour intersection performance. While the previous section on street classifications included a listing of desirable ADT values, these are simply a guide and do not imply that a roadway needs to be widened simply because the desired ADT threshold is exceeded.

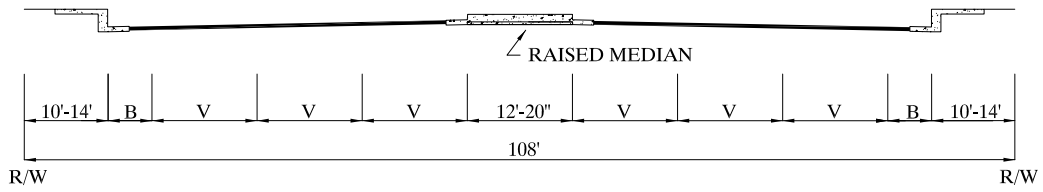
Accordingly, a set of principal intersections are defined in the Circulation Element and are illustrated here in Figure 4-5. These will be regularly monitored and improvements programmed as appropriate. Chapter 3.0 of this report showed estimates of future volumes and levels of service at these locations in relation to the long-range arterial street system. Actual intersection improvements at the principal intersections are not part of the Circulation Element, but would be included as appropriate in the Annual Transportation Report.

CITYWIDE STREET CLASSIFICATIONS

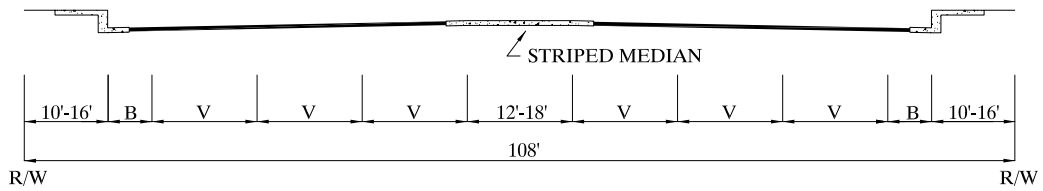
This section presents functional classification recommendations for the citywide arterial street system. The classification for each street segment represents a balance between needed capacity and other objectives (or constraints) related to the character of that street. Constraints include right-of-way and access needs. Other attributes include adjacent land uses, parking needs, street character, and visual/aesthetic values. An individual classification system is presented for each land use scenario, and year 2025 ADT volumes for that system are also shown for each scenario.

Text continues on Page 4-12

DESIGN CLASSIFICATION: PRIMARY ARTERIAL

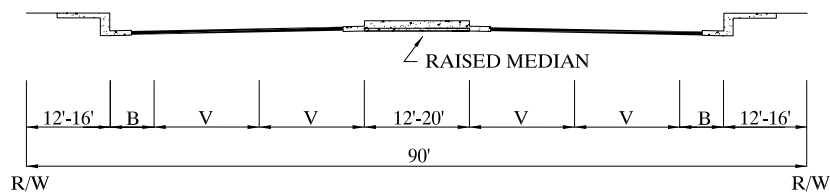


FUNCTIONAL CLASSIFICATION 6LB : 6-LANE BOULEVARD



FUNCTIONAL CLASSIFICATION 6LA : 6-LANE ARTERIAL

DESIGN CLASSIFICATION: SECONDARY ARTERIAL



FUNCTIONAL CLASSIFICATION 4LB : 4-LANE BOULEVARD

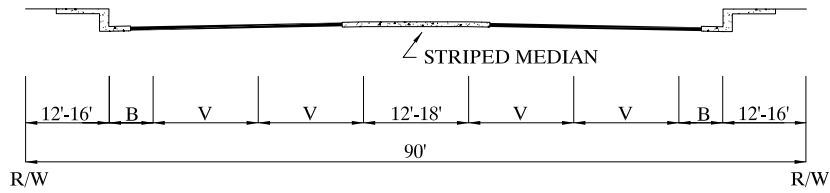
Legend

- V = Vehicle Lane (11' minimum)
- P = Parking Lane (8')
- B = Bike Lane (5')

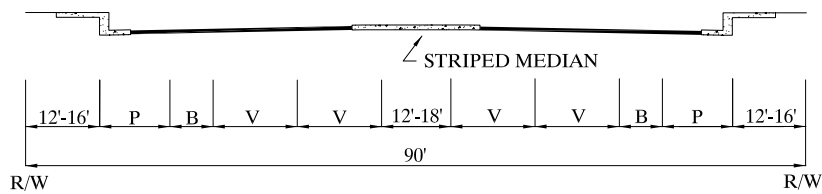
Figure 4-2

ROADWAY CROSS-SECTIONS

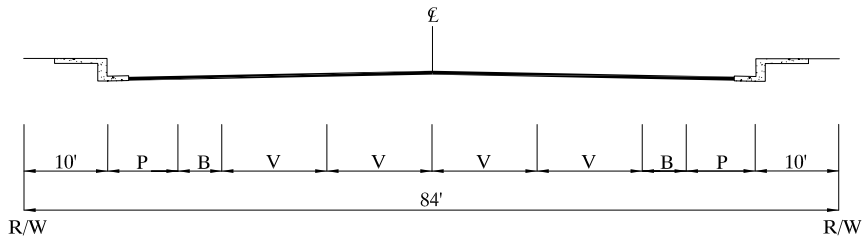
DESIGN CLASSIFICATION: SECONDARY ARTERIAL



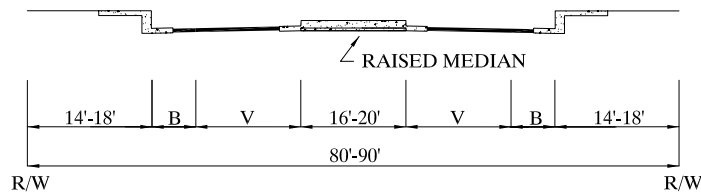
FUNCTIONAL CLASSIFICATION 4LA : 4-LANE ARTERIAL (WITHOUT PARKING)



FUNCTIONAL CLASSIFICATION 4LA : 4-LANE ARTERIAL (WITH PARKING)



FUNCTIONAL CLASSIFICATION 4LS : 4-LANE STREET

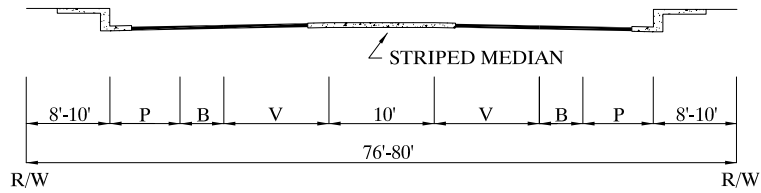


FUNCTIONAL CLASSIFICATION 2LB : 2-LANE BOULEVARD

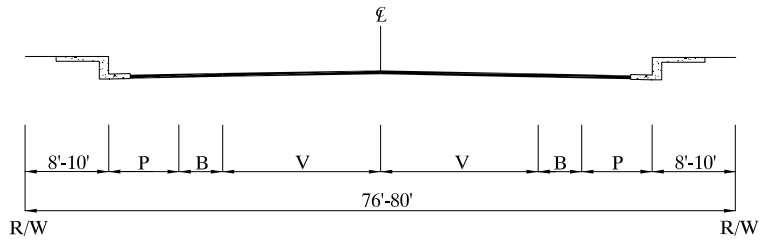
Legend
V = Vehicle Lane (11' minimum)
P = Parking Lane (8')
B = Bike Lane (5')

Figure 4-3
ROADWAY CROSS-SECTIONS
(CONTINUED)

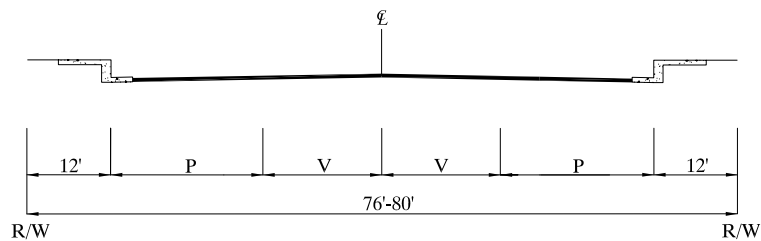
DESIGN CLASSIFICATION: COLLECTOR



FUNCTIONAL CLASSIFICATION UC : URBAN COLLECTOR



FUNCTIONAL CLASSIFICATION RS : RESIDENTIAL COLLECTOR



FUNCTIONAL CLASSIFICATION SC : SPECIAL COLLECTOR (ANGLE PARKING)

Legend
V = Vehicle Lane (11' minimum)
P = Parking Lane (8')
B = Bike Lane (5')

Figure 4-4
ROADWAY CROSS-SECTIONS
(CONTINUED)

Table 4-2

STREET SECTION SPACE ALLOCATION EXAMPLES

FUNCTIONAL CLASSIFICATION	-----SPACE ALLOCATION (FEET)-----					TOTAL
	VEHICLES	BICYCLES	PARKING	MEDIAN	PARKWAYS	
1. 6LB – Six-lane Boulevard	68	10	0	12	28	108
2. 6LB – Six-lane Boulevard	68	10	0	16	24	108
3. 6LB – Six-lane Boulevard	68	10	0	20	20	108
4. 6LA – Six-lane Arterial (without parking)	72	10	0	12	24	108
5. 6LA – Six-lane Arterial (with parking)	68	10	16	10	14	108
6. 4LB – Four-lane Boulevard	48	12	0	12	28	90
7. 4LB – Four-lane Boulevard	48	12	0	16	24	90
8. 4LB – Four-lane Boulevard	48	12	0	20	20	90
9. 4LA – Four-lane Arterial (without parking)	48	10	0	16	24	90
10. 4LA – Four-lane Arterial (without parking)	48	10	0	12	30	90
11. 4LA – Four-lane Arterial (with parking)	48	10	16	12	14	90
12. TLB – Two-lane Boulevard	26	12	0	20	32	90
13. TLB – Two-lane Boulevard	26	10	0	16	28	80
14. UC – Urban Collector	24	10	16	10	20	80
15. UC – Urban Collector	24	10	16	10	16	76
16. RC – Residential Collector	34	10	16	0	20	80
17. SC – Special Collector (angle parking)	24	0	40	0	16	80



Legend
 ----- Future Roadway

Figure 4-5
 PRINCIPAL INTERSECTIONS

SCENARIO 1 – INTENSIFICATION/REUSE ONLY

The recommended arterial street system functional classifications for Scenario 1 are shown in Figure 4-6, and corresponding year 2025 ADT volumes are illustrated in Figure 4-7. The circulation plan for this scenario is considered a Baseline Network that contains a number of transportation improvements throughout the city that are currently committed for construction (i.e., they have identified funding sources and are programmed for implementation either through the City’s Capital Improvement Program (CIP) or other mechanisms; refer to chapter 3.0 for detailed listings of the Baseline improvements).

SCENARIO 2 – INTENSIFICATION/REUSE + NORTH AVENUE + OLIVAS + SERRA

The recommended arterial street system functional classifications for Scenario 2 are shown in Figure 4-8, and corresponding year 2025 ADT volumes are illustrated in Figure 4-9. In this scenario, it is recommended that the following roadway links be added to the Baseline circulation plan:

1. Mills Road extension to Harbor Boulevard
2. New collector between the Mills Road extension and Telephone Road
3. North Bank Drive extension from Johnson Drive to Bristol Drive
4. Kimball Road extension from Telephone Road to North Bank Drive
5. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Note that with North Bank Drive extended from Johnson Drive to Bristol Road, the six-lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline circulation plan is not needed.

SCENARIO 3 – INTENSIFICATION/REUSE + NORTH AVENUE + OLIVAS

The recommended arterial street system functional classifications for Scenario 3 are shown in Figure 4-10, and corresponding year 2025 ADT volumes are illustrated in Figure 4-11. In this scenario, it is recommended that the following roadway links be added to the Baseline circulation plan:

1. Mills Road extension to Harbor Boulevard
2. New collector between the Mills Road extension and Telephone Road

Text continues on Page 4-19

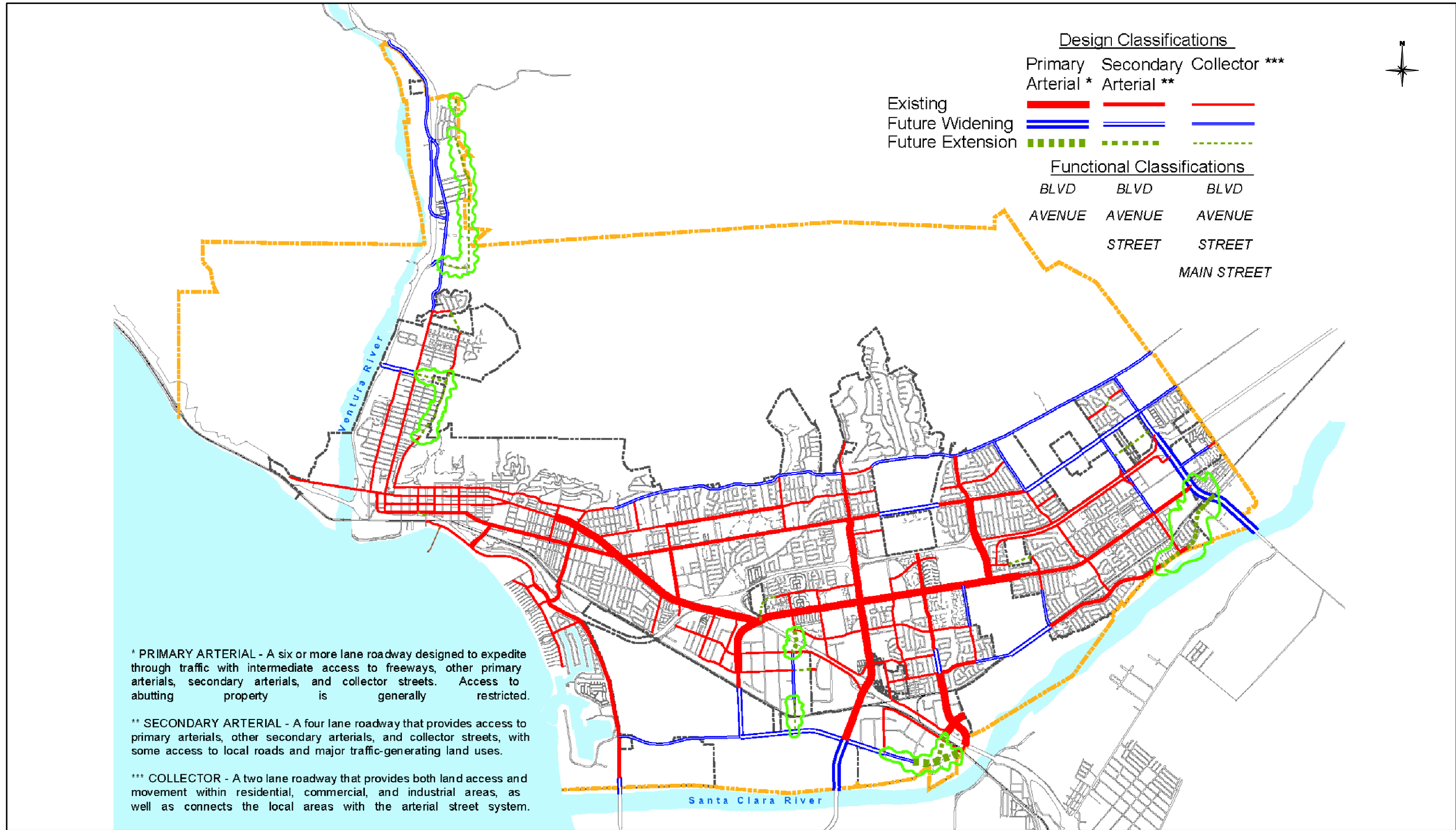


Figure 4-6
ROADWAY CLASSIFICATIONS
-SCENARIO 1

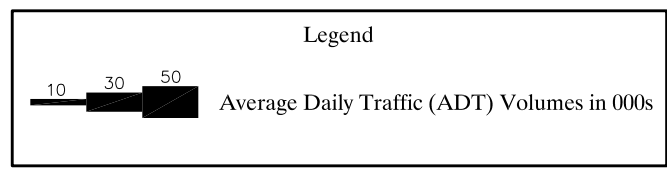
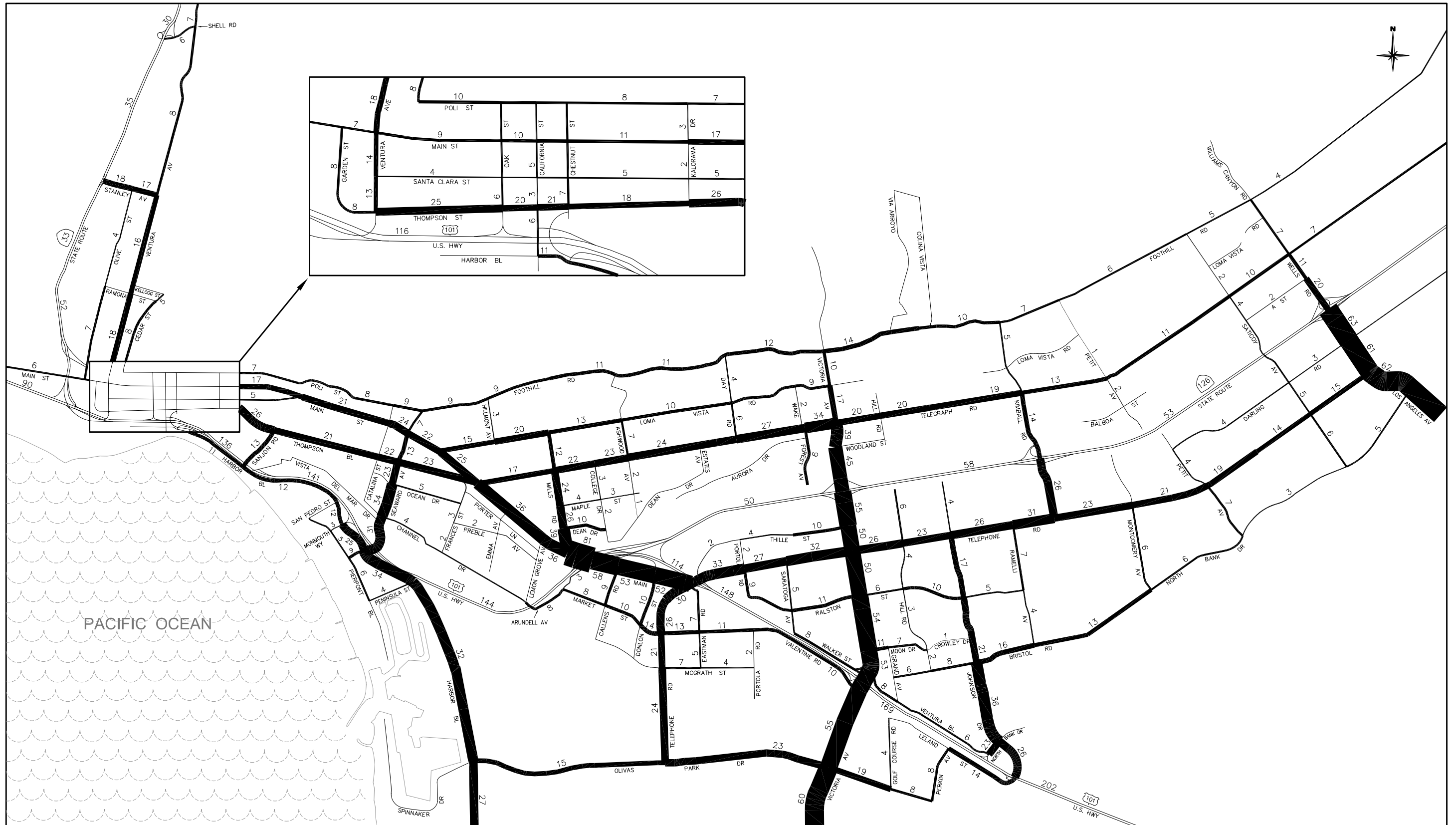


Figure 4-7
 2025 ADT VOLUMES (000s)
 - SCENARIO 1 (BASELINE NETWORK)

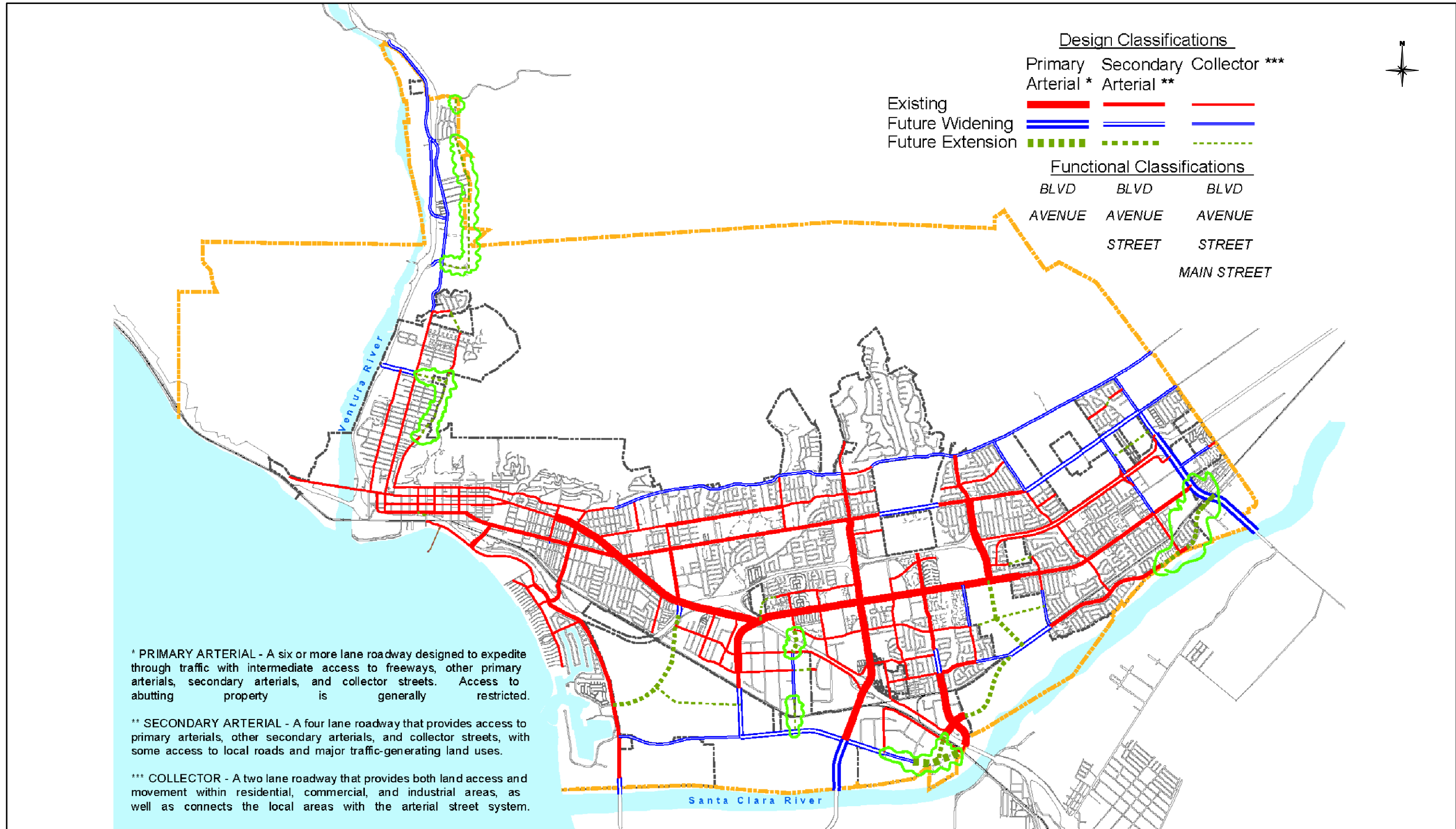


Figure 4-8
ROADWAY CLASSIFICATIONS
-SCENARIO 2

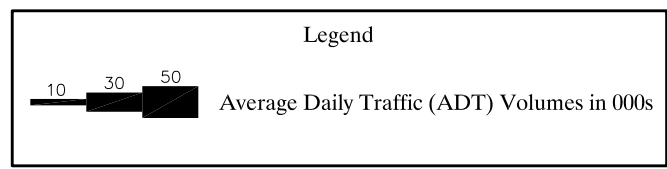
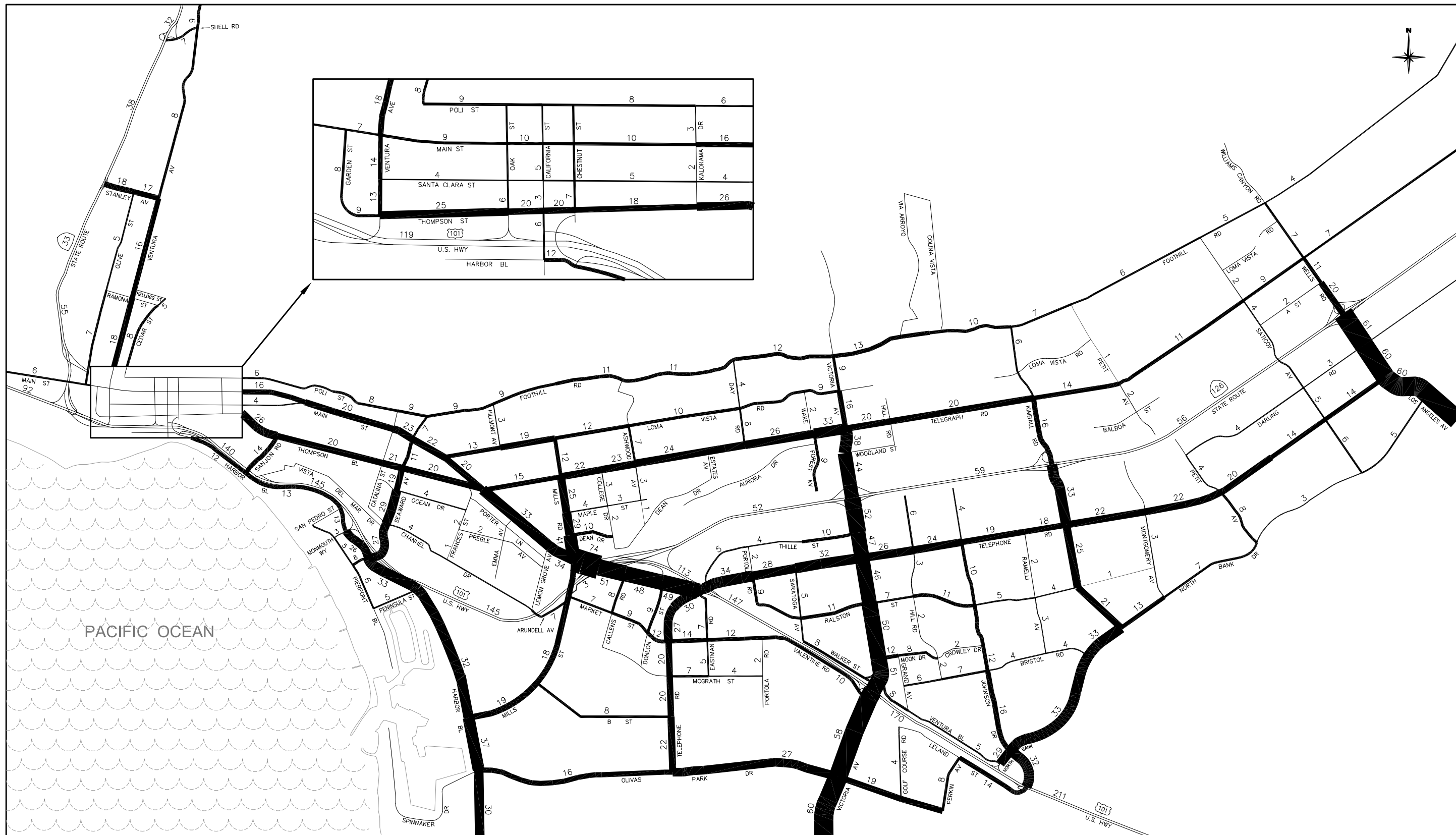


Figure 4-9
 2025 ADT VOLUMES (000s)
 - SCENARIO 2 (ALTERNATIVE NETWORK)

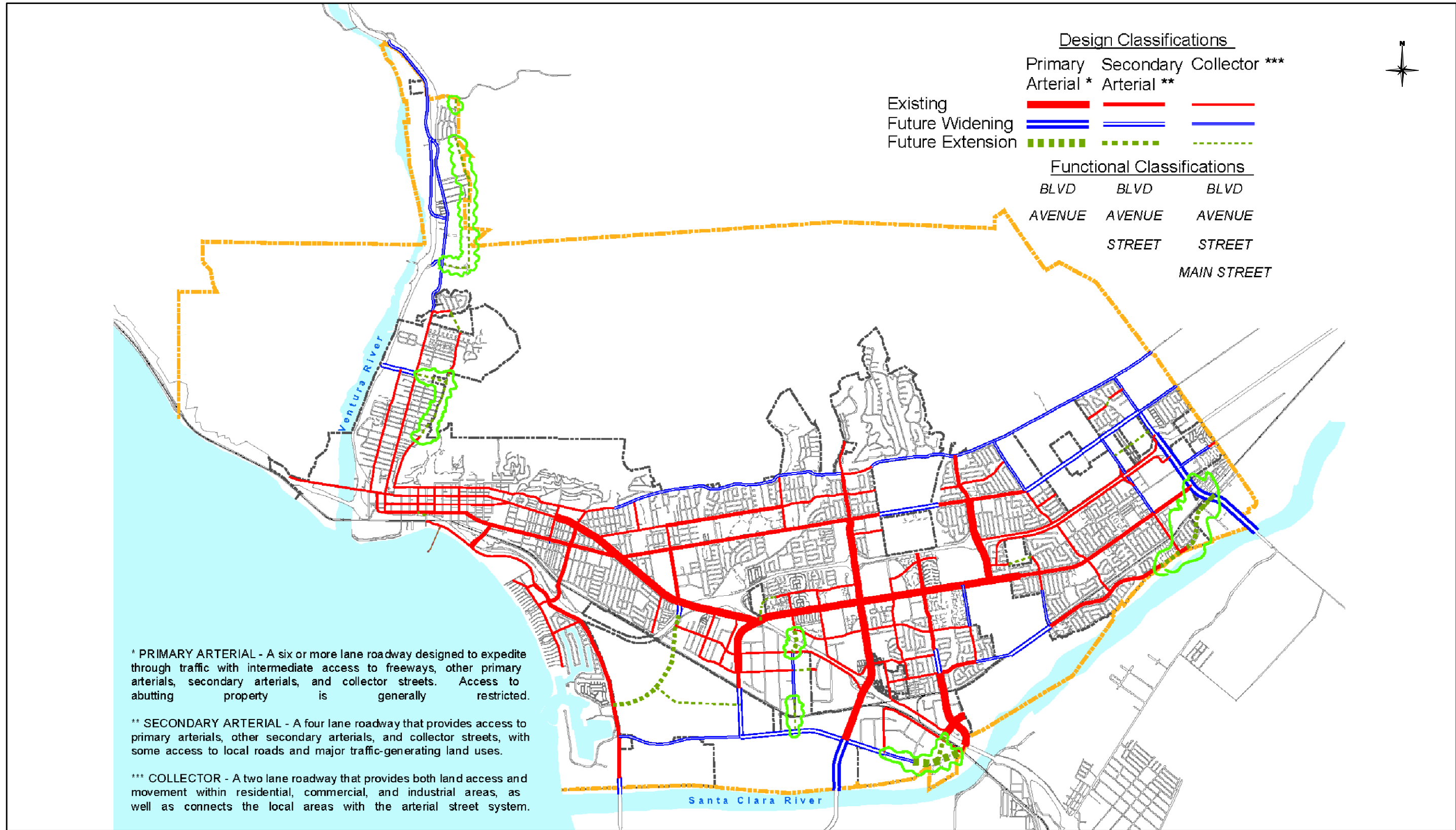


Figure 4-10
ROADWAY CLASSIFICATIONS
-SCENARIO 3

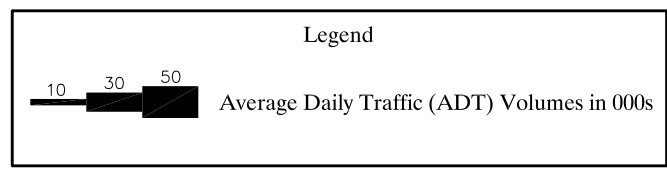
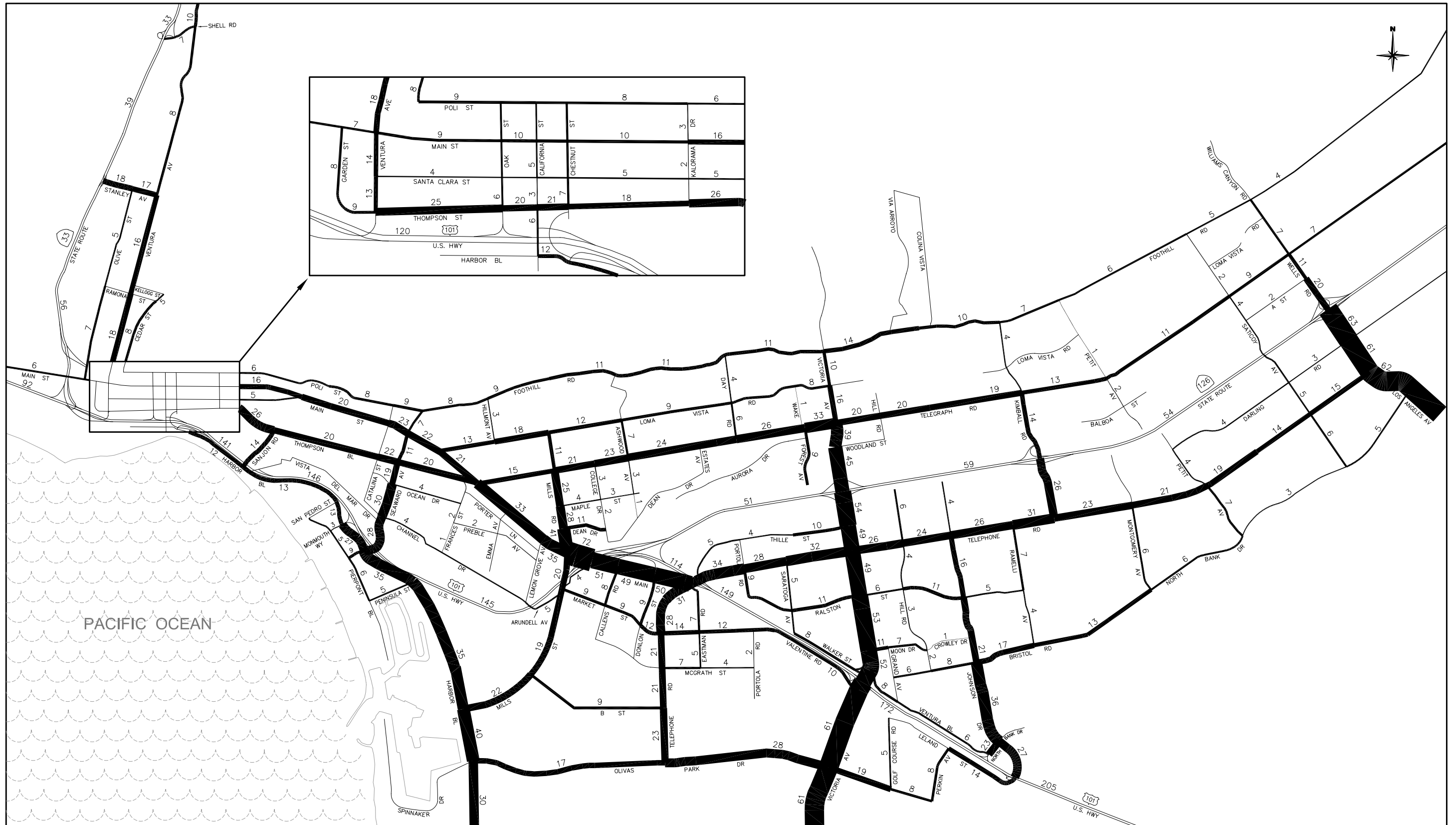


Figure 4-11
 2025 ADT VOLUMES (000s)
 - SCENARIO 3 (ALTERNATIVE NETWORK)

SCENARIO 4 – INTENSIFICATION/REUSE + NORTH AVENUE + SERRA

The recommended arterial street system functional classifications for Scenario 4 are shown in Figure 4-12, and corresponding year 2025 ADT volumes are illustrated in Figure 4-13. In this scenario, it is recommended that the following roadway links be added to the Baseline circulation plan:

1. North Bank Drive extension from Johnson Drive to Bristol Road
2. Kimball Road extension from Telephone Road to North Bank Drive
3. Ralston Street extension from Ramelli Avenue to Montgomery Avenue

Note that with North Bank Drive extended from Johnson Drive to Bristol Road, the six-lane widening of Johnson Drive between North Bank Drive and Bristol Road that is assumed in the Baseline circulation plan is not needed.

SCENARIO 5 – INTENSIFICATION/REUSE + NORTH AVENUE + WESTERN CAÑADA LARGA

The recommended arterial street system functional classifications for Scenario 5 are shown in Figure 4-14, and corresponding year 2025 ADT volumes are illustrated in Figure 4-15. In this scenario, the circulation plan is the same Baseline Network as considered for Scenario.

SCENARIO 6 – INTENSIFICATION/REUSE + NORTH AVENUE + POINSETTIA

The recommended arterial street system functional classifications for Scenario 6 are shown in Figure 4-16, and corresponding year 2025 ADT volumes are illustrated in Figure 4-17. In this scenario, it is recommended that the following roadway links be added to the Baseline circulation plan:

1. Johnson Drive extension from SR-126 to Foothill Avenue
2. Loma Vista Road extension from Victoria Avenue to Kimball Road
3. Woodland Street extension from Hill Road to Johnson Drive

Text continues on Page 4-26

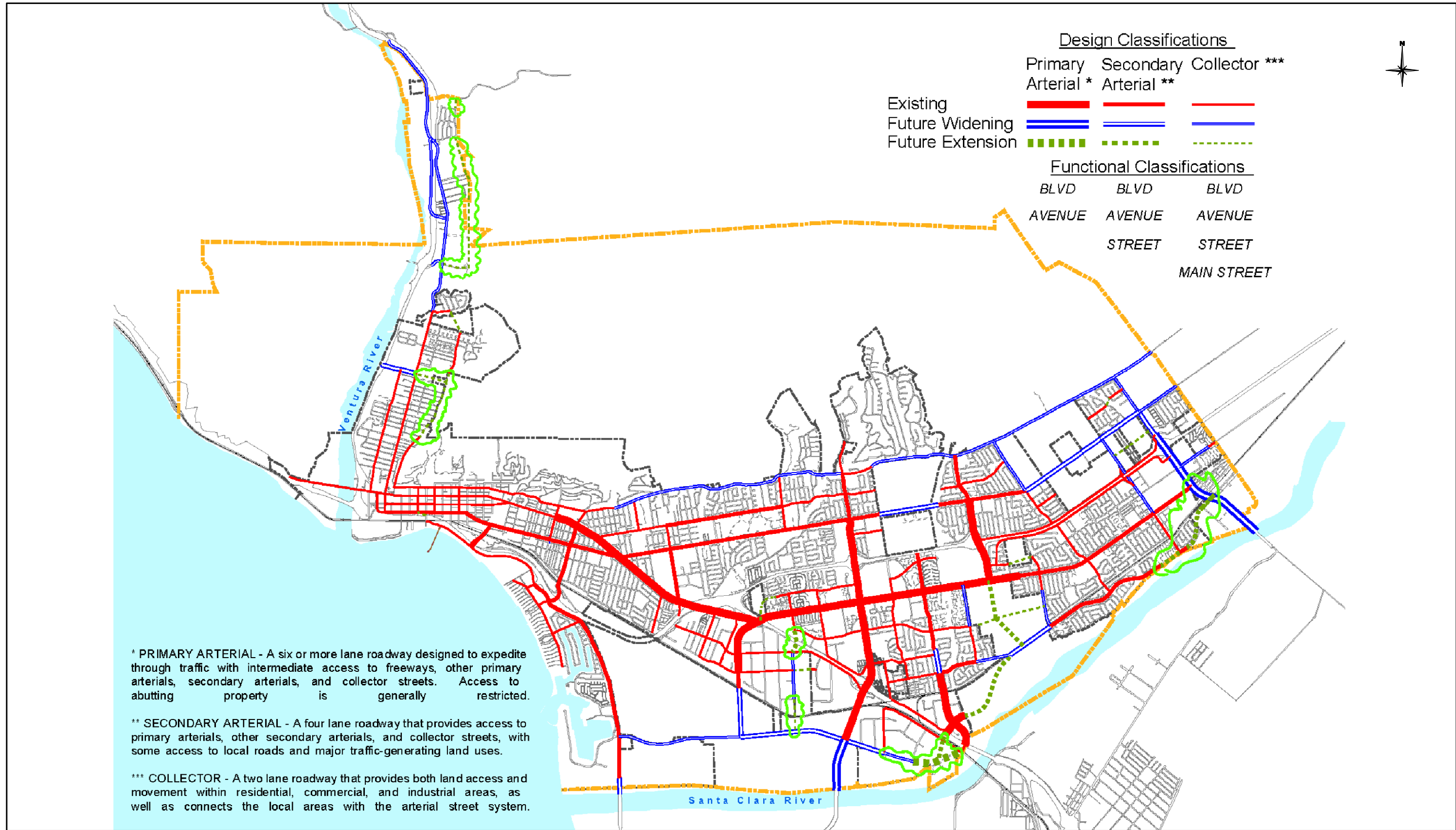


Figure 4-12
ROADWAY CLASSIFICATIONS
-SCENARIO 4

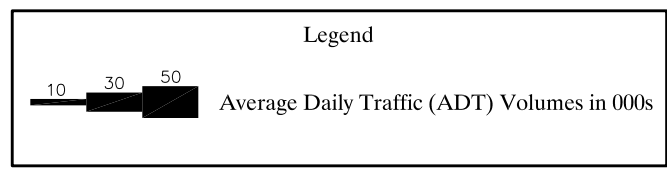
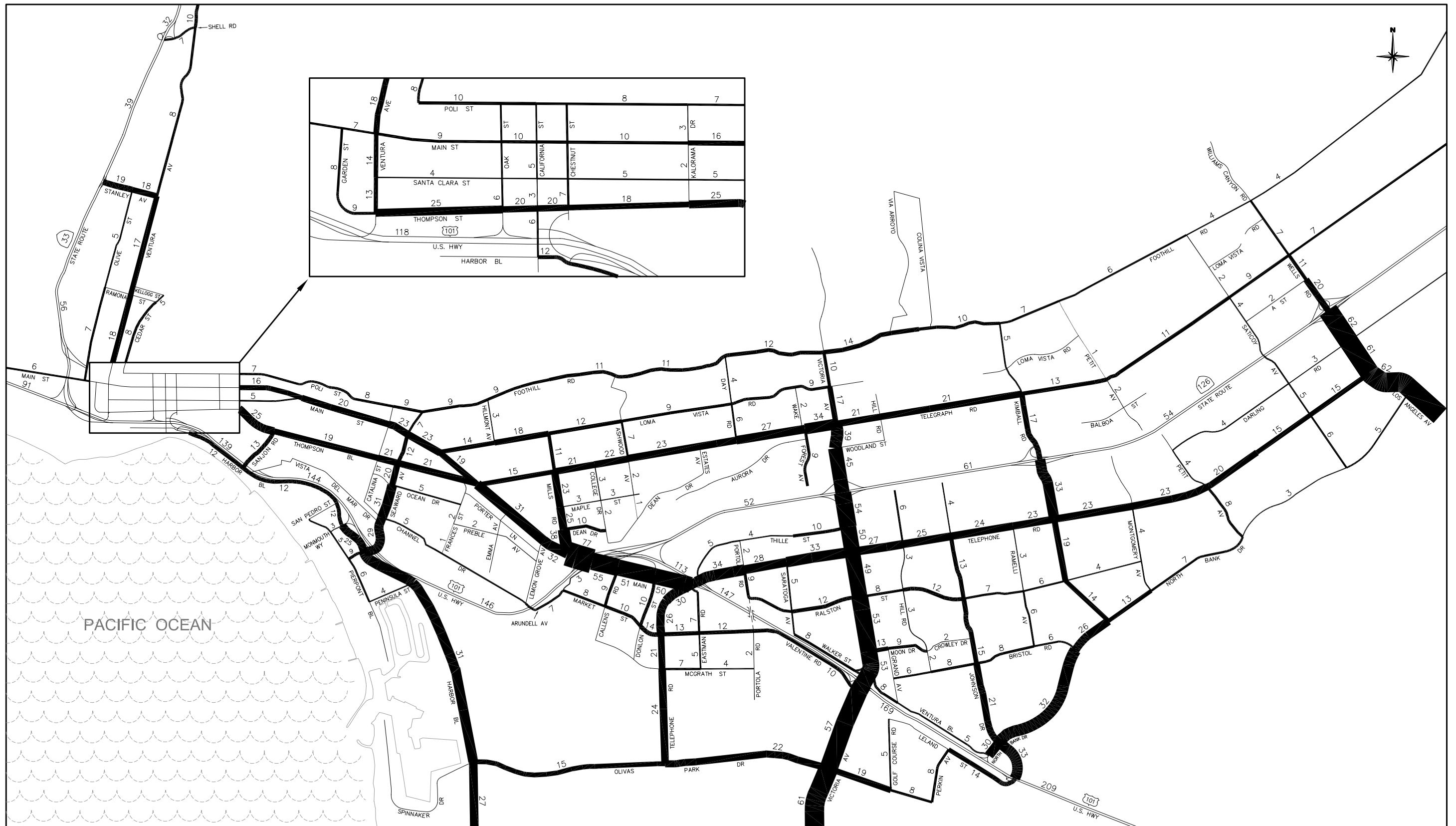


Figure 4-13
 2025 ADT VOLUMES (000s)
 - SCENARIO 4 (ALTERNATIVE NETWORK)

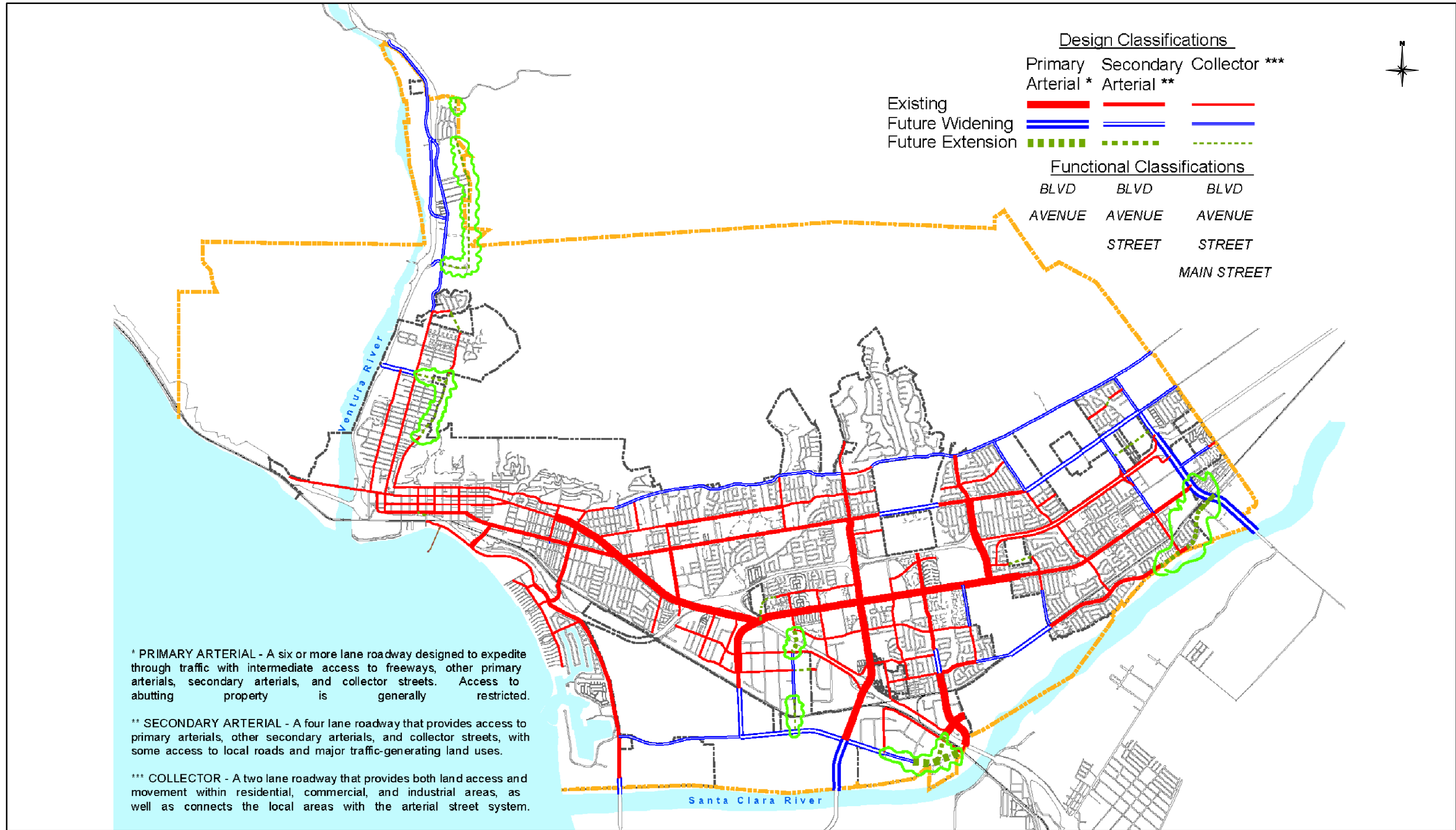


Figure 4-14
ROADWAY CLASSIFICATIONS
-SCENARIO 5

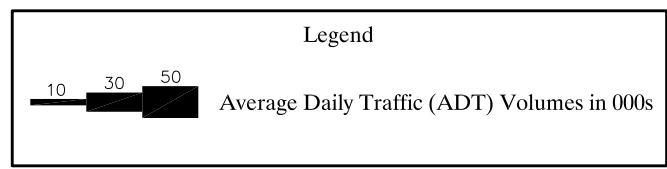
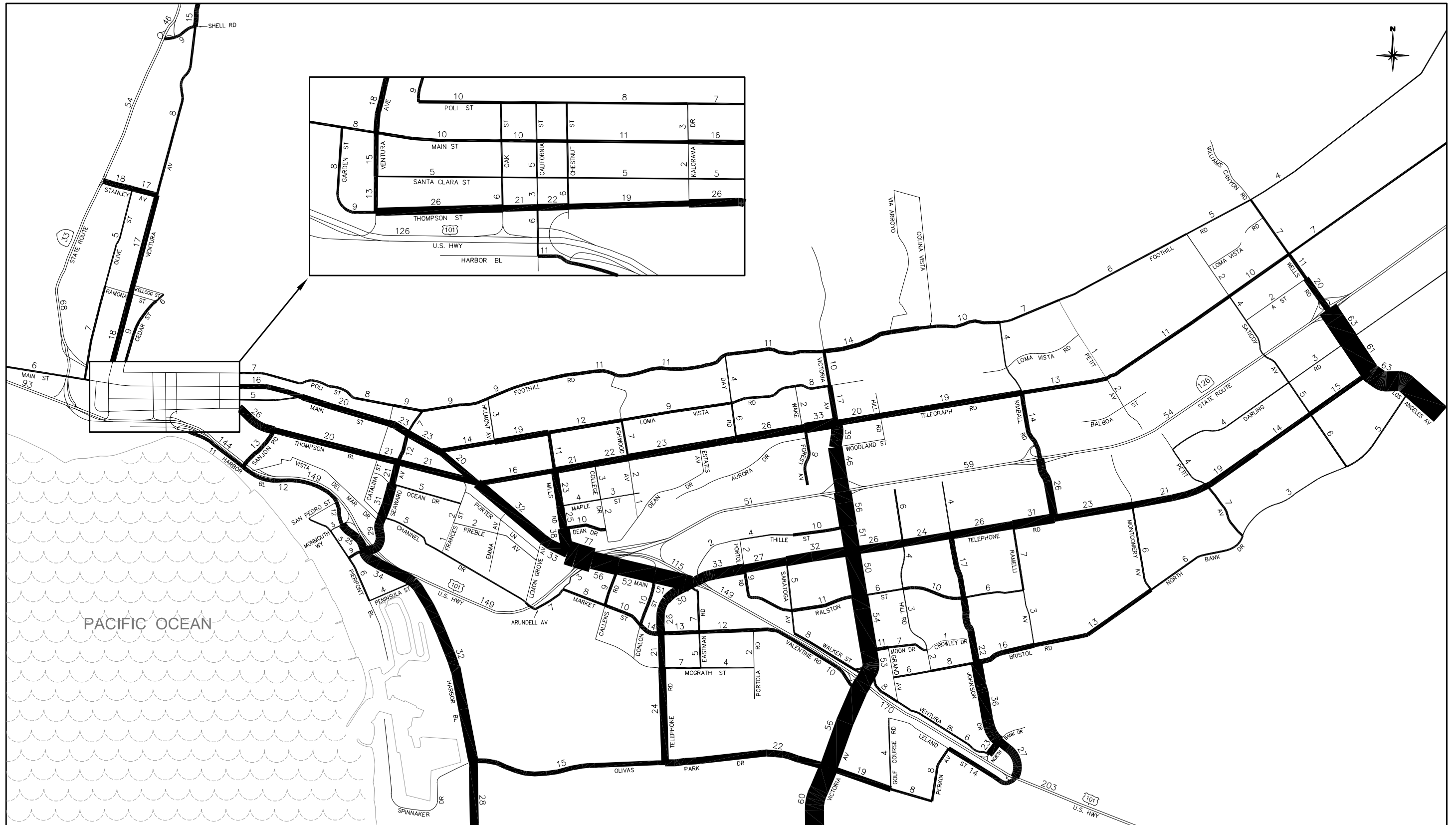


Figure 4-15
 2025 ADT VOLUMES (000s)
 - SCENARIO 5 (BASELINE NETWORK)

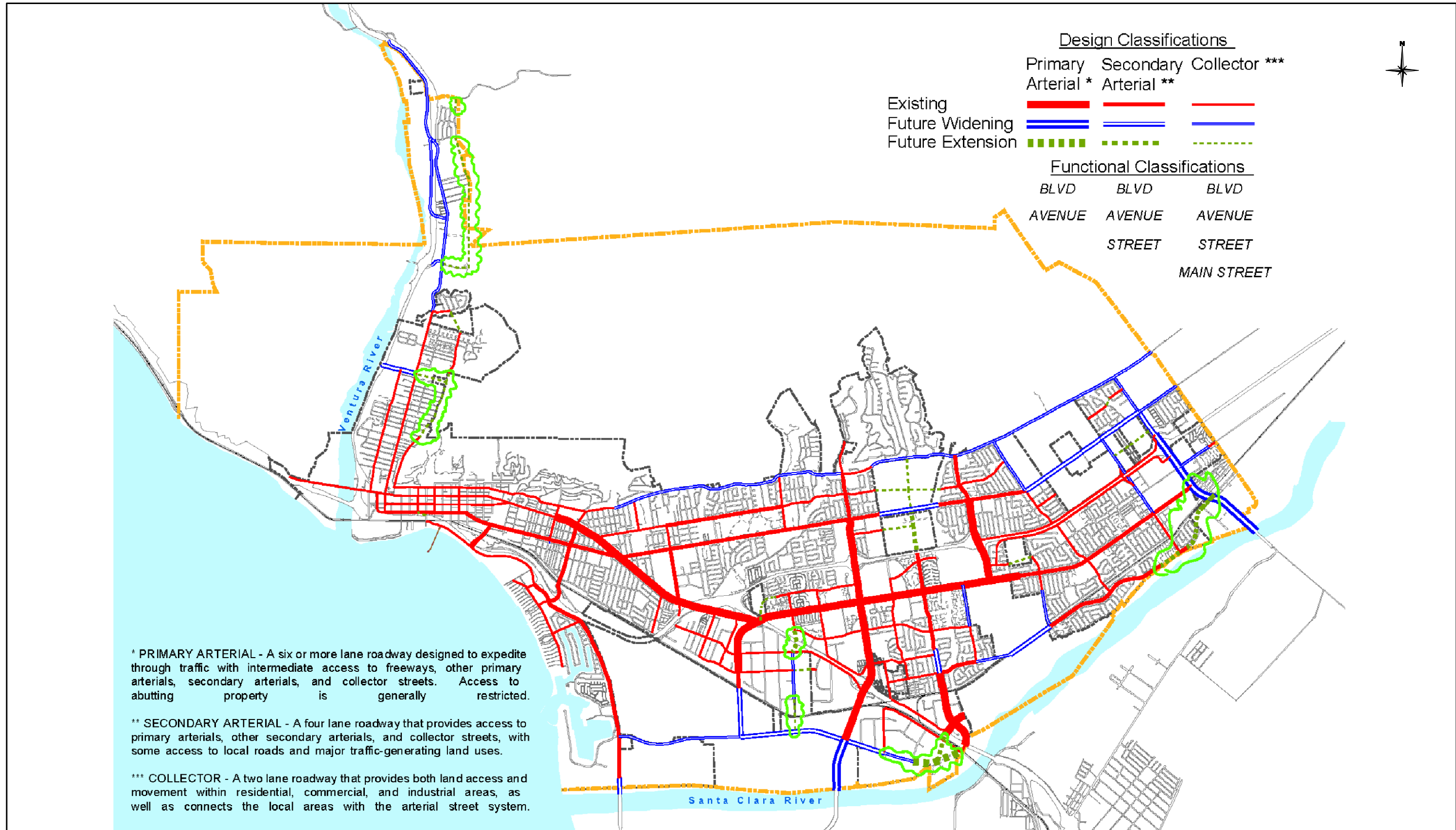


Figure 4-16
ROADWAY CLASSIFICATIONS
-SCENARIO 6

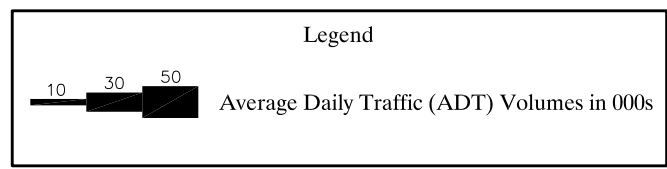
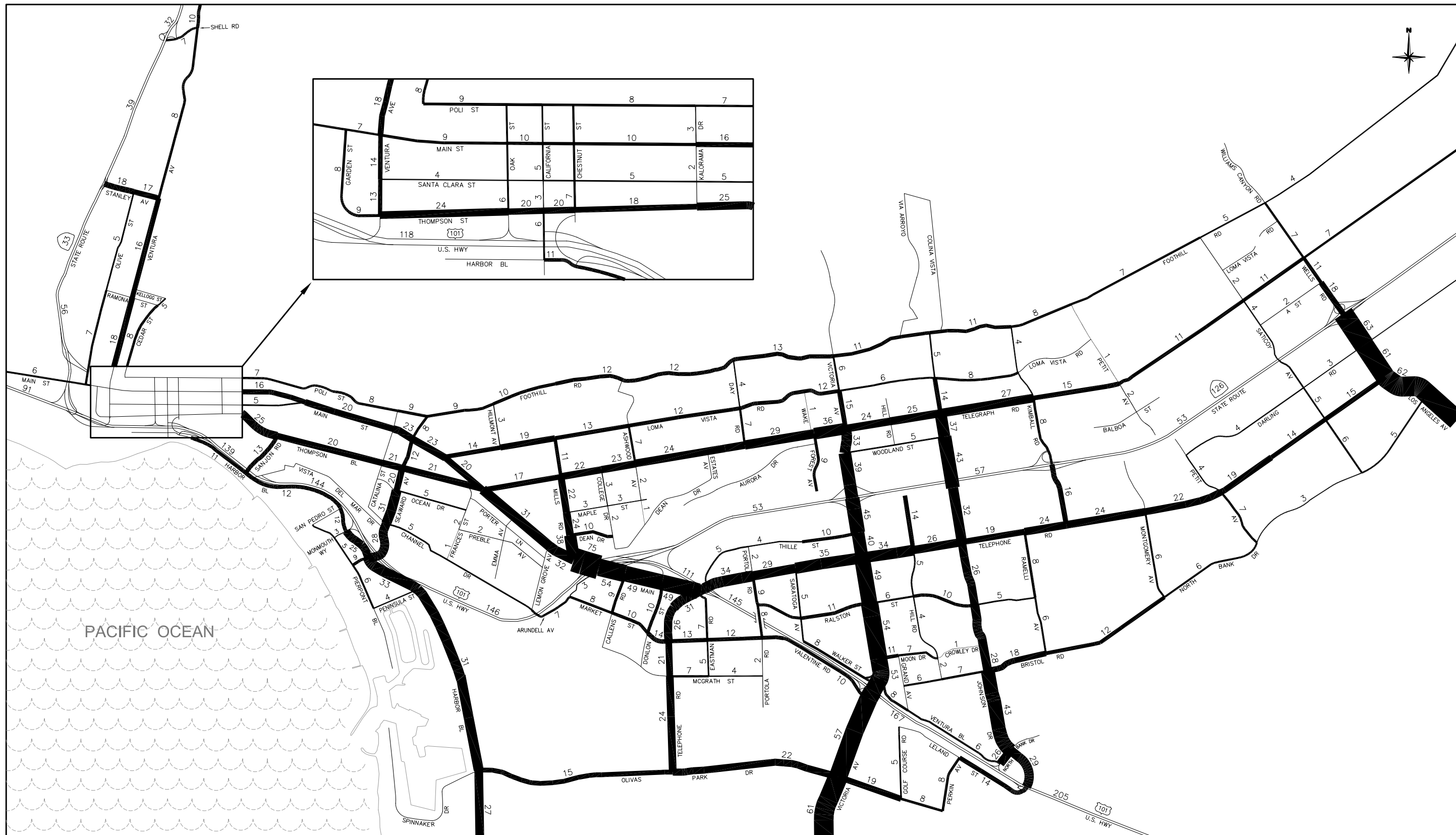


Figure 4-17
 2025 ADT VOLUMES (000s)
 - SCENARIO 6 (ALTERNATIVE NETWORK)

TRAFFIC CALMING

Traffic calming involves the deployment of street design features that cause motorists to drive with more care, to drive more slowly or perhaps via another route. The majority of traffic calming devices make alterations to a street's geometry, reducing its real or perceived width, or causing the driver to negotiate curvature or pavement texture. These modifications are almost always made within the public right-of-way, and are usually accompanied by extensive landscaping, thereby serving as neighborhood landmarks as well as traffic calming devices.

Traffic calming measures are generally implemented in response to specific problems. The problem or problems may involve a neighborhood or simply a street or part of a street. Examples of typical problems are as follows:

Cut-Through Traffic – Cut-through traffic has neither origin nor destination within the neighborhood, but rather is passing through on local streets. Cut-through trips seek out local streets, sometimes because they are faster, and sometimes because they are more pleasant and therefore seem to be faster.

Speeding – Many motorists (neighborhood residents as well as “cut-through”) drive too fast on local streets. While some speeding is by irresponsible drivers, the majority is by normally responsible drivers unintentionally speeding due to design features such as excessively wide pavement, straight sections of road and absence of landscaping. In addition to safety issues, speeding vehicles degrade the quality of the street for other users and particularly for residents.

Safety – While largely related to speeding, safety also involves factors such as road geometry, safe road crossing locations, etc.

Aesthetics – Wide expanses of pavement devoted solely to the moving of traffic can take over a street in response to providing adequate “traffic service.” Traffic calming provides the opportunity to use streets not only for moving cars but also as an aesthetically pleasing focal point for the community.

Although there are a number of traffic calming devices, they generally derive from some combination of a few basic principles:

Narrowing the street – This tends to reduce the speed that most drivers find reasonable and comfortable. Narrowing is done through reducing the pavement width, either at the sides or by adding a median or both. At intersections, narrowing can be achieved or complemented by extending the curbs. The perception of narrowing, which can be as effective as actual narrowing, is gained with street trees along the curb, overhead tree canopy, buildings brought close to the street and “gateways” along the street (i.e., short sections along which the curb-to-curb street width is narrowed).

Deflecting the vehicle path – Deflection usually terminates long, straight street views, thereby reducing speeds. Deflection is done through curving the travel path of the vehicle, and thereby causing the driver to reduce speed. Features incorporated into the street to cause deflection can also enhance the visual character of a street.

Diverting the driver’s route – This is a more extreme measure, and makes vehicular access more difficult, thereby encouraging drivers to use another route. Diagonal street closures, one-way streets, median closings and turning movement restrictions are examples of diversion.

Changing the pavement surface – This feature demands attention from drivers, and reduces the comfortable driving speed. When deployed at intersections, it can enhance pedestrian safety.

Standard traffic control devices – These slow traffic through regulation. Stop signs, turn movement prohibitions, traffic signals and posted speed limits are examples of these more conventional traffic calming strategies.

Table 4-3 provides a toolbox of typical traffic calming actions. Typically three steps are undertaken to implement a traffic calming program:

1. Identify what needs fixing (i.e., location and problem) and apply some form of warrant/justification for proceeding with a study.
2. Identify potential tools that might be applicable.
3. Evaluate the tools and establish an implementation plan.

Traffic calming measures, while simple in concept, give a new balance between traffic service and important neighborhood values, such as noise, safety, walking and bicycling. Part of step three above is to recognize the trade-offs that can occur in this regard and achieve the desired balance between what may often be competing objectives.

Table 4-3

TRAFFIC CALMING TOOLBOX

TOOL	SPOT LOCATION	INTERSECTION	ROADWAY
Bulbout (curb extension)	✓	✓	✓
Chicane	--	--	✓
Choker (neckdown)	✓	✓	✓
Diverter	--	✓	--
Driveway Link	--	--	✓
Full Street Closure	--	--	✓
Gateway	✓	✓	✓
Intermediate Median Barrier	--	✓	✓
Landscaping Treatments	✓	✓	✓
Median	--	--	✓
Modified Intersection	--	✓	--
Partial Street Closure	--	✓	✓
Pedestrian Refuge Islands	✓	✓	✓
Speed Humps and Tables	✓	✓	--
Roadway Narrowing	--	--	✓
Roundabout	--	✓	--

Chapter 5.0

SPECIAL ISSUES

This chapter discusses a number of special issues with respect to the citywide arterial street system. The intent is to provide analysis information regarding these issues and give recommendations as to how they should be addressed either in the General Plan Circulation Element Update or in the EIR being prepared for the updated Element.

CEDAR STREET NORTHERLY EXTENSION

Consideration was given in the traffic analysis for a northerly extension of Cedar Street. A Cedar Street extension to Dakota Drive along with an eastward extension of Stanley Avenue to Cedar Street had been included in the previous Circulation Element roadway plan. As part of this Circulation Element Update Traffic Study, an analysis was made to identify the potential benefits of the Cedar Street extension. The land use alternative selected for this evaluation is Scenario 5 which includes development in Expansion Area 5 (Cañada Larga).

The 2025 average daily traffic (ADT) volumes for this scenario are shown in Figure 5-1, and comparative intersection capacity utilization (ICU) values at the intersections affected by the extension are summarized below:

Intersection	Without Cedar Extension		With Cedar Extension	
	AM Peak	PM Peak	AM Peak	PM Peak
132. Ventura & Stanley	.68	.83	.61	.62
178. SR-33 Ramps & Stanley	.64	.69	.61	.62

The traffic forecast data presented in Chapter 3.0 for Scenario 5 indicates that the majority of the traffic in the Cañada Larga Expansion Area would use the Cañada Larga and Shell Road interchanges with SR-33, and very little of that traffic would use Ventura Avenue south of Shell Road. Hence, the capacity needs at the intersection of Stanley Road and Ventura Avenue are the issue independent of the land use. As indicated above, year 2025 ICUs for this intersection show adequate capacity. Hence, the cost and potential impacts of such an extension suggest a relatively low benefit of constructing the extension. Accordingly, it is not recommended for inclusion in the Circulation Element at this time.

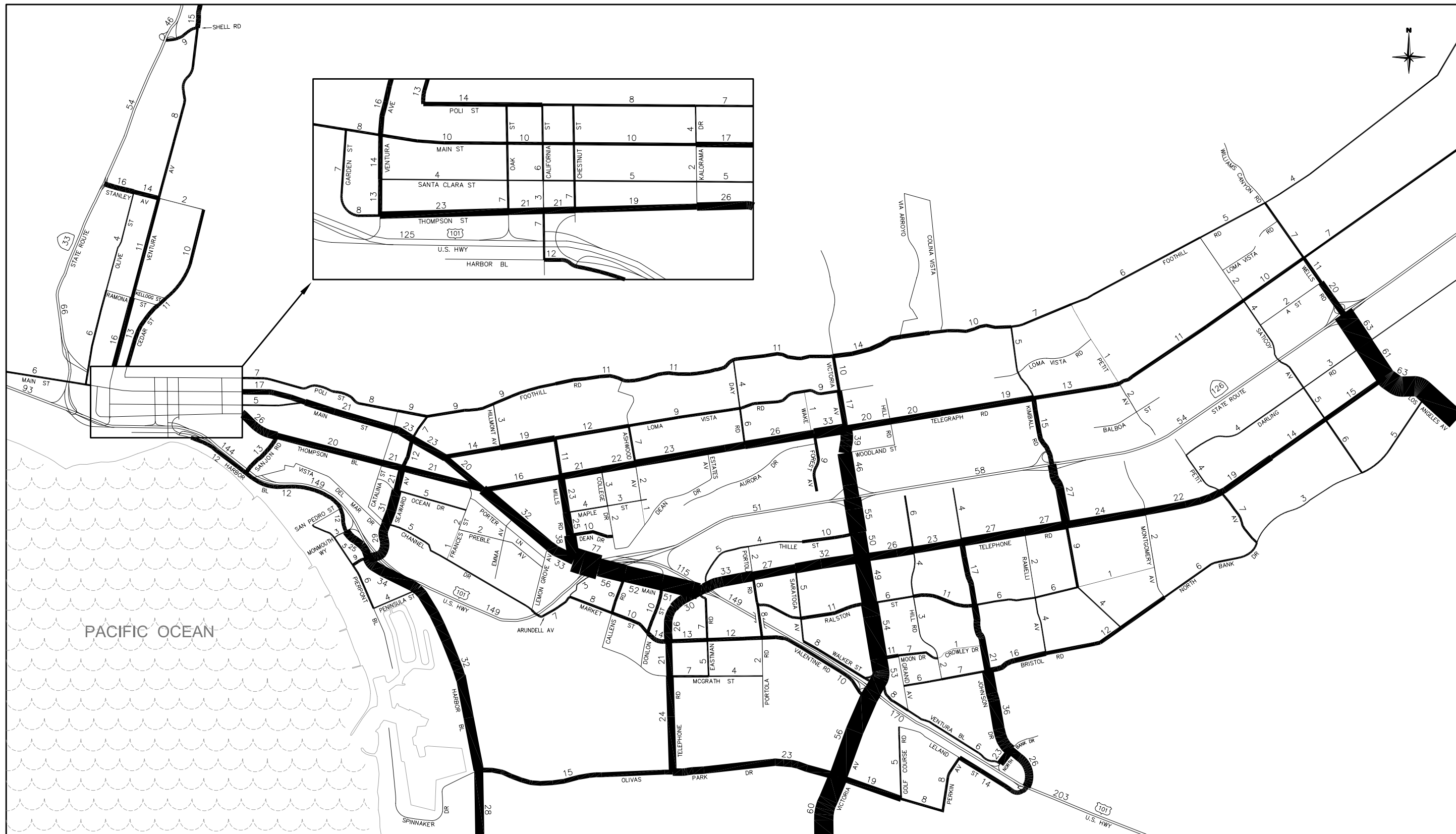


Figure 5-1
 2025 ADT VOLUMES (000s)
 - SCENARIO 5 (ALTERNATIVE NETWORK WITH
 CEDAR STREET EXTENSION)

ADDITIONAL CROSSING OF THE SANTA CLARA RIVER

An additional crossing of the Santa Clara River has been considered several times in the past. One candidate location would be a southward extension of Kimball Road over into the recently approved RiverPark development in the City of Oxnard. A study carried out in 2004 for the County of Ventura concluded that expansion of the existing bridges (including the current Caltrans bridge widening on US-101) would accommodate future demand without the need for additional bridges.

To verify this finding and to examine the potential benefits of such an extension, the City of Ventura traffic model was utilized to prepare 2025 traffic projections with a Kimball Road extension across the river. The year 2025 ADT volumes with the new river crossing are illustrated in Figure 5-2. As can be seen, future demand on the bridge would be 38,000 ADT, more than is reasonable capacity for a two-lane bridge but within the capacity of a four-lane bridge. Potential benefits of this new bridge would largely occur on Victoria Avenue. Traffic between Ventura and Oxnard that currently uses Victoria Avenue and US-101 to travel between Ventura and the eastside of Oxnard would divert to the new bridge.

For each of the six land use scenarios analyzed in this study, a proposed circulation system has been developed which would serve the year 2025 traffic. In most cases, the circulation system involves intersection improvements and specific roadway links added to serve those scenarios that have expansion area growth. An added crossing of the Santa Clara River would not obviate the need for those additional roadways and would not change the intersection improvements in specific areas proposed as part of those scenarios. Accordingly, it is concluded that the high cost and impacts of an additional crossing would not be justified, given the ability to provide adequate capacity by other means.

OLIVAS PARK DRIVE EXTENSION

Consideration has been given in the past to extending Olivas Park Drive to the Johnson Drive underpass of the US-101. At the present time, traffic on Olivas Park Drive using the interchange must take a circuitous route via Golf Course Road or Perkin Avenue and then Leland Street to reach the Johnson Drive interchange. Hence, the extension would provide a substantial benefit with respect to access to the interchange.

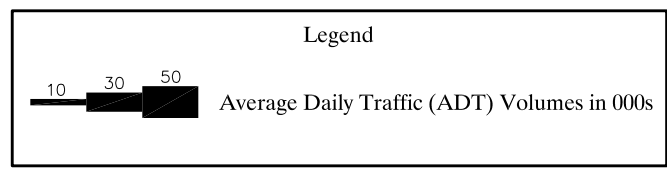
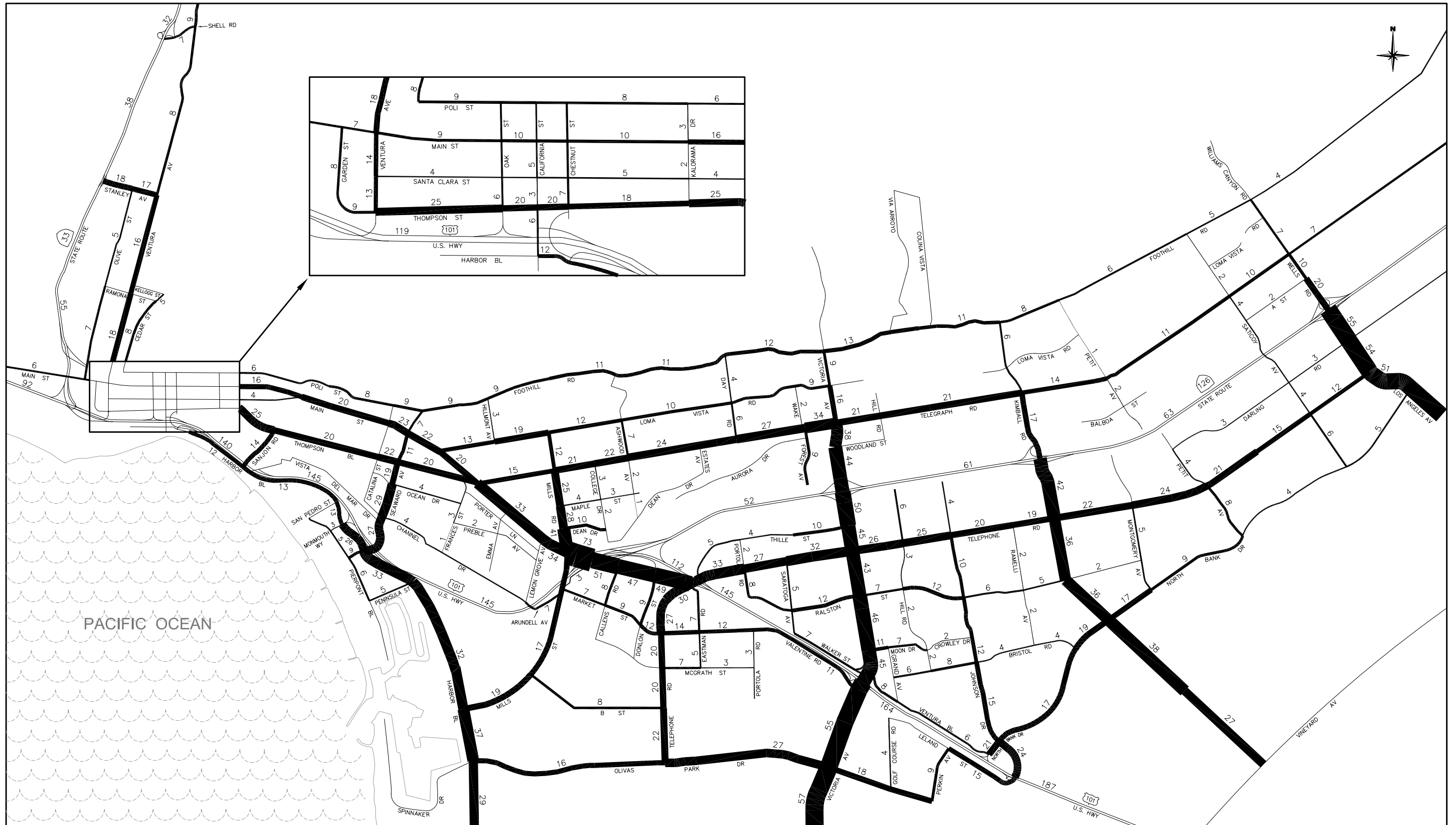


Figure 5-2
 2025 ADT VOLUMES (000s)
 - SCENARIO 2 (ALTERNATIVE NETWORK WITH
 SANTA CLARA RIVER CROSSING)

It is recommended that this extension be considered as part of the overall upgrade to the Johnson Drive interchange and vicinity. In particular, if a North Bank Drive connection to Bristol Road is constructed, then associated changes will need to be made at the intersection of Johnson Drive and on the various ramps serving the US-101. Since the Olivas Park Drive extension would aid this situation, it would be a valuable addition to the circulation system in this area. The year 2025 ADT volumes with the Olivas Park Drive extension are illustrated in Figure 5-3.

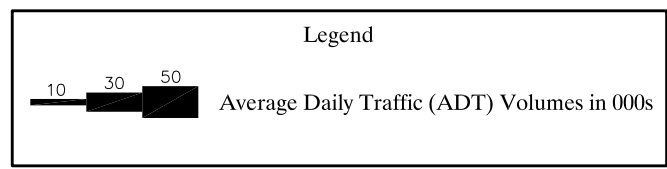
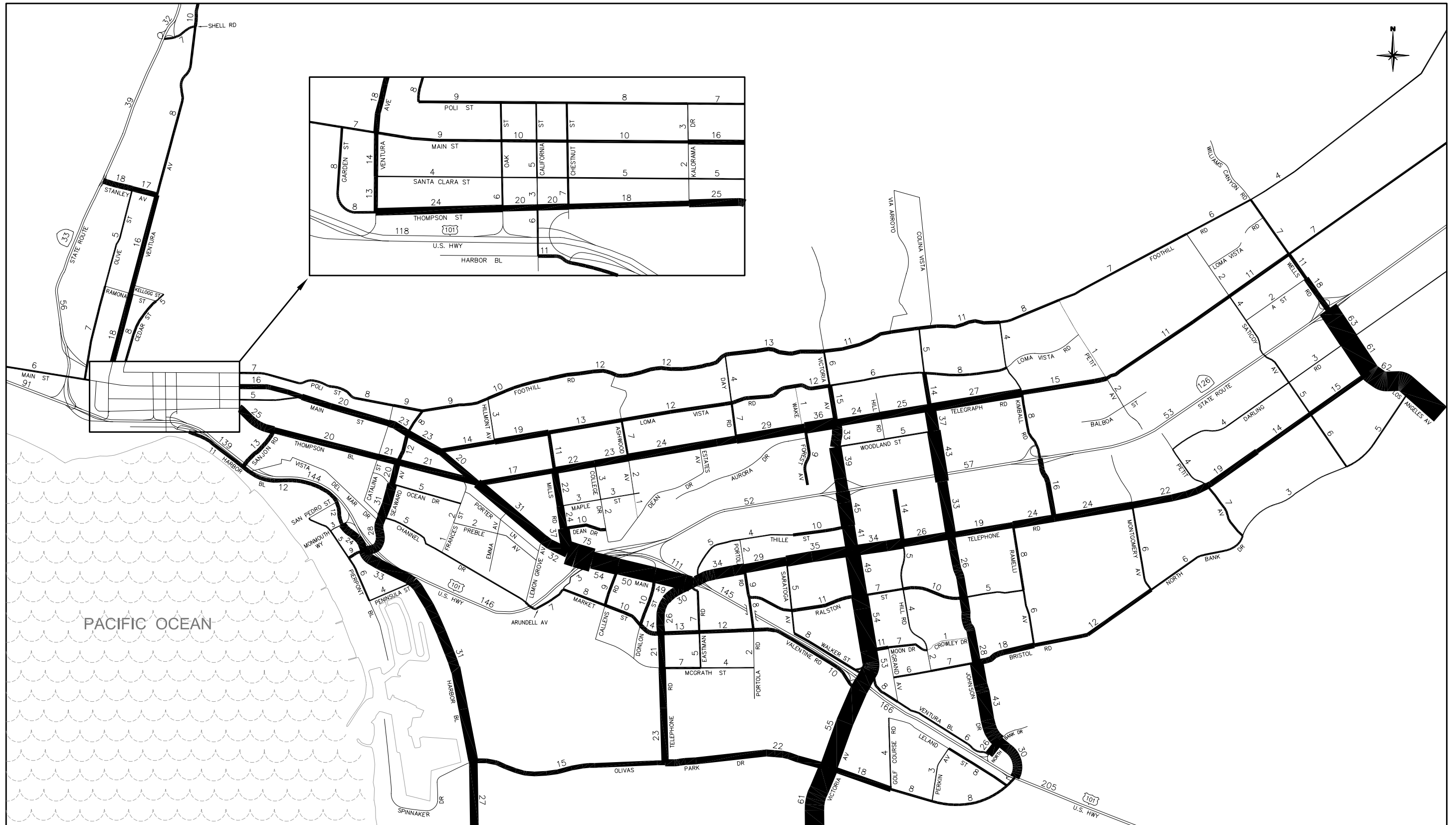


Figure 5-3
 2025 ADT VOLUMES (000s)
 - SCENARIO 6 (ALTERNATIVE NETWORK WITH OLIVAS PARK EXTENSION)

Appendix A

INTERSECTION CAPACITY UTILIZATION WORKSHEETS

This appendix contains information pertaining to the existing and future intersection analysis portion of the San Buenaventura traffic study. The sections that follow contain existing and future AM and PM peak hour intersection capacity utilization (ICU) worksheets for intersections in the traffic analysis study area. For intersections that require additional improvements, ICU worksheets with Non-Committed Improvements are included. The ICU data sets contained in the appendix are presented in the following order:

ICU DATA SETS

Scenario	Data Set
Existing	1
2025 Scenario 1 (Baseline Network)	2
2025 Scenario 2 (Baseline Network)	3
2025 Scenario 2 (Alternative Network)	4
2025 Scenario 3 (Baseline Network)	5
2025 Scenario 3 (Alternative Network)	6
2025 Scenario 4 (Baseline Network)	7
2025 Scenario 4 (Alternative Network)	8
2025 Scenario 5 (Baseline Network)	9
2025 Scenario 5 (Alternative Network)	10
2025 Scenario 6 (Baseline Network)	11
2025 Scenario 6 (Alternative Network)	12

ICU METHODOLOGY

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. The procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. Basic assumptions used in the calculation are as follows:

Saturation flow rate: 1,600 vehicles per hour per lane
Clearance Interval: none

A "de-facto" right-turn lane is used in the ICU calculation for cases where a curb lane is wide enough to separately serve both thru and right-turn traffic (typically with a width of 19 feet from curb to outside of thru-lane with parking prohibited during peak periods). Such lanes are treated the same as striped right-turn lanes during the ICU calculations, but they are denoted on the ICU calculation worksheets using the letter "d" in place of a numerical entry for right-turn lanes.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

Example For Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:

$$\text{RTOG} = \text{V/C (NBT)}$$

Otherwise,

$$\text{RTOG} = \text{V/C (NBL)} + \text{V/C (SBT)} - \text{V/C (SBL)}$$

2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:

$$\text{RTOR} = \text{V/C (WBL)}$$

Otherwise,

$$\text{RTOR} = \text{V/C (EBL)} + \text{V/C (WBT)} - \text{V/C (EBT)}$$

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

$$\text{RTOG} = \text{RTOG} + \text{V/C (WBL)}$$

$$\text{RTOR} = \text{RTOR} - \text{V/C (WBL)}$$

4. Total Right-Turn Capacity (RTC) Availability For NBR

$$\text{RTC} = \text{RTOG} + \text{factor} \times \text{RTOR}$$

Where factor = RTOR saturation flow factor (75%)

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) - RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

Shared Lane V/C Methodology

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/thru, thru/right, left/thru/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

Example for Shared Left/Thru Lane

1. Average Lane Volume (ALV)

$$ALV = \frac{\text{Left-Turn Volume} + \text{Thru Volume}}{\text{Total Left + Thru Approach Lanes (including shared lane)}}$$

2. ALV for Each Approach

$$ALV (\text{Left}) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}$$

$$ALV (\text{Thru}) = \frac{\text{Thru Volume}}{\text{Thru Approach Lanes (including shared lane)}}$$

3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and thru V/C ratios for this case are calculated as follows:

$$V/C (\text{Left}) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}$$

$$V/C \text{ (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (excluding shared lane)}}$$

Similarly, if ALV (Thru) is greater than ALV then full dedication to the thru approach is warranted, and left-turn and thru V/C ratios are calculated as follows:

$$V/C \text{ (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}$$

$$V/C \text{ (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (including shared lane)}}$$

4. Lane Dedication is not Warranted

If ALV (Left) and ALV (Thru) are both less than ALV, the left/thru lane is assumed to be truly shared and each left, left/thru or thru approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/thru V/C ratio is calculated as follows:

$$V/C \text{ (Left/Thru)} = \frac{\text{Left-Turn Volume} + \text{Thru Volume}}{\text{Total Left} + \text{Thru Approach Capacity (including shared lane)}}$$

This V/C (Left/Thru) ratio is assigned as the V/C (Thru) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Thru) that is attributed to the left-turn volume is estimated as follows:

If approach has more than one left-turn (including shared lane), then:

$$V/C \text{ (Left)} = V/C \text{ (Thru)}$$

If approach has only one left-turn lane (shared lane), then:

$$V/C \text{ (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared thru/right lanes. If full dedication of a shared thru/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity availability if the option to include right-turns in the V/C ratio calculations is selected. If the V/C value that is determined using the shared lane methodology described here is reduced due to RTOR and RTOG capacity availability, the V/C value for the thru/right lanes is posted in brackets.

When an approach contains more than one shared lane (e.g., left/thru and thru/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

Figure A-1 shows the intersections for which ICU calculations are made, and the actual calculation sheets follow.

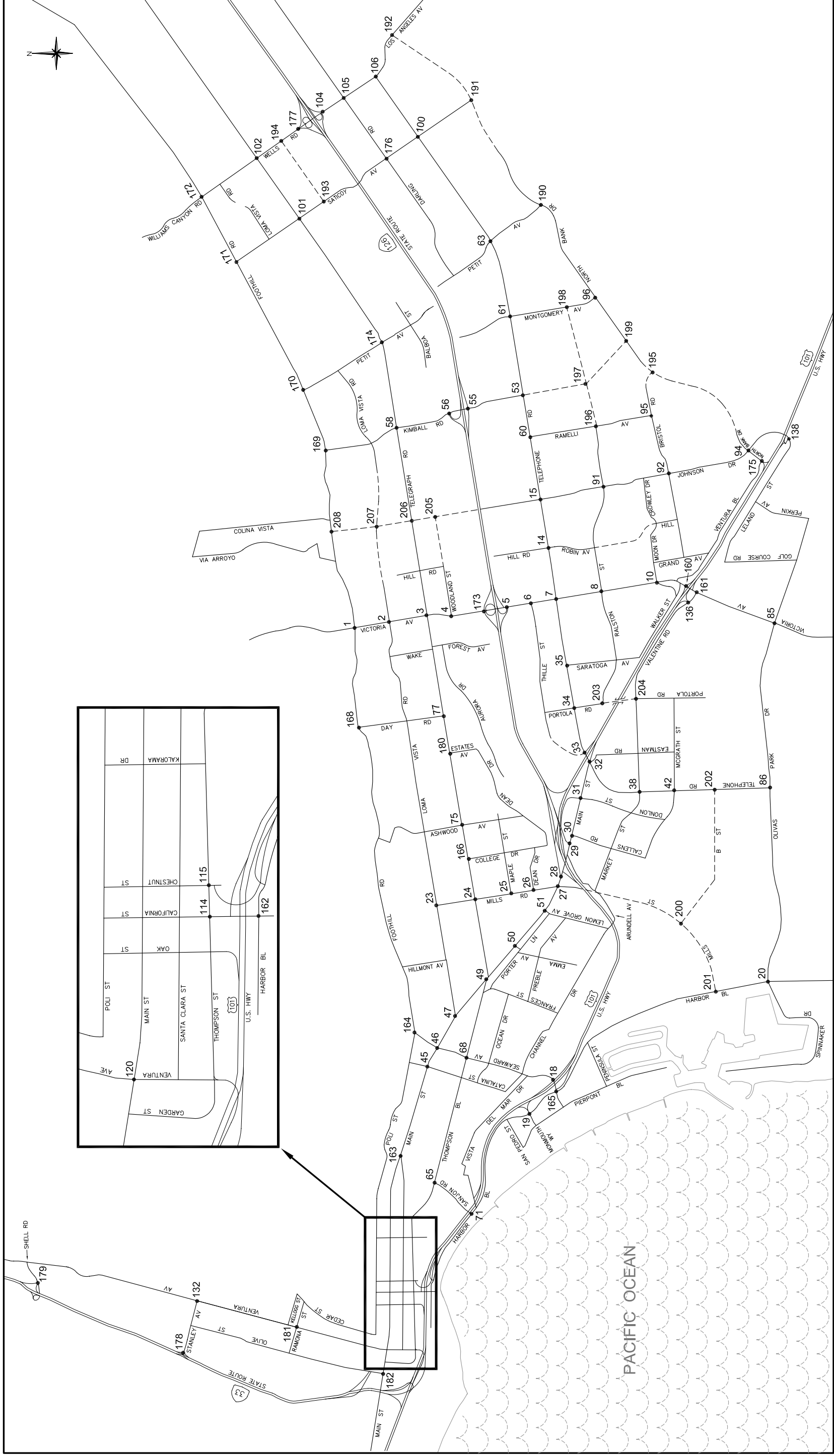


Figure A-1
INTERSECTION LOCATION MAP

EXISTING

1. Victoria & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	200	.13*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	200	.13	300	.19
SBL	1	1600	10	.01	10	.01
SBT	1	1600	50	.03*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	170	.11
EBT	1	1600	260	.16	400	.25*
EBR	1	1600	230	.14	20	.01
WBL	2	3200	390	.12	250	.08*
WBT	1	1600	520	.33*	310	.19
WBR	d	1600	10	.01	10	.01

TOTAL CAPACITY UTILIZATION .46 .47

2. Victoria & Loma Vista

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	210	.13*
NBT	2	3200	260	.08	470	.15
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	490	.15*	280	.09*
SBR	d	1600	80	.05	20	.01
EBL	0	0	70		20	
EBT	1	1600	30	.23*	30	.21*
EBR	0	0	270		280	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .51 .45

3. Victoria & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	640	.20*	1030	.32*
NBT	2	3200	510	.16	780	.24
NBR	1	1600	150	.09	220	.14
SBL	1	1600	140	.09	170	.11
SBT	3	4800	680	.14*	510	.11*
SBR	d	1600	40	.03	30	.02
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	380	{.16}*	660	{.21}*
EBR	1.5		630		750	
WBL	2	3200	220	.07*	150	.05*
WBT	2	3200	540	.17	400	.13
WBR	d	1600	50	.03	50	.03

TOTAL CAPACITY UTILIZATION .57 .69

4. Victoria & Woodland

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12*	50	.03
NBT	3	4800	1350	.30	1890	.41*
NBR	0	0	80		60	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1560	.33*	1430	.30
SBR	0	0	40		10	
EBL	0	0	20		20	
EBT	1	1600	10	.09*	10	.04*
EBR	0	0	120		30	
WBL	1.5		270		100	
WBT	0.5	3200	10	.10*	10	.04*
WBR	0		30		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .64 .50

5. Victoria & SR 126 SB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1300	.21	1950	.31*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2040	.33*	1590	.26
SBR	0	0	80		80	
EBL	1.5		190		260	
EBT	0.5	3200	180	.12*	120	.12*
EBR	1	1600	210	.13	280	.18
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	250	.16	520	.33
Right Turn Adjustment			Multi	.08*	Multi	.35*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .53 .78

6. Victoria & Thille

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	60	.04*
NBT	4	6400	1240	.26*	1790	.29
NBR	0	0	480	.30	70	
SBL	1	1600	180	.11*	40	.03
SBT	4	6400	1680	.31	1620	.29*
SBR	0	0	300		240	
EBL	1.5		230		240	
EBT	0.5	3200	30	.08*	10	.08*
EBR	1	1600	120	.08	190	.12
WBL	1	1600	30	.02	140	.09*
WBT	1	1600	10	.02*	40	.08
WBR	0	0	20		80	
Right Turn Adjustment			NBR	.02*	EBR	.01*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .49 .51

7. Victoria & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	330	.10
NBT	4	6400	1320	.25*	1200	.23*
NBR	0	0	260		250	
SBL	2	3200	350	.11*	290	.09*
SBT	4	6400	1340	.21	1300	.20
SBR	1	1600	250	.16	290	.18
EBL	2	3200	280	.09*	390	.12
EBT	3	4800	320	.09	710	.19*
EBR	0	0	120		210	
WBL	2	3200	340	.11	380	.12*
WBT	3	4800	570	.12*	530	.11
WBR	1	1600	160	.10	330	.21

TOTAL CAPACITY UTILIZATION .57 .63

8. Victoria & Ralston

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	320	.20*
NBT	4	6400	1400	.24	1660	.30
NBR	0	0	120		270	
SBL	1	1600	120	.08	220	.14
SBT	4	6400	1550	.26*	1790	.30*
SBR	0	0	100		110	
EBL	1	1600	50	.03	160	.10
EBT	1	1600	90	.06*	230	.14*
EBR	1	1600	260	.16	360	.23
WBL	1	1600	210	.13*	160	.10*
WBT	1	1600	180	.11	110	.07
WBR	1	1600	180	.11	110	.07

TOTAL CAPACITY UTILIZATION .59 .74

10. Victoria & Moon

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	100	.06
NBT	4	6400	1760	.29*	1820	.31*
NBR	0	0	70		160	
SBL	1	1600	70	.04*	170	.11*
SBT	4	6400	1680	.27	1940	.32
SBR	0	0	30		90	
EBL	1	1600	30	.02	80	.05
EBT	1	1600	40	.03*	60	.04*
EBR	1	1600	30	.02	80	.05
WBL	1	1600	220	.14*	110	.07*
WBT	1	1600	50	.03	40	.03
WBR	1	1600	90	.06	80	.05

TOTAL CAPACITY UTILIZATION .50 .53

14. Hill & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	80	.11*	30	.05*
NBR	0	0	40		30	
SBL	1	1600	60	.04*	230	.14*
SBT	1	1600	20	.01	60	.04
SBR	1	1600	100	.06	220	.14
EBL	1	1600	170	.11*	110	.07
EBT	3	4800	430	.10	1090	.24*
EBR	0	0	60		60	
WBL	1	1600	60	.04	30	.02*
WBT	3	4800	1030	.27*	630	.14
WBR	0	0	260		50	

TOTAL CAPACITY UTILIZATION .53 .45

15. Johnson & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	160	.05
NBT	2	3200	170	.08	150	.09*
NBR	0	0	100		210	.13
SBL	1	1600	40	.03	100	.06*
SBT	2	3200	120	.04*	170	.05
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	240	.07	860	.26*
EBR	0	0	110		370	
WBL	1	1600	200	.13	180	.11*
WBT	3	4800	1160	.25*	480	.11
WBR	0	0	60		50	

TOTAL CAPACITY UTILIZATION .42 .52

18. Seaward & US 101 NB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	360	.11*
NBT	2	3200	910	.28	830	.26
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	660	.21*	900	.28*
SBR	1	1600	210	.13	260	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	320	.10*	480	.15*
WBT	0	0	0		0	
WBR	2	3200	370	.12	410	.13

TOTAL CAPACITY UTILIZATION .47 .54

19. Monmouth/US 101 SB & Harbor

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	50	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		520		800	
SBT	0.5	3200	30	.18*	80	.29*
SBR	0		10		40	
EBL	1	1600	130	.08*	100	.06*
EBT	2	3200	220	.08	350	.12
EBR	0	0	20		30	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	310	.19*	380	.24*
WBR	1	1600	360	.23	340	.21

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .48 .62

20. Harbor & Olivas Park

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	60	.04*
NBT	2	3200	900	.28*	690	.22
NBR	1	1600	320	.20	140	.09
SBL	1	1600	90	.06*	60	.04
SBT	2	3200	470	.15	970	.30*
SBR	1	1600	80	.05	100	.06
EBL	1	1600	50	.03*	130	.08
EBT	2	3200	60	.02	120	.04*
EBR	d	1600	30	.02	80	.05
WBL	1	1600	40	.03	260	.16*
WBT	2	3200	50	.02*	110	.03
WBR	f		50		170	

TOTAL CAPACITY UTILIZATION .39 .54

23. Mills & Loma Vista

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		360	{.13}*	230	{.08}*
NBT	0.5	3200	70	.13	20	.08
NBR	1	1600	60	.04	100	.06
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	270	.08*	470	.15*
EBR	d	1600	220	.14	460	.29
WBL	1	1600	120	.08*	100	.06*
WBT	2	3200	330	.10	250	.08
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.08*

TOTAL CAPACITY UTILIZATION .33 .40

24. Mills & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	240	.15	140	.09*
NBT	1	1600	370	.23*	230	.14
NBR	1	1600	200	.13	340	.21
SBL	1	1600	60	.04*	90	.06
SBT	2	3200	300	.09	430	.13*
SBR	1	1600	20	.01	20	.01
EBL	1	1600	30	.02	30	.02
EBT	2	3200	340	.11*	610	.19*
EBR	1	1600	100	.06	120	.08
WBL	2	3200	210	.07*	230	.07*
WBT	2	3200	400	.14	410	.14
WBR	0	0	60		50	

TOTAL CAPACITY UTILIZATION .45 .48

25. Mills & Maple

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05*
NBT	2	3200	950	.33*	720	.26
NBR	0	0	100		100	
SBL	1	1600	60	.04*	100	.06
SBT	2	3200	590	.20	860	.29*
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	140		200	
WBT	1	1600	20	.10*	20	.14*
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .47 .48

26. Mills & Dean

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	190	.12*
NBT	2	3200	1170	.37*	830	.26
NBR	1	1600	270	.17	320	.20
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	610	.20	900	.29*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	40	.03*
EBR	1	1600	20	.01	200	.13
WBL	2	3200	340	.11*	260	.08*
WBT	1	1600	50	.05	50	.05
WBR	0	0	30		30	
Right Turn Adjustment					EBR	.01*

TOTAL CAPACITY UTILIZATION .51 .53

27. Mills & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	90	.08*	80	.07*
NBR	1	1600	220	.14	190	.12
SBL	2.5		930	{.22}*	1250	{.29}*
SBT	0.5	4800	80	.22	90	.29
SBR	0		40		30	
EBL	2	3200	80	.03*	100	.03
EBT	4	6400	780	.12	1020	.16*
EBR	1	1600	20	.01	30	.02
WBL	2	3200	160	.05	290	.09*
WBT	3	4800	1020	.21*	1070	.22
WBR	2	3200	1380	.43	1270	.40
Right Turn Adjustment			WBR	.05*		

TOTAL CAPACITY UTILIZATION .59 .61

28. US 101 NB Ramps & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	390	.12*	280	.09*
SBT	0	0	0		0	
SBR	3	4800	1620	.34	1270	.26
EBL	0	0	0		0	
EBT	3	4800	1660	.35*	2170	.45*
EBR	f		270		290	
WBL	2	3200	320	.10*	420	.13*
WBT	3	4800	940	.20	1360	.28
WBR	0	0	0		0	
Right Turn Adjustment			SBR	.03*		

TOTAL CAPACITY UTILIZATION .60 .67

29. SR 126 EB Ramps & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	260	.08	430	.13*
EBT	3	4800	1780	.37*	2210	.46
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1060	.22	1820	.38*
WBR	f		110		330	

TOTAL CAPACITY UTILIZATION .37 .51

30. Callens & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		150	{.05}*	490	{.16}*
NBT	0.5	3200	10	.05	10	.16
NBR	1	1600	70	.04	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	1550	.24*	2050	.32*
EBR	d	1600	220	.14	140	.09
WBL	2	3200	110	.03*	160	.05*
WBT	3	4800	1020	.21	1650	.35
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .34 .55

31. Donlon & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		120		390	
NBT	0	3200	0	.05*	0	.19*
NBR	0.5		30		220	
SBL	1.5		290		270	
SBT	0.5	3200	150	.14*	110	.12*
SBR	1	1600	180	.11	200	.13
EBL	0	0	0		0	
EBT	4	6400	1380	.22*	2040	.32*
EBR	d	1600	120	.08	130	.08
WBL	2	3200	120	.04*	200	.06*
WBT	3	4800	900	.19	1380	.29
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .69

32. Telephone & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	210	.07*	580	.18
NBT	2	3200	150	.05	620	.19*
NBR	1	1600	120	.08	260	.16
SBL	1.5		180	.11	400	{.19}*
SBT	1.5	4800	670	.21*	490	.19
SBR	f		650		840	
EBL	2	3200	400	.13	700	.22
EBT	3	4800	740	.15*	1200	.25*
EBR	f		250		420	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .43 .63

33. US 101 NB Ramps & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		570		470	
NBT	0.5	3200	10	.18*	10	.15*
NBR	1	1600	320	.20	420	.26
SBL	1	1600	10	.01*	10	.01*
SBT	0	0	0		0	
SBR	1	1600	10	.01	10	.01
EBL	1	1600	10	.01*	20	.01
EBT	3	4800	600	.13	1600	.33*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	920	.19*	1250	.26
WBR	0	0	10		20	
Right Turn Adjustment					NBR	.11*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .39 .60

34. Portola & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	180	.06*	230	.07*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	20	.01	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	290	.18	180	.11
EBL	1	1600	70	.04*	330	.21*
EBT	3	4800	540	.11	1340	.28
EBR	d	1600	180	.11	250	.16
WBL	1	1600	20	.01	80	.05
WBT	3	4800	620	.13*	730	.16*
WBR	0	0	10		40	
Right Turn Adjustment					SBR	.14*

TOTAL CAPACITY UTILIZATION .38 .45

35. Saratoga & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	30	.02
NBT	1	1600	10	.08*	20	.07*
NBR	0	0	110		90	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	20	.04	30	.03
SBR	0	0	40		20	
EBL	1	1600	10	.01*	40	.03
EBT	3	4800	600	.13	1280	.27*
EBR	d	1600	40	.03	80	.05
WBL	1	1600	50	.03	80	.05*
WBT	2	3200	660	.21*	800	.25
WBR	1	1600	20	.01	50	.03

TOTAL CAPACITY UTILIZATION .32 .42

38. Telephone & Market

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09	110	.07
NBT	3	4800	390	.08*	690	.14*
NBR	d	1600	80	.05	60	.04
SBL	1	1600	220	.14*	170	.11*
SBT	3	4800	260	.05	460	.10
SBR	d	1600	160	.10	150	.09
EBL	1	1600	110	.07	260	.16*
EBT	1	1600	200	.13*	170	.11
EBR	1	1600	80	.05	180	.11
WBL	1	1600	40	.03*	90	.06
WBT	1	1600	80	.05	260	.16*
WBR	1	1600	110	.07	380	.24

TOTAL CAPACITY UTILIZATION .38 .57

42. Telephone & McGrath

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08	90	.06*
NBT	3	4800	470	.10*	630	.13
NBR	d	1600	210	.13	80	.05
SBL	1	1600	90	.06*	70	.04
SBT	2	3200	180	.06	640	.20*
SBR	1	1600	60	.04	40	.03
EBL	1	1600	20	.01	60	.04
EBT	1	1600	60	.04*	30	.02*
EBR	1	1600	70	.04	180	.11
WBL	1	1600	40	.03*	210	.13*
WBT	1	1600	30	.02	110	.07
WBR	1	1600	70	.04	150	.09
Right Turn Adjustment			NBR	.01*	EBR	.04*
TOTAL CAPACITY UTILIZATION				.24		.45

45. Catalina & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	40	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	200	.06*	60	.02*
SBT	1	1600	10	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		20		20	
EBT	1.5	3200	600	.20*	640	.21*
EBR	0		10		20	
WBL	1	1600	10	.01	20	.01
WBT	2	3200	470	.19*	630	.23*
WBR	0	0	140		100	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.48		.48

46. Seaward & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08*	140	.09*
NBT	1	1600	150	.09	180	.11
NBR	1	1600	250	.16	200	.13
SBL	1	1600	30	.02	50	.03
SBT	1	1600	120	.08*	110	.07*
SBR	1	1600	190	.12	50	.03
EBL	1	1600	120	.08	90	.06
EBT	2	3200	530	.17*	520	.16*
EBR	1	1600	160	.10	120	.08
WBL	0.5		90		150	
WBT	1.5	3200	410	.16*	550	.23*
WBR	0		20		50	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.49		.55

47. Main & Loma Vista

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	340	.11*	470	.15*
NBR	f		40		40	
SBL	1	1600	500	.31*	280	.18*
SBT	2	3200	430	.14	540	.18
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	40	{.02}*	100	{.06}*
WBT	1	1600	30	.04	40	.09
WBR	2	3200	290	.09	340	.11
TOTAL CAPACITY UTILIZATION				.48		.44

49. Main & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		270		520	
NBT	1.5	4800	480	.16*	520	.22*
NBR	f		190		90	
SBL	1.5		170		260	
SBT	1.5	4800	350	.11*	570	.18*
SBR	0		30		40	
EBL	0	0	0		0	
EBT	2	3200	350	.11*	440	.14
EBR	f		510		600	
WBL	0	0	0		0	
WBT	1.5	4800	330	.10	460	.14*
WBR	1.5		150	.09	200	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .38 .54

50. Emma & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	70	.04	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	740	.23*	1050	.33*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	70	.04*	90	.06*
WBT	3	4800	860	.18	1220	.25
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .31 .41

51. Lemon Grove & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		40		60	
NBT	1.5	3200	20	.04*	20	.04*
NBR	0		90	.06	60	
SBL	1.5		30		80	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	760	.24*	1000	.31*
EBR	d	1600	50	.03	50	.03
WBL	1	1600	30	.02*	50	.03*
WBT	3	4800	850	.19	1040	.23
WBR	0	0	50		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .31 .41

53. Kimball & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	270	.08*	550	.17*
SBT	0	0	0		0	
SBR	2	3200	940	.29	540	.17
EBL	2	3200	290	.09*	590	.18*
EBT	3	4800	290	.06	890	.19
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	750	.23*	590	.18*
WBR	1	1600	700	.44	410	.26
Right Turn Adjustment			Multi	.29*		

TOTAL CAPACITY UTILIZATION .69 .53

55. Kimball & SR 126 EB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1360	.28*	800	.17*
NBR	f		130		200	
SBL	1	1600	40	.03*	30	.02*
SBT	3	4800	1200	.25	780	.16
SBR	0	0	0		0	
EBL	2	3200	120	.04*	470	.15*
EBT	0	0	10		0	
EBR	f		230		540	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .34

56. Kimball & SR 126 WB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	230	.07
NBT	3	4800	820	.17	840	.18*
NBR	d	1600	70	.04	200	.13
SBL	1	1600	10	.01	10	.01*
SBT	3	4800	680	.14*	540	.11
SBR	d	1600	200	.13	120	.08
EBL	1.5		30		30	
EBT	0.5	3200	10	.01*	10	.01*
EBR	1	1600	400	.25	160	.10
WBL	0	0	160		110	
WBT	1	1600	110	.17*	70	.11*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.10*	EBR	.03*

TOTAL CAPACITY UTILIZATION .60 .34
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	150	.05*	150	.05*
NBT	2	3200	110	.03	190	.06
NBR	1	1600	80	.05	180	.11
SBL	1	1600	40	.03	60	.04
SBT	2	3200	170	.05*	150	.05*
SBR	1	1600	20	.01	30	.02
EBL	1	1600	20	.01	20	.01
EBT	2	3200	170	.05*	440	.14*
EBR	1	1600	80	.05	230	.14
WBL	2	3200	200	.06*	160	.05*
WBT	2	3200	290	.09	240	.08
WBR	1	1600	20	.01	30	.02
Right Turn Adjustment					NBR	.01*

TOTAL CAPACITY UTILIZATION .21 .30

60. Ramelli & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	0	0	0		0	
NBR	1	1600	200	.13	400	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.00	0	.00
EBT	3	4800	320	.08	1080	.24*
EBR	0	0	40		60	
WBL	1	1600	320	.20	260	.16*
WBT	3	4800	1320	.28*	840	.18
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.12*

TOTAL CAPACITY UTILIZATION .29 .53

61. Montgomery & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	130	.08*
NBT	1	1600	80	.05	10	.01
NBR	d	1600	20	.01	20	.01
SBL	1	1600	10	.01	10	.01
SBT	1	1600	40	.03*	20	.01*
SBR	1	1600	90	.06	30	.02
EBL	1	1600	20	.01*	50	.03
EBT	2	3200	460	.14	740	.23*
EBR	d	1600	90	.06	140	.09
WBL	1	1600	80	.05	60	.04*
WBT	2	3200	1020	.32*	600	.19
WBR	1	1600	10	.01	10	.01
Right Turn Adjustment			SBR	.02*		

TOTAL CAPACITY UTILIZATION .54 .36

63. Petit & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09
NBT	1	1600	40	.14*	50	.19*
NBR	0	0	180		260	
SBL	1	1600	40	.03*	30	.02*
SBT	1	1600	60	.04	50	.03
SBR	1	1600	110	.07	70	.04
EBL	1	1600	80	.05*	80	.05
EBT	2	3200	300	.09	680	.21*
EBR	d	1600	90	.06	210	.13
WBL	1	1600	140	.09	250	.16*
WBT	2	3200	660	.21*	510	.16
WBR	d	1600	20	.01	60	.04

TOTAL CAPACITY UTILIZATION .43 .58

65. Sanjon & Thompson

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	340	.11*
NBT	0	0	0		0	
NBR	1	1600	130	.08	190	.12
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	380	.17*	570	.23*
EBR	0	0	170		170	
WBL	1	1600	120	.08*	100	.06*
WBT	2	3200	500	.16	580	.18
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .40

68. Seaward & Thompson

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06	180	.11*
NBT	2	3200	470	.15*	410	.13
NBR	d	1600	240	.15	260	.16
SBL	1	1600	70	.04*	70	.04
SBT	2	3200	320	.10	350	.11*
SBR	d	1600	40	.03	60	.04
EBL	1	1600	30	.02	60	.04
EBT	2	3200	510	.18*	640	.24*
EBR	0	0	80		120	
WBL	2	3200	170	.05*	280	.09*
WBT	2	3200	430	.13	580	.18
WBR	1	1600	50	.03	70	.04

TOTAL CAPACITY UTILIZATION .42 .55

71. Sanjon & Harbor

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	170	.11*	280	.18*
SBT	0	0	0		0	
SBR	1	1600	70	.04	100	.06
EBL	1	1600	40	.03*	110	.07*
EBT	1	1600	110	.07	460	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	210	.13*	450	.28*
WBR	1	1600	420	.26	160	.10
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.32		.53

75. Ashwood & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	70	.04*
NBR	d	1600	40	.03	60	.04
SBL	1	1600	70	.04*	160	.10*
SBT	1	1600	40	.03	60	.04
SBR	1	1600	90	.06	110	.07
EBL	1	1600	90	.06*	140	.09
EBT	2	3200	500	.16	780	.24*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	70	.04*
WBT	2	3200	500	.16*	560	.18
WBR	d	1600	90	.06	80	.05
TOTAL CAPACITY UTILIZATION				.29		.42

77. Day & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	190	.06*	280	.09*
SBT	0	0	0		0	
SBR	1	1600	100	.06	100	.06
EBL	1	1600	100	.06*	60	.04*
EBT	2	3200	500	.16	870	.27
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	880	.28*	780	.24*
WBR	d	1600	310	.19	220	.14
TOTAL CAPACITY UTILIZATION				.40		.37

85. Victoria & Olivas Park

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	480	.30	380	.24*
NBT	2	3200	1650	.52*	1270	.40
NBR	1	1600	360	.23	300	.19
SBL	1	1600	260	.16*	120	.08
SBT	2	3200	840	.26	1230	.38*
SBR	f		40		60	
EBL	1	1600	60	.04	100	.06
EBT	2	3200	90	.03*	100	.03*
EBR	f		90		700	
WBL	1	1600	100	.06*	230	.14*
WBT	1	1600	30	.02	110	.07
WBR	f		50		160	
TOTAL CAPACITY UTILIZATION				.77		.79

86. Telephone & Olivas Park

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	0	0	190	{.12}*	620	{.39}*
SBT	1	1600	10	.13	10	.39
SBR	d	1600	140	.09	380	.24
EBL	1	1600	360	.23*	260	.16*
EBT	1	1600	110	.07	170	.11
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	130	.08*	140	.09*
WBR	1	1600	400	.25	400	.25
Right Turn Adjustment			WBR	.08*		

TOTAL CAPACITY UTILIZATION .53 .66

91. Johnson & Ralston

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08*	140	.09*
NBT	1	1600	360	.23	420	.26
NBR	d	1600	30	.02	70	.04
SBL	1	1600	40	.03	50	.03
SBT	1	1600	460	.29*	560	.35*
SBR	d	1600	80	.05	50	.03
EBL	1	1600	40	.03*	90	.06
EBT	1	1600	90	.06	220	.14*
EBR	d	1600	100	.06	190	.12
WBL	1	1600	60	.04	60	.04*
WBT	1	1600	200	.13*	110	.07
WBR	d	1600	80	.05	50	.03

TOTAL CAPACITY UTILIZATION .53 .62

92. Johnson & Bristol

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	90	.06*
NBT	1	1600	420	.26	580	.36
NBR	f		190		870	
SBL	1	1600	10	.01	20	.01
SBT	1	1600	610	.39*	740	.48*
SBR	0	0	20		20	
EBL	1	1600	10	.01	20	.01
EBT	1	1600	20	.01*	200	.13*
EBR	1	1600	120	.08	160	.10
WBL	2	3200	870	.27*	400	.13*
WBT	1	1600	160	.10	120	.08
WBR	d	1600	40	.03	30	.02
Right Turn Adjustment			EBR	.05*		

TOTAL CAPACITY UTILIZATION .74 .80

94. Johnson & North Bank

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	90	.06*
NBT	3	4800	140	.03	370	.08
NBR	d	1600	10	.01	60	.04
SBL	1	1600	0	.00	30	.02
SBT	2	3200	1190	.37*	1000	.31*
SBR	1	1600	220	.14	180	.11
EBL	2.5		400	.08*	1380	.29*
EBT	1.5	6400	40	.03	170	.11
EBR	1	1600	310	.19	250	.16
WBL	1.5		90	.03	110	
WBT	1.5	4800	30	.02*	70	.04*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.10*		

TOTAL CAPACITY UTILIZATION .60 .70

95. Bristol & Ramelli

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01*
NBT	1	1600	30	.03*	10	.01
NBR	0	0	10		10	
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	10	.01	20	.01*
SBR	1	1600	290	.18	150	.09
EBL	1	1600	50	.03*	140	.09*
EBT	2	3200	140	.05	450	.14
EBR	0	0	10		10	
WBL	1	1600	10	.01	10	.01
WBT	2	3200	650	.22*	260	.09*
WBR	0	0	40		30	
Right Turn Adjustment			SBR	.13*	SBR	.01*

TOTAL CAPACITY UTILIZATION .42 .21

96. Montgomery & North Bank

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	110	.07*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	280	.18	130	.08
EBL	1	1600	60	.04*	130	.08*
EBT	2	3200	90	.03	310	.10
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	310	.19*	190	.12*
WBR	d	1600	180	.11	80	.05
Right Turn Adjustment			SBR	.10*		

TOTAL CAPACITY UTILIZATION .39 .29

100. Saticoy & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10	80	.05*
NBT	1	1600	190	.12*	90	.06
NBR	1	1600	170	.11	120	.08
SBL	1	1600	180	.11*	70	.04
SBT	1	1600	90	.06	110	.07*
SBR	1	1600	180	.11	160	.10
EBL	1	1600	120	.08*	150	.09
EBT	2	3200	280	.09	570	.18*
EBR	1	1600	80	.05	150	.09
WBL	1	1600	100	.06	180	.11*
WBT	2	3200	270	.12*	550	.19
WBR	0	0	110		60	

TOTAL CAPACITY UTILIZATION .43 .41

101. Saticoy & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	140		50	
NBT	1	1600	80	.16*	40	.08*
NBR	0	0	40		30	
SBL	0	0	10		10	
SBT	1	1600	60	.08*	40	.04*
SBR	0	0	50		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	220	.19*	340	.28*
EBR	0	0	90		110	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	220	.14	250	.16
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .46 .42

102. Wells & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	230	.14*
NBT	1	1600	110	.07	220	.14
NBR	1	1600	60	.04	170	.11
SBL	1	1600	10	.01	20	.01
SBT	1	1600	250	.16*	160	.10*
SBR	1	1600	40	.03	20	.01
EBL	1	1600	20	.01	40	.03
EBT	1	1600	70	.18*	140	.20*
EBR	0	0	220		180	
WBL	1	1600	170	.11*	120	.08*
WBT	1	1600	140	.11	120	.09
WBR	0	0	30		20	

TOTAL CAPACITY UTILIZATION .54 .52

104. Wells & SR 126 EB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	600	.19	970	.30
NBR	f		550		1050	
SBL	0	0	0		0	
SBT	2	3200	1890	.59*	1270	.40*
SBR	f		80		60	
EBL	1	1600	80	.05*	190	.12*
EBT	0	0	0		0	
EBR	1	1600	220	.14	360	.23
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.09*	EBR	.11*

TOTAL CAPACITY UTILIZATION .73 .63

105. Wells & Darling

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	40	.03
NBT	2	3200	950	.30	1980	.62*
NBR	d	1600	0	.00	30	.02
SBL	1	1600	50	.03	90	.06*
SBT	2	3200	1750	.55*	1400	.44
SBR	d	1600	50	.03	40	.03
EBL	0	0	100		60	
EBT	1	1600	20	.13*	20	.08*
EBR	0	0	80		40	
WBL	1	1600	20	.01*	30	.02*
WBT	1	1600	20	.03	20	.04
WBR	0	0	30		40	

TOTAL CAPACITY UTILIZATION .72 .78

106. Wells & Telephone

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	570	.18
NBT	2	3200	940	.30	1950	.63*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	2	3200	1790	.56*	1330	.42
SBR	1	1600	120	.08	310	.19
EBL	1.5		120		180	
EBT	0.5	3200	0	.04*	0	.06*
EBR	2	3200	590	.18	450	.14
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.08*		
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .78 .72

114. California & Thompson

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		460		420	
NBT	0.5	3200	330	.25*	220	.20*
NBR	1	1600	200	.13	160	.10
SBL	1.5		90		140	
SBT	1.5	4800	50	.04*	160	.07*
SBR	0		40		30	
EBL	1	1600	20	.01	30	.02
EBT	2	3200	640	.22*	730	.25*
EBR	0	0	50		80	
WBL	1	1600	20	.01*	30	.02*
WBT	2	3200	350	.12	400	.14
WBR	0	0	30		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .52 .54

115. Chestnut & Thompson

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	80	.05
SBT	1	1600	210	.14*	310	.22*
SBR	0	0	10		40	
EBL	1	1600	80	.05	80	.05
EBT	2	3200	470	.15*	510	.16*
EBR	f		340		470	
WBL	1	1600	190	.12*	170	.11*
WBT	2	3200	420	.14	470	.16
WBR	0	0	40		50	

TOTAL CAPACITY UTILIZATION .42 .50

120. Ventura & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	60	.04
NBT	1	1600	280	.18*	560	.35*
NBR	1	1600	10	.01	40	.03
SBL	1	1600	100	.06*	120	.08*
SBT	1	1600	340	.21	340	.21
SBR	1	1600	60	.04	40	.03
EBL	1	1600	30	.02*	140	.09*
EBT	1	1600	140	.09	210	.13
EBR	d	1600	30	.02	30	.02
WBL	1	1600	10	.01	20	.01
WBT	1	1600	140	.09*	130	.08*
WBR	1	1600	150	.09	150	.09

TOTAL CAPACITY UTILIZATION .35 .60

132. Ventura & Stanley

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13*	200	.13*
NBT	1	1600	240	.15	390	.24
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	420	.26*	330	.21*
SBR	1	1600	370	.23	240	.15
EBL	1	1600	250	.16*	430	.27*
EBT	0	0	0		0	
EBR	1	1600	160	.10	200	.13
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .55 .61

136. US 101 SB Ramps & Valentine

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		290	.09*	410	.13*
SBT	0	4800	0		0	
SBR	1.5		50		20	
EBL	1	1600	60	.04*	350	.22*
EBT	2	3200	140	.04	650	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	860	.27*	300	.09*
WBR	f		790		920	

TOTAL CAPACITY UTILIZATION .40 .44

138. Johnson & US 101 SB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	410	.26*
NBT	1	1600	110	.07	350	.22
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	460	.29*	230	.14*
SBR	f		1130		1130	
EBL	1	1600	90	.06*	170	.11*
EBT	0	0	0		0	
EBR	1	1600	110	.07	80	.05
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .51

160. Victoria & US 101 NB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	440	.14*	410	.13*
NBT	3	4800	1270	.26	1490	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2090	.33*	1940	.30*
SBR	1	1600	200	.13	440	.28
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		500		370	
WBT	0	6400	0	{.19}*	0	{.17}*
WBR	2.5		940		880	

TOTAL CAPACITY UTILIZATION .66 .60

161. Victoria & Valentine

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	150	.05*	150	.05*
NBT	3	4800	1440	.30	1470	.32
NBR	0	0	20		50	
SBL	1	1600	30	.02	50	.03
SBT	2	3200	940	.29*	1110	.35*
SBR	f		1620		1150	
EBL	2.5		300		680	
EBT	0.5	4800	40	.07*	30	.15*
EBR	1	1600	140	.09	350	.22
WBL	0	0	10		20	
WBT	1	1600	10	.01*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment			WBR	.01*	EBR	.03*

TOTAL CAPACITY UTILIZATION .43 .61
Note: Assumes E/W Split Phasing

162. California & Harbor

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	80	.05*	240	.15*
SBT	0	0	0		0	
SBR	1	1600	50	.03	60	.04
EBL	1	1600	10	.01	60	.04
EBT	1	1600	170	.11*	220	.14*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	120	.05	160	.07
WBR	0	0	40		60	

TOTAL CAPACITY UTILIZATION .16 .29

163. Santa Clara & Main

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	190	.06	190	.06
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	270	.09*	400	.13*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	90	.06*
WBT	2	3200	350	.12	400	.13
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .23 .23

164. Seaward & Poli

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	150		120	
NBT	1	1600	0	.17*	0	.18*
NBR	0	0	120		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.09*	320	.20*
EBR	d	1600	70	.04	100	.06
WBL	1	1600	210	.13*	90	.06*
WBT	1	1600	190	.12	250	.16
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .39 .44

165. Seaward & Harbor

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	60	.04
NBT	2	3200	350	.12*	320	.12*
NBR	0	0	20		50	
SBL	2	3200	380	.12*	580	.18*
SBT	2	3200	200	.06	360	.11
SBR	1	1600	360	.23	450	.28
EBL	2	3200	380	.12*	370	.12
EBT	2	3200	360	.12	850	.28*
EBR	0	0	20		50	
WBL	1	1600	10	.01	20	.01*
WBT	2	3200	220	.07*	260	.08
WBR	2	3200	950	.30	810	.25
Right Turn Adjustment			WBR	.14*		

TOTAL CAPACITY UTILIZATION .57 .59

166. College & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.07*	0	.06*
NBR	0	0	70		70	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	570	.20*	870	.29*
EBR	0	0	60		70	
WBL	1	1600	100	.06*	50	.03*
WBT	2	3200	600	.19	660	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .38

168. Day & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13*	230	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	250	.16
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	440	.40*	440	.41*
EBR	0	0	200		220	
WBL	1	1600	230	.14*	210	.13*
WBT	1	1600	400	.31	400	.28
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .71 .72

169. Kimball & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	310	.19*	130	.08*
NBT	0	0	0		0	
NBR	1	1600	30	.02	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	180	.24*	300	.31*
EBR	0	0	210		190	
WBL	1	1600	50	.03*	20	.01*
WBT	1	1600	410	.26	170	.11
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .46 .40

170. Petit & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		10	{.01}*
NBT	1	1600	0	.04*	0	.01
NBR	0	0	10		10	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	160	.10*
EBR	1	1600	20	.01	20	.01
WBL	0	0	10		10	{.01}*
WBT	1	1600	340	.22*	150	.10
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .26 .12

171. Saticoy & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	130		50	
NBT	1	1600	0	.09*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.12	200	.18*
EBR	0	0	50		80	
WBL	0	0	20		20	{.01}*
WBT	1	1600	260	.18*	140	.10
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .27 .23

172. Wells & Foothill

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	100	.06*
NBT	0	0	10		10	
NBR	1	1600	40	.03	50	.03
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	50	.04	90	.06*
EBR	1	1600	100	.06	110	.07
WBL	0	0	60		30	{.02}*
WBT	1	1600	120	.12*	40	.05
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .22 .16

173. Victoria & SR 126 WB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1190	.28	1880	.46*
NBR	0	0	170		330	
SBL	0	0	0		0	
SBT	3	4800	1760	.40*	1340	.30
SBR	0	0	150		110	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	360	.23	330	.21
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment		Multi		.25*	Multi	.15*

TOTAL CAPACITY UTILIZATION .65 .61

174. Petit & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	40	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	20	.01	20	.01
SBT	1	1600	10	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	300	.09	460	.14
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	420	.26*	270	.17*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .34 .24

175. Ventura & Northbank

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	60		60	
SBT	1	1600	0	.07*	0	.11*
SBR	0	0	50		110	
EBL	1	1600	160	.10	300	.19
EBT	1	1600	710	.44*	1770	1.11*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	270	.17	310	.19
WBR	1	1600	40	.03	40	.03

TOTAL CAPACITY UTILIZATION .51 1.22

176. Saticoy & Darling

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	{.01}*
NBT	1	1600	160	.11*	140	.09
NBR	1	1600	90	.06	30	.02
SBL	0	0	50	{.03}*	10	
SBT	1	1600	160	.13	160	.11*
SBR	1	1600	50	.03	80	.05
EBL	0	0	70		50	
EBT	1	1600	90	.13*	60	.09*
EBR	0	0	40		40	
WBL	0	0	60	{.04}*	40	{.02}*
WBT	1	1600	40	.08	70	.08
WBR	0	0	20		10	

TOTAL CAPACITY UTILIZATION .31 .23

177. Wells & SR 126 WB Ramps

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	440	.14	860	.27*
NBR	f		240		300	
SBL	0	0	0		0	
SBT	2	3200	760	.24*	560	.18
SBR	f		250		120	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1210		770	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	130	.08	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .24 .33

178. SR-33 Ramps & Stanley

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	500	.31	640	.40
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	230	.14	150	.09
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	460	.29*	600	.38*
WBR	f		150		120	
Right Turn Adjustment					NBR	.20*
					NBR	.18*

TOTAL CAPACITY UTILIZATION .49 .56

179. SR-33 Ramps & Shell

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	430		520	
SBT	1	1600	0	.28*	0	.33*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	80	.06
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	610	.42*	480	.36*
WBR	0	0	60		100	

TOTAL CAPACITY UTILIZATION .71 .70

180. Estates & Telegraph

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03
NBT	1	1600	10	.04	10	.07*
NBR	0	0	60		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	550	.17*	790	.25*
EBR	d	1600	50	.03	50	.03
WBL	1	1600	40	.03*	90	.06*
WBT	2	3200	600	.19	790	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .26 .39

181. Ventura & Ramona

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	1	1600	310	.21	570	.37*
NBR	0	0	20		20	
SBL	1	1600	60	.04	50	.03*
SBT	1	1600	410	.26*	460	.30
SBR	0	0	10		20	
EBL	0	0	10	{.01}*	30	{.02}*
EBT	1	1600	10	.02	10	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	10	.02*	10	.03*
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .31 .45

182. Olive & Main St

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	520	.33*	320	.20*
SBT	1	1600	20	.04	30	.05
SBR	0	0	50		50	
EBL	0	0	50	{.03}*	200	
EBT	1	1600	70	.08	200	.25*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	150	.10*	110	.08
WBR	1	1600	210	.13	340	.21

TOTAL CAPACITY UTILIZATION .47 .47

SCENARIO 1

1. Victoria & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	250	.16*
NBT	1	1600	10	.01	80	.05
NBR	1	1600	190	.12	330	.21
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	300	.19	460	.29*
EBR	1	1600	220	.14	30	.02
WBL	2	3200	450	.14	260	.08*
WBT	1	1600	570	.36*	330	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .50 .54

2. Victoria & Loma Vista

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	260	.16*
NBT	2	3200	270	.08	550	.17
NBR	d	1600	10	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	530	.17*	300	.09*
SBR	d	1600	100	.06	20	.01
EBL	0	0	70		30	
EBT	1	1600	30	.23*	30	.24*
EBR	0	0	270		320	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .55 .51

3. Victoria & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1160	.36*
NBT	2	3200	540	.17	900	.28
NBR	1	1600	140	.09	200	.13
SBL	1	1600	160	.10	200	.13
SBT	3	4800	710	.15*	550	.11*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	360	{.16}*	740	{.23}*
EBR	1.5		680		780	{.22}
WBL	2	3200	330	.10*	210	.07*
WBT	2	3200	580	.18	340	.11
WBR	d	1600	60	.04	60	.04

TOTAL CAPACITY UTILIZATION .62 .77

4. Victoria & Woodland

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	60	.04
NBT	3	4800	1410	.31	2110	.47*
NBR	0	0	80		130	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1780	.38*	1580	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.10*	10	.04*
EBR	0	0	140		30	
WBL	1.5		260		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .71 .56

5. Victoria & SR 126 SB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1370	.22	2610	.41*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2540	.41*	1840	.30
SBR	0	0	70		90	
EBL	1.5		240		160	
EBT	0.5	3200	190	.13*	130	.09*
EBR	1	1600	220	.14	240	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	250	.16	550	.34
Right Turn Adjustment Multi			.03*	WBR	.34*	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .57 .84

6. Victoria & Thille

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1300	.27	2460	.39*
NBR	0	0	460	.29	50	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2140	.39*	1840	.32
SBR	0	0	370		230	
EBL	1.5		240		290	
EBT	0.5	3200	30	.08*	10	.09*
EBR	1	1600	120	.08	190	.12
WBL	1	1600	30	.02	120	.08
WBT	1	1600	10	.02*	60	.09*
WBR	0	0	20		80	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .52 .60

7. Victoria & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	330	.10
NBT	4	6400	1300	.25	1580	.27*
NBR	0	0	270		130	
SBL	2	3200	340	.11	350	.11*
SBT	4	6400	1780	.28*	1360	.21
SBR	1	1600	300	.19	370	.23
EBL	2	3200	320	.10*	680	.21*
EBT	3	4800	330	.08	840	.20
EBR	0	0	60		120	
WBL	2	3200	220	.07	310	.10
WBT	3	4800	700	.15*	610	.13*
WBR	1	1600	170	.11	320	.20

TOTAL CAPACITY UTILIZATION .63 .72

8. Victoria & Ralston

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	400	.25*
NBT	4	6400	1450	.24	1890	.33
NBR	0	0	70		220	
SBL	1	1600	100	.06	210	.13
SBT	4	6400	1820	.30*	1810	.30*
SBR	0	0	110		110	
EBL	1	1600	40	.03	120	.08
EBT	1	1600	110	.07*	230	.14*
EBR	1	1600	230	.14	320	.20
WBL	1	1600	250	.16*	130	.08*
WBT	1	1600	230	.14	130	.08
WBR	1	1600	190	.12	120	.08

TOTAL CAPACITY UTILIZATION .69 .77

10. Victoria & Moon

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1820	.30	2170	.39*
NBR	0	0	120		330	
SBL	1	1600	40	.03	120	.08*
SBT	4	6400	1950	.31*	1870	.33
SBR	0	0	20		260	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	180	.11
WBL	1	1600	280	.18*	150	.09*
WBT	1	1600	120	.08	50	.03
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .56 .62

14. Hill & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		30	
NBT	1	1600	100	.10*	60	.14*
NBR	0	0	10		140	
SBL	1	1600	50	.03*	250	.16*
SBT	1	1600	30	.02	60	.04
SBR	1	1600	60	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	480	.11	1160	.28*
EBR	0	0	60		180	
WBL	1	1600	190	.12	30	.02*
WBT	3	4800	1090	.29*	700	.16
WBR	0	0	280		60	

TOTAL CAPACITY UTILIZATION .53 .60

15. Johnson & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	170	.11	230	.14*
NBR	0	0	170		410	.26
SBL	1	1600	30	.02	100	.06*
SBT	2	3200	180	.06*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	200	.06	1020	.31*
EBR	0	0	170	.11	450	
WBL	1	1600	400	.25	360	.23*
WBT	3	4800	1370	.30*	530	.12
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .49 .74

18. Seaward & US 101 NB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	570	.18*
NBT	2	3200	920	.29	950	.30
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	760	.24*	1050	.33*
SBR	1	1600	230	.14	260	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	390	.12*	360	.11*
WBT	0	0	0		0	
WBR	2	3200	410	.13	450	.14

TOTAL CAPACITY UTILIZATION .52 .62

19. Monmouth/US 101 SB & Harbor

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		640		940	
SBT	0.5	3200	30	.21*	70	.33*
SBR	0		10		40	
EBL	1	1600	150	.09*	140	.09*
EBT	2	3200	360	.12	410	.14
EBR	0	0	20		30	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	560	.35*
WBR	1	1600	310	.19	330	.21

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .80

20. Harbor & Olivas Park

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	130	.08*
NBT	2	3200	920	.29*	1100	.34
NBR	1	1600	380	.24	190	.12
SBL	2	3200	170	.05*	160	.05
SBT	2	3200	710	.22	1180	.37*
SBR	1	1600	140	.09	120	.08
EBL	1	1600	70	.04*	170	.11
EBT	2	3200	140	.04	200	.06*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	50	.03	400	.25*
WBT	2	3200	110	.03*	150	.05
WBR	f		50		370	

TOTAL CAPACITY UTILIZATION .41 .76

23. Mills & Loma Vista

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		380	{.14}*	290	{.10}*
NBT	0.5	3200	70	.14	20	.10
NBR	1	1600	30	.02	50	.03
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01*	10	.01
EBT	2	3200	330	.10	670	.21*
EBR	d	1600	320	.20	530	.33
WBL	1	1600	60	.04	60	.04*
WBT	2	3200	450	.14*	370	.12
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.04*

TOTAL CAPACITY UTILIZATION .33 .42

24. Mills & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	170	.11*
NBT	1	1600	430	.27*	240	.15
NBR	1	1600	200	.13	350	.22
SBL	1	1600	60	.04*	140	.09
SBT	2	3200	370	.12	480	.15*
SBR	1	1600	10	.01	20	.01
EBL	1	1600	20	.01	20	.01
EBT	2	3200	350	.11*	600	.19*
EBR	1	1600	80	.05	160	.10
WBL	2	3200	260	.08*	220	.07*
WBT	2	3200	430	.16	480	.17
WBR	0	0	80		70	

TOTAL CAPACITY UTILIZATION .50 .52

25. Mills & Maple

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05*
NBT	2	3200	1000	.34*	810	.29
NBR	0	0	100		110	
SBL	1	1600	60	.04*	110	.07
SBT	2	3200	720	.24	950	.32*
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	220		220	
WBT	1	1600	20	.15*	20	.15*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .53 .52

26. Mills & Dean

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	150	.09*
NBT	2	3200	1220	.38*	910	.28
NBR	1	1600	270	.17	380	.24
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	810	.26	1000	.32*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	180	.11
WBL	2	3200	410	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	

Right Turn Adjustment EBR .02*

TOTAL CAPACITY UTILIZATION .54 .53

27. Mills & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	80	.07*
NBR	1	1600	340	.21	230	.14
SBL	2.5		1200		1340	
SBT	0.5	4800	80	.28*	90	.30*
SBR	0		40		20	
EBL	2	3200	100	.03*	100	.03*
EBT	4	6400	1070	.17	1240	.19
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	370	.12
WBT	3	4800	1180	.25*	1560	.33*
WBR	2	3200	1430	.45	1400	.44

Right Turn Adjustment NBR .07*
Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .69 .73

28. US 101 NB Ramps & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	580	.18*	320	.10*
SBT	0	0	0		0	
SBR	3	4800	1740	.36	1470	.31
EBL	0	0	0		0	
EBT	3	4800	2290	.48*	2670	.56*
EBR	f		320		160	
WBL	2	3200	380	.12*	540	.17*
WBT	3	4800	1050	.22	1850	.39
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .78 .83

29. SR 126 EB Ramps & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	270	.08	460	.14*
EBT	3	4800	2550	.53*	2800	.58
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1240	.26	2440	.51*
WBR	f		130		310	

TOTAL CAPACITY UTILIZATION .53 .65

30. Callens & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	640	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2260	.35*	2530	.40*
EBR	d	1600	290	.18	240	.15
WBL	2	3200	90	.03*	180	.06*
WBT	3	4800	1200	.25	2090	.44
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .46 .68

31. Donlon & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		580	
NBT	0	3200	0	.06*	0	.24*
NBR	0.5		30		180	
SBL	1.5		370		340	
SBT	0.5	3200	140	.16*	80	.13*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1960	.31*	2490	.39*
EBR	d	1600	210	.13	220	.14
WBL	2	3200	110	.03*	250	.08*
WBT	3	4800	1060	.22	1630	.34
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .84

32. Telephone & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08	710	.22
NBT	2	3200	240	.08*	1000	.31*
NBR	1	1600	80	.05	280	.18
SBL	1.5		250	.16	470	
SBT	1.5	4800	970	.30*	680	.24*
SBR	f		740		990	
EBL	2	3200	460	.14	760	.24
EBT	3	4800	1100	.23*	1500	.31*
EBR	f		390		450	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .61 .86

33. US 101 NB Ramps & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		660		520	
NBT	0.5	3200	30	.22*	70	.18*
NBR	1	1600	270	.17	400	.25
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		230	
EBL	1	1600	20	.01*	280	.18*
EBT	3	4800	710	.15	1860	.39
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	980	.21*	1390	.29*
WBR	0	0	10		20	
Right Turn Adjustment					NBR	.01*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .56 .67

34. Portola & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	310	.10*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	140	.09	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	610	.13	1660	.35*
EBR	d	1600	200	.13	290	.18
WBL	1	1600	20	.01	70	.04*
WBT	3	4800	820	.18*	890	.19
WBR	0	0	20		40	
Right Turn Adjustment					SBR	.06*

TOTAL CAPACITY UTILIZATION .36 .50

35. Saratoga & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	20	.01
NBT	1	1600	10	.08*	60	.15*
NBR	0	0	110		180	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	30	.02	30	.02
SBR	1	1600	20	.01	20	.01
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	590	.12	1540	.32*
EBR	d	1600	80	.05	160	.10
WBL	1	1600	50	.03	90	.06*
WBT	3	4800	890	.19*	950	.21
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .30 .56

38. Telephone & Market

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	210	.13
NBT	3	4800	530	.11*	870	.18*
NBR	d	1600	90	.06	100	.06
SBL	1	1600	460	.29*	160	.10*
SBT	3	4800	270	.06	680	.14
SBR	d	1600	170	.11	160	.10
EBL	1	1600	60	.04	220	.14*
EBT	1	1600	270	.17*	240	.15
EBR	1	1600	150	.09	310	.19
WBL	1	1600	50	.03*	160	.10
WBT	1	1600	130	.08	360	.23*
WBR	1	1600	120	.08	600	.38
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .60 .72

42. Telephone & McGrath

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	230	.14*
NBT	3	4800	660	.14	940	.20
NBR	d	1600	280	.18	100	.06
SBL	1	1600	60	.04	70	.04
SBT	2	3200	310	.10*	1060	.33*
SBR	1	1600	60	.04	40	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	30	.02*
EBR	1	1600	120	.08	330	.21
WBL	1	1600	60	.04*	280	.18*
WBT	1	1600	30	.02	90	.06
WBR	1	1600	60	.04	160	.10
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	50	.04*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	70	.02*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	760	.25*	800	.26
EBR	0		10		10	
WBL	1	1600	10	.01*	50	.03
WBT	2	3200	500	.21	820	.30*
WBR	0	0	160		130	
TOTAL CAPACITY UTILIZATION			.38		.35	

46. Seaward & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	220	.14*
NBT	1	1600	160	.10	170	.11
NBR	1	1600	320	.20	270	.17
SBL	1	1600	30	.02	60	.04
SBT	1	1600	140	.09*	90	.06*
SBR	1	1600	190	.12	90	.06
EBL	1	1600	120	.08	80	.05
EBT	2	3200	690	.22*	630	.20*
EBR	1	1600	190	.12	180	.11
WBL	0.5		100		150	
WBT	1.5	3200	490	.19*	710	.29*
WBR	0		20		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.53		.69	

47. Main & Loma Vista

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	290	.09*	480	.15*
NBR	f		40		190	
SBL	1	1600	580	.36*	420	.26*
SBT	2	3200	550	.18	570	.18
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	370	.12	480	.15
TOTAL CAPACITY UTILIZATION			.52		.54	

49. Main & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		280	.18	690	
NBT	1.5	4800	680	.21*	800	.31*
NBR	f		150		110	
SBL	1.5		210		360	
SBT	1.5	4800	460	.15*	800	.25*
SBR	0		30		50	
EBL	0	0	0		0	
EBT	2	3200	300	.09	410	.13
EBR	f		730		680	
WBL	0	0	0		0	
WBT	1.5	4800	330	.10*	470	{.15}*
WBR	1.5		150		320	{.01}

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .46 .71

50. Emma & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1070	.33*	1360	.43*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	50	.03*	90	.06*
WBT	3	4800	1030	.21	1690	.35
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .51

51. Lemon Grove & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		40	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	30	
SBL	1.5		30		80	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1080	.34*	1250	.39*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	1000	.22	1500	.32
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .41 .47

53. Kimball & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	260	.08*	500	.16*
SBT	0	0	0		0	
SBR	2	3200	1230	.38	650	.20
EBL	2	3200	260	.08*	960	.30*
EBT	3	4800	310	.06	980	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	890	.28*	650	.20*
WBR	1	1600	670	.42	360	.23

Right Turn Adjustment Multi .32*

TOTAL CAPACITY UTILIZATION .76 .66

55. Kimball & SR 126 EB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1340	.28	860	.18*
NBR	f		120		420	
SBL	1	1600	30	.02	30	.02*
SBT	3	4800	1480	.31*	880	.18
SBR	0	0	0		0	
EBL	2	3200	120	.04*	400	.13*
EBT	0	0	10		0	
EBR	f		240		530	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.35		.33	

56. Kimball & SR 126 WB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	580	.18*	260	.08*
NBT	3	4800	810	.17	780	.16
NBR	d	1600	60	.04	230	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	710	.15*	550	.11*
SBR	d	1600	190	.12	100	.06
EBL	1.5		40		30	
EBT	0.5	3200	10	.02*	10	.01*
EBR	1	1600	620	.39	240	.15
WBL	0	0	180		120	
WBT	1	1600	120	.19*	70	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.23*	EBR	.08*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.77		.40	

58. Kimball & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	150	.05*	80	.03
NBT	2	3200	90	.03	180	.06*
NBR	1	1600	90	.06	180	.11
SBL	1	1600	30	.02	60	.04*
SBT	2	3200	180	.06*	170	.05
SBR	1	1600	30	.02	30	.02
EBL	1	1600	10	.01*	30	.02
EBT	2	3200	180	.06	570	.18*
EBR	1	1600	70	.04	220	.14
WBL	2	3200	200	.06	130	.04*
WBT	2	3200	380	.12*	320	.10
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			NBR		.02*	
TOTAL CAPACITY UTILIZATION			.24		.34	

60. Ramelli & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	170	.11	520	.33
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	340	.08	1420	.31*
EBR	0	0	40		80	
WBL	1	1600	380	.24	190	.12*
WBT	3	4800	1700	.35*	1070	.22
WBR	0	0	0		0	
Right Turn Adjustment			NBR		.22*	
TOTAL CAPACITY UTILIZATION			.38		.67	

61. Montgomery & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	70	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	20	.01	140	.09
SBL	1	1600	20	.01	20	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	20	.01
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	510	.16	770	.24*
EBR	d	1600	90	.06	120	.08
WBL	1	1600	100	.06	70	.04*
WBT	2	3200	1090	.34*	680	.21
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*	NBR	.01*
TOTAL CAPACITY UTILIZATION				.58		.35

63. Petit & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	160	.10
NBT	1	1600	40	.11	70	.19*
NBR	0	0	130		240	
SBL	1	1600	30	.02	30	.02*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	90	.06*	80	.05
EBT	2	3200	320	.10	770	.24*
EBR	d	1600	80	.05	240	.15
WBL	1	1600	150	.09	210	.13*
WBT	2	3200	760	.24*	520	.16
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION				.46		.58

65. Sanjon & Thompson

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	490	.15*	580	.18*
NBT	0	0	0		0	
NBR	1	1600	190	.12	230	.14
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	480	.24*	710	.31*
EBR	0	0	280		270	
WBL	1	1600	150	.09*	160	.10*
WBT	2	3200	520	.16	740	.23
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.48		.59

68. Seaward & Thompson

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06	210	.13*
NBT	2	3200	530	.17*	530	.17
NBR	d	1600	220	.14	190	.12
SBL	1	1600	100	.06*	50	.03
SBT	2	3200	380	.12	490	.15*
SBR	d	1600	70	.04	70	.04
EBL	1	1600	110	.07	90	.06
EBT	2	3200	620	.22*	820	.29*
EBR	0	0	70		100	
WBL	2	3200	180	.06*	260	.08*
WBT	2	3200	420	.13	780	.24
WBR	1	1600	40	.03	60	.04
TOTAL CAPACITY UTILIZATION				.51		.65

71. Sanjon & Harbor

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	210	.13*	370	.23*
SBT	0	0	0		0	
SBR	1	1600	80	.05	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	230	.14	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	260	.16*	560	.35*
WBR	1	1600	470	.29	270	.17
Right Turn Adjustment			WBR	.03*		
TOTAL CAPACITY UTILIZATION				.36		.66

75. Ashwood & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	100	.06*
NBR	d	1600	40	.03	70	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	70	.04
SBR	1	1600	130	.08	120	.08
EBL	1	1600	80	.05*	150	.09
EBT	2	3200	520	.16	850	.27*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	540	.17*	620	.19
WBR	d	1600	110	.07	90	.06
TOTAL CAPACITY UTILIZATION				.29		.48

77. Day & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	250	.08*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	90	.06	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	500	.16	900	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	950	.30*	790	.25
WBR	d	1600	310	.19	270	.17
TOTAL CAPACITY UTILIZATION				.44		.39

85. Victoria & Olivas Park

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21	590	.18*
NBT	3	4800	1840	.38*	1780	.37
NBR	1	1600	510	.32	450	.28
SBL	2	3200	480	.15*	210	.07
SBT	3	4800	1500	.31	1590	.33*
SBR	f		50		90	
EBL	2	3200	130	.04	170	.05
EBT	2	3200	160	.05*	230	.07*
EBR	f		190		970	
WBL	1	1600	130	.08*	350	.22*
WBT	2	3200	50	.02	380	.12
WBR	f		120		190	
TOTAL CAPACITY UTILIZATION				.66		.80

86. Telephone & Olivas Park

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	370	.12*	970	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	160	.10	660	.41
EBL	2	3200	470	.15*	390	.12*
EBT	2	3200	210	.07	280	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	180	.06*	270	.08*
WBR	1	1600	570	.36	750	.47
Right Turn Adjustment			WBR	.21*	Multi	.17*
TOTAL CAPACITY UTILIZATION				.56		.69

91. Johnson & Ralston

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	130	.08*
NBT	2	3200	480	.15	780	.24
NBR	d	1600	20	.01	180	.11
SBL	1	1600	40	.03	60	.04
SBT	2	3200	770	.24*	880	.28*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	90	.06
EBT	1	1600	90	.06	210	.13*
EBR	d	1600	110	.07	260	.16
WBL	1	1600	90	.06	60	.04*
WBT	1	1600	230	.14*	90	.06
WBR	d	1600	90	.06	50	.03
TOTAL CAPACITY UTILIZATION				.47		.53

92. Johnson & Bristol

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	530	.17	980	.31
NBR	f		190		1110	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	980	.31*	1140	.36*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	280	.18*
EBR	1	1600	130	.08	190	.12
WBL	2	3200	1020	.32*	450	.14*
WBT	1	1600	260	.16	160	.10
WBR	d	1600	30	.02	10	.01
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.71		.73

94. Johnson & North Bank

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	70	.04*
NBT	3	4800	160	.03	510	.11
NBR	d	1600	20	.01	180	.11
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1580	.38*	1390	.33*
SBR	0	0	240		170	
EBL	2.5		450	.09*	1780	.37*
EBT	1.5	6400	70	.04	340	.21
EBR	1	1600	410	.26	320	.20
WBL	1.5		140		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.14*		
TOTAL CAPACITY UTILIZATION				.70		.82

95. Bristol & Ramelli

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01
NBT	1	1600	20	.02*	10	.02*
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02*
SBT	1	1600	20	.01	30	.02
SBR	1	1600	280	.18	110	.07
EBL	1	1600	10	.01*	150	.09*
EBT	2	3200	190	.06	670	.21
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01
WBT	2	3200	900	.30*	380	.13*
WBR	0	0	60		30	
Right Turn Adjustment			SBR	.15*		

TOTAL CAPACITY UTILIZATION .49 .26

96. Montgomery & North Bank

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	120	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	380	.24	170	.11
EBL	1	1600	90	.06*	320	.20*
EBT	2	3200	120	.04	380	.12
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	470	.29*	270	.17*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.14*		

TOTAL CAPACITY UTILIZATION .55 .47

100. Saticoy & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	190	.12*	90	.06
SBT	1	1600	120	.08	150	.09*
SBR	1	1600	260	.16	160	.10
EBL	1	1600	120	.08*	180	.11*
EBT	2	3200	220	.07	650	.20
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	320	.14*	470	.17*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .47 .46

101. Saticoy & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		80	
NBT	1	1600	70	.18*	50	.10*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	190	.17*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	270	.17	290	.18
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .47 .51

102. Wells & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	260	.16*
NBT	1	1600	120	.08	280	.18
NBR	1	1600	50	.03	260	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	270	.17*	200	.13*
SBR	1	1600	50	.03	30	.02
EBL	1	1600	20	.01	40	.03
EBT	1	1600	50	.17*	190	.26*
EBR	0	0	220		220	
WBL	1	1600	310	.19*	130	.08*
WBT	1	1600	150	.10	110	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .63 .63

104. Wells & SR 126 EB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	870	.18	1430	.30
NBR	f		600		1560	
SBL	0	0	0		0	
SBT	3	4800	2660	.55*	1730	.36*
SBR	f		80		60	
EBL	1	1600	90	.06*	320	.20*
EBT	0	0	0		0	
EBR	1	1600	160	.10	600	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.04*	EBR	.18*

TOTAL CAPACITY UTILIZATION .65 .74

105. Wells & Darling

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1250	.26	2830	.59*
NBR	d	1600	60	.04	170	.11
SBL	1	1600	120	.08	340	.21*
SBT	3	4800	2420	.50*	1830	.38
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	100		40	
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .69 1.06

106. Wells & Telephone

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	420	.13
NBT	3	4800	1230	.26	2900	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2510	.52*	1930	.40
SBR	1	1600	130	.08	420	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	540	.17	530	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .72 .73

114. California & Thompson

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		30		30	
NBT	0.5	3200	10	.01*	20	.02*
NBR	1	1600	60	.04	80	.05
SBL	1.5		130		170	
SBT	1.5	4800	70	.04*	160	.07*
SBR	0		10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	820	.30*	930	.32*
EBR	0	0	130		100	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	310	.10	400	.14
WBR	0	0	10		60	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .39 .46

115. Chestnut & Thompson

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	90	.06
SBT	1	1600	260	.17*	320	.22*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	550	.17*	700	.22*
EBR	f		390		510	
WBL	1	1600	210	.13*	230	.14*
WBT	2	3200	450	.15	630	.22
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .48 .59

120. Ventura & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	70	.04
NBT	1	1600	350	.22*	670	.42*
NBR	1	1600	10	.01	30	.02
SBL	1	1600	120	.08*	140	.09*
SBT	1	1600	360	.23	370	.23
SBR	1	1600	60	.04	40	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	150	.09*	280	.18
EBR	d	1600	40	.03	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	180	.11*
WBR	1	1600	160	.10	140	.09

TOTAL CAPACITY UTILIZATION .40 .71

132. Ventura & Stanley

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	350	.22*	290	.18*
NBT	1	1600	260	.16	350	.22
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	370	.23*
SBR	1	1600	520	.33	380	.24
EBL	1	1600	390	.24*	670	.42*
EBT	0	0	0		0	
EBR	1	1600	220	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .75 .83

136. US 101 SB Ramps & Valentine

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		380	.12*	460	.14*
SBT	0	4800	0		0	
SBR	1.5		80	.05	20	
EBL	1	1600	100	.06*	430	.27*
EBT	2	3200	200	.06	750	.23
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	950	.30*	390	.12*
WBR	f		830		900	

TOTAL CAPACITY UTILIZATION .48 .53

138. Johnson & US 101 SB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	680	.43*
NBT	1	1600	130	.08	480	.30
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	580	.36*	400	.25*
SBR	f		1530		1580	
EBL	1	1600	110	.07*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	110	.07	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .52 .84

160. Victoria & US 101 NB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	530	.17*	520	.16*
NBT	3	4800	1380	.29	1890	.39
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2690	.42*	2210	.35*
SBR	1	1600	130	.08	360	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	710	.22*	490	.15*
WBT	0	0	0		0	
WBR	3	4800	910	.19	1150	.24

TOTAL CAPACITY UTILIZATION .81 .66

161. Victoria & Valentine

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	190	.06*
NBT	3	4800	1650	.35	2080	.44
NBR	0	0	20		50	
SBL	1	1600	40	.03	40	.03
SBT	2	3200	1640	.51*	1490	.47*
SBR	f		1670		1190	
EBL	2.5		320		740	
EBT	0.5	4800	50	.08*	30	.16*
EBR	1	1600	250	.16	450	.28
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .69 .78

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	190	.12*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	50	.03
EBL	1	1600	20	.01	80	.05
EBT	1	1600	230	.14*	260	.16*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	170	.07	230	.10
WBR	0	0	50		100	

TOTAL CAPACITY UTILIZATION .26 .36

163. Santa Clara & Main

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	250	.08	230	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	340	.11*	480	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	170	.11*
WBT	2	3200	360	.12	520	.17
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .30

164. Seaward & Poli

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.21*
NBR	0	0	130		170	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.09*	350	.22*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	230	.14*	110	.07*
WBT	1	1600	170	.11	290	.18
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .50

165. Seaward & Harbor

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	80	.05
NBT	2	3200	360	.13*	310	.12*
NBR	0	0	40		60	
SBL	2	3200	570	.18*	640	.20*
SBT	2	3200	200	.06	320	.10
SBR	1	1600	320	.20	470	.29
EBL	2	3200	430	.13*	360	.11
EBT	2	3200	560	.18	1100	.36*
EBR	0	0	20		50	
WBL	1	1600	10	.01	30	.02*
WBT	2	3200	270	.08*	450	.14
WBR	2	3200	900	.28	1190	.37
Right Turn Adjustment			WBR	.06*		

TOTAL CAPACITY UTILIZATION .58 .70

166. College & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.06*
NBR	0	0	60		80	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	580	.20*	920	.31*
EBR	0	0	60		80	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	690	.22	700	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .40

168. Day & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	280	.18
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	250	.16*	230	.14*
WBT	1	1600	420	.32	420	.29
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .74 .76

169. Kimball & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	20	.01	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	200	.26	400	.36*
EBR	0	0	210		180	
WBL	1	1600	60	.04	20	.01*
WBT	1	1600	530	.33*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .45

170. Petit & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	110		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	130	.12	310	.25*
EBR	0	0	60		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	420	.28*	170	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .30

172. Wells & Foothill

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	210	.14*
EBR	1	1600	90	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .26

173. Victoria & SR 126 WB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1230	.30	2130	.52*
NBR	0	0	220		350	
SBL	0	0	0		0	
SBT	3	4800	1980	.45*	1530	.34
SBR	0	0	180		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	630	.39	410	.26
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	160	.10
Right Turn Adjustment		Multi		.41*	Multi	.22*

TOTAL CAPACITY UTILIZATION .86 .74

174. Petit & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	600	.19
EBR	1	1600	60	.04	80	.05
WBL	1	1600	10	.01	10	.01
WBT	1	1600	520	.33*	330	.21*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .42 .28

175. Ventura & North Bank

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		40	
SBT	1	1600	0	.10*	0	.10*
SBR	0	0	80		120	
EBL	1	1600	160	.10*	540	.34
EBT	2	3200	910	.28	2500	.78*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	370	.23
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .41 .88

176. Saticoy & Darling

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	150	.10	230	.15*
NBR	1	1600	110	.07	30	.02
SBL	0	0	50		10	{.01}*
SBT	1	1600	250	.19*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		60	
EBT	1	1600	70	.11*	60	.10*
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	{.03}*
WBT	1	1600	20	.08	60	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .35 .29

177. Wells & SR 126 WB Ramps

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1360	.43*
NBR	f		410		380	
SBL	0	0	0		0	
SBT	2	3200	1050	.33*	740	.23
SBR	f		420		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1690		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	190	.12	110	.07
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .33 .50

178. SR-33 Ramps & Stanley

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	700	.44	850	.53
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	250	.16	170	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.45*	920	.58*
WBR	f		170		140	
Right Turn Adjustment			NBR	.22*	NBR	.18*

TOTAL CAPACITY UTILIZATION .67 .76

179. SR-33 Ramps & Shell

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	550		610	
SBT	1	1600	0	.36*	0	.39*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	130	.09	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	660	.46*	620	.46*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .83 .86

180. Estates & Telegraph

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	50	.03
NBT	1	1600	10	.05	10	.06*
NBR	0	0	70		90	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	820	.26*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	670	.21*	800	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .29 .39

181. Ventura & Ramona

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	40	.03
NBT	1	1600	350	.23*	620	.40*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	390	.25	470	.31
SBR	0	0	10		30	
EBL	0	0	20	{.01}*	20	{.01}*
EBT	1	1600	10	.03	10	.03
EBR	0	0	10		10	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .32 .49

182. Olive & Main St

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	560	.35*	400	.25*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	80	{.05}*	280	
EBT	1	1600	80	.10	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	160	.11*	150	.10
WBR	1	1600	180	.11	440	.28

TOTAL CAPACITY UTILIZATION .52 .58

190. Petit Av & North Bank Dr

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	250	.16	230	.14
EBL	1	1600	60	.04*	280	.18*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	80	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.10*		
TOTAL CAPACITY UTILIZATION				.20	.26	

191. Saticoy Av & North Bank Dr

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01*
NBT	1	1600	30	.03	20	.02
NBR	0	0	20		10	
SBL	1	1600	20	.01	50	.03
SBT	1	1600	10	.03*	30	.04*
SBR	0	0	30		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	90	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	70	.02*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.05*
TOTAL CAPACITY UTILIZATION				.08	.15	

192. Los Angeles Av & North Bank

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1410	.29	3110	.65*
NBR	d	1600	20	.01	70	.04
SBL	1	1600	110	.07	160	.10*
SBT	3	4800	2800	.58*	2230	.46
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	20	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*
TOTAL CAPACITY UTILIZATION				.71	.85	

193. Saticoy Av & A St

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	240	.15*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01
TOTAL CAPACITY UTILIZATION				.17	.13	

194. Wells Rd & A St

2025 Scenario 1 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	380	.13	860	.32*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	810	.26*	580	.18
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	110	.07	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.04*		
TOTAL CAPACITY UTILIZATION				.43		.41

**NON-COMMITTED
IMPROVEMENTS**

94. Johnson & North Bank

2025 Scenario 1 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	70	.04*
NBT	3	4800	160	.03	510	.11
NBR	d	1600	20	.01	180	.11
SBL	1	1600	10	.01	70	.04
SBT	2	3200	1580	.49*	1390	.43*
SBR	1	1600	240	.15	170	.11
EBL	2.5		450	.09*	1780	.37*
EBT	1.5	6400	70	.04	340	.21
EBR	1	1600	410	.26	320	.20
WBL	1.5		140		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.14*		

TOTAL CAPACITY UTILIZATION .81 .92

105. Wells & Darling

2025 Scenario 1 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1250	.26	2830	.59*
NBR	d	1600	60	.04	170	.11
SBL	2	3200	120	.04	340	.11*
SBT	3	4800	2420	.50*	1830	.38
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	60	.02	290	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .63 .88

161. Victoria & Valentine

2025 Scenario 1 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	190	.06*
NBT	3	4800	1650	.35	2080	.44
NBR	0	0	20		50	
SBL	1	1600	40	.03	40	.03
SBT	2	3200	1640	.51*	1490	.47*
SBR	f		1670		1190	
EBL	2.5		320		740	
EBT	0.5	4800	50	.08*	30	.16*
EBR	2	3200	250	.08	450	.14
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .69 .72

162. California & Harbor

2025 Scenario 1 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	190	.12*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	50	.03
EBL	1	1600	20	.01	80	.05
EBT	1	1600	230	.14*	260	.16*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	170	.07	230	.10
WBR	0	0	50		100	

TOTAL CAPACITY UTILIZATION .26 .36

SCENARIO 2

1. Victoria & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	240	.15*
NBT	1	1600	10	.01	80	.05
NBR	1	1600	180	.11	340	.21
SBL	1	1600	10	.01	10	.01
SBT	1	1600	70	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	300	.19	460	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	450	.14	250	.08*
WBT	1	1600	570	.36*	340	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .50 .53

2. Victoria & Loma Vista

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	260	.16*
NBT	2	3200	260	.08	560	.18
NBR	d	1600	20	.01	30	.02
SBL	1	1600	20	.01	20	.01
SBT	2	3200	540	.17*	280	.09*
SBR	d	1600	110	.07	20	.01
EBL	0	0	70		20	
EBT	1	1600	40	.25*	30	.24*
EBR	0	0	290		330	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .57 .51

3. Victoria & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	690	.22*	1150	.36*
NBT	2	3200	540	.17	910	.28
NBR	1	1600	150	.09	210	.13
SBL	1	1600	180	.11	200	.13
SBT	3	4800	710	.15*	550	.11*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	50	.03	40	.03
EBT	1.5	4800	360	{.16}*	720	{.23}*
EBR	1.5		680		790	{.22}
WBL	2	3200	360	.11*	220	.07*
WBT	2	3200	590	.18	340	.11
WBR	d	1600	60	.04	70	.04

TOTAL CAPACITY UTILIZATION .64 .77

4. Victoria & Woodland

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	60	.04
NBT	3	4800	1450	.32	2120	.48*
NBR	0	0	80		160	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1820	.39*	1590	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	150		30	
WBL	1.5		260		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .73 .57

5. Victoria & SR 126 SB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1420	.23	2690	.43*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2580	.41*	1890	.31
SBR	0	0	70		90	
EBL	1.5		220		150	.09
EBT	0.5	3200	210	.13*	160	.10*
EBR	1	1600	210	.13	230	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	270	.17	570	.36
Right Turn Adjustment			WBR	.03*	WBR	.36*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .57 .89

6. Victoria & Thille

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1360	.28	2530	.40*
NBR	0	0	460	.29	50	
SBL	1	1600	160	.10	40	.03*
SBT	4	6400	2180	.40*	1890	.33
SBR	0	0	370		220	
EBL	1.5		240		310	
EBT	0.5	3200	30	.08*	10	.10*
EBR	1	1600	120	.08	200	.13
WBL	1	1600	30	.02	100	.06
WBT	1	1600	10	.02*	80	.09*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .53 .62

7. Victoria & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	320	.10
NBT	4	6400	1310	.25	1690	.29*
NBR	0	0	260		150	
SBL	2	3200	340	.11	370	.12*
SBT	4	6400	1780	.28*	1330	.21
SBR	1	1600	330	.21	420	.26
EBL	2	3200	370	.12*	650	.20*
EBT	3	4800	400	.10	940	.22
EBR	0	0	80		110	
WBL	2	3200	270	.08	350	.11
WBT	3	4800	750	.16*	650	.14*
WBR	1	1600	170	.11	320	.20

TOTAL CAPACITY UTILIZATION .66 .75

8. Victoria & Ralston

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	400	.25*
NBT	4	6400	1440	.24	1990	.34
NBR	0	0	70		210	
SBL	1	1600	100	.06	220	.14
SBT	4	6400	1870	.31*	1810	.30*
SBR	0	0	110		110	
EBL	1	1600	40	.03	140	.09
EBT	1	1600	130	.08*	260	.16*
EBR	1	1600	220	.14	320	.20
WBL	1	1600	240	.15*	150	.09*
WBT	1	1600	250	.16	150	.09
WBR	1	1600	200	.13	130	.08

TOTAL CAPACITY UTILIZATION .70 .80

10. Victoria & Moon

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1820	.30	2260	.41*
NBR	0	0	110		340	
SBL	1	1600	40	.03	120	.08*
SBT	4	6400	1990	.31*	1900	.34
SBR	0	0	20		250	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	100	.06*
EBR	1	1600	30	.02	170	.11
WBL	1	1600	300	.19*	180	.11*
WBT	1	1600	120	.08	60	.04
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .57 .66

14. Hill & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	100	.10*	50	.15*
NBR	0	0	10		170	
SBL	1	1600	60	.04*	270	.17*
SBT	1	1600	40	.03	70	.04
SBR	1	1600	70	.04	230	.14
EBL	1	1600	170	.11*	110	.07
EBT	3	4800	540	.13	1250	.30*
EBR	0	0	70		190	
WBL	1	1600	140	.09	40	.03*
WBT	3	4800	1180	.31*	760	.17
WBR	0	0	290		70	

TOTAL CAPACITY UTILIZATION .56 .65

15. Johnson & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	340	.11*	220	.07
NBT	2	3200	170	.11	230	.14*
NBR	0	0	230	.14	420	.26
SBL	1	1600	60	.04	140	.09*
SBT	2	3200	170	.05*	210	.07
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03	30	.02
EBT	3	4800	260	.08*	1210	.34*
EBR	0	0	170	.11	400	
WBL	1	1600	440	.28*	440	.28*
WBT	3	4800	1420	.31	580	.13
WBR	0	0	70		60	

TOTAL CAPACITY UTILIZATION .52 .85

18. Seaward & US 101 NB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	610	.19*	650	.20*
NBT	2	3200	890	.28	940	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	850	.27*	1040	.33*
SBR	1	1600	230	.14	220	.14
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	420	.13*	410	.13*
WBT	0	0	0		0	
WBR	2	3200	380	.12	480	.15

TOTAL CAPACITY UTILIZATION .59 .66

19. Monmouth/US 101 SB & Harbor

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	40	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		650		1040	
SBT	0.5	3200	40	.22*	70	.36*
SBR	0		10		40	
EBL	1	1600	130	.08*	160	.10*
EBT	2	3200	400	.13	420	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	390	.24*	600	.38*
WBR	1	1600	320	.20	310	.19

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .57 .87

20. Harbor & Olivas Park

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	140	.09*
NBT	2	3200	900	.28*	1060	.33
NBR	1	1600	500	.31	240	.15
SBL	2	3200	440	.14*	420	.13
SBT	2	3200	630	.20	1170	.37*
SBR	1	1600	150	.09	110	.07
EBL	1	1600	70	.04	160	.10
EBT	2	3200	150	.05*	260	.08*
EBR	d	1600	60	.04	130	.08
WBL	1	1600	80	.05*	450	.28*
WBT	2	3200	100	.03	150	.05
WBR	f		310		610	

TOTAL CAPACITY UTILIZATION .52 .82

23. Mills & Loma Vista

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		380	{.14}*	290	{.10}*
NBT	0.5	3200	70	.14	20	.10
NBR	1	1600	40	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	340	.11*	620	.19*
EBR	d	1600	310	.19	520	.33
WBL	1	1600	80	.05*	70	.04*
WBT	2	3200	420	.13	360	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .34 .43

24. Mills & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	170	.11*
NBT	1	1600	420	.26*	250	.16
NBR	1	1600	200	.13	380	.24
SBL	1	1600	60	.04*	140	.09
SBT	2	3200	380	.12	480	.15*
SBR	1	1600	10	.01	10	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	340	.11*	540	.17*
EBR	1	1600	80	.05	130	.08
WBL	2	3200	260	.08*	220	.07*
WBT	2	3200	410	.15	420	.15
WBR	0	0	80		70	
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .49 .52

25. Mills & Maple

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	990	.34*	850	.30*
NBR	0	0	90		110	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	730	.24	910	.30
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	210		220	
WBT	1	1600	20	.14*	20	.15*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .51 .52

26. Mills & Dean

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	100	.06*
NBT	2	3200	1210	.38*	960	.30
NBR	1	1600	280	.18	360	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	820	.26	970	.31*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	190	.12
WBL	2	3200	410	.13*	240	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.05*

TOTAL CAPACITY UTILIZATION .54 .52

27. Mills & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	60	.06*	70	.06*
NBR	1	1600	360	.23	240	.15
SBL	2.5		1220		1300	
SBT	0.5	4800	80	.28*	90	.29*
SBR	0		40		20	
EBL	2	3200	120	.04*	90	.03*
EBT	4	6400	1050	.16	1120	.18
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	370	.12
WBT	3	4800	1140	.24*	1470	.31*
WBR	2	3200	1430	.45	1380	.43
Right Turn Adjustment			NBR	.08*		

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .70 .69

28. US 101 NB Ramps & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	670	.21*	330	.10*
SBT	0	0	0		0	
SBR	3	4800	1690	.35	1400	.29
EBL	0	0	0		0	
EBT	3	4800	2300	.48*	2540	.53*
EBR	f		310		150	
WBL	2	3200	400	.13*	530	.17*
WBT	3	4800	1050	.22	1810	.38
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .82 .80

29. SR 126 EB Ramps & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	270	.08	430	.13*
EBT	3	4800	2650	.55*	2710	.56
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1250	.26	2390	.50*
WBR	f		130		380	

TOTAL CAPACITY UTILIZATION .55 .63

30. Callens & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		170	{.06}*	630	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01*
EBT	4	6400	2300	.36*	2450	.38
EBR	d	1600	330	.21	230	.14
WBL	2	3200	100	.03*	170	.05
WBT	3	4800	1210	.25	2110	.44*
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .47 .67

31. Donlon & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		170		630	
NBT	0	3200	0	.06*	0	.24*
NBR	0.5		30		150	
SBL	1.5		400		330	
SBT	0.5	3200	170	.18*	120	.14*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1990	.31*	2540	.40*
EBR	d	1600	240	.15	140	.09
WBL	2	3200	90	.03*	250	.08*
WBT	3	4800	1080	.23	1620	.34
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .58 .86

32. Telephone & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10	740	.23
NBT	2	3200	340	.11*	1130	.35*
NBR	1	1600	70	.04	300	.19
SBL	1.5		250	.16	490	
SBT	1.5	4800	1110	.35*	830	.28*
SBR	f		690		960	
EBL	2	3200	460	.14	730	.23
EBT	3	4800	1090	.23*	1540	.32*
EBR	f		440		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .69 .95

33. US 101 NB Ramps & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		680		560	
NBT	0.5	3200	20	.22*	80	.20*
NBR	1	1600	280	.18	400	.25
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		250	
EBL	1	1600	20	.01*	300	.19*
EBT	3	4800	820	.17	1960	.41
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1060	.22*	1470	.31*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .57 .71

34. Portola & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08*	330	.10*
NBT	1	1600	10	.01	30	.02
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	690	.14	1750	.36*
EBR	d	1600	230	.14	310	.19
WBL	1	1600	20	.01	70	.04*
WBT	3	4800	900	.19*	980	.21
WBR	0	0	20		40	
Right Turn Adjustment			SBR	.05*		

TOTAL CAPACITY UTILIZATION .36 .51

35. Saratoga & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	30	.02
NBT	1	1600	10	.08*	60	.14*
NBR	0	0	110		170	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	30	.02
SBR	1	1600	40	.03	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	700	.15	1620	.34*
EBR	d	1600	50	.03	160	.10
WBL	1	1600	50	.03	90	.06*
WBT	3	4800	950	.20*	1030	.22
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .31 .57

38. Telephone & Market

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11	250	.16*
NBT	3	4800	740	.15*	1070	.22
NBR	d	1600	80	.05	110	.07
SBL	1	1600	500	.31*	160	.10
SBT	3	4800	480	.10	840	.18*
SBR	d	1600	180	.11	160	.10
EBL	1	1600	40	.03	210	.13*
EBT	1	1600	270	.17*	240	.15
EBR	1	1600	210	.13	290	.18
WBL	1	1600	60	.04*	190	.12
WBT	1	1600	130	.08	370	.23*
WBR	1	1600	110	.07	630	.39
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .67 .77

42. Telephone & McGrath

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13*	300	.19*
NBT	3	4800	910	.19	1190	.25
NBR	d	1600	330	.21	100	.06
SBL	1	1600	50	.03	70	.04
SBT	2	3200	610	.19*	1220	.38*
SBR	1	1600	50	.03	50	.03
EBL	1	1600	10	.01	70	.04
EBT	1	1600	30	.02*	30	.02*
EBR	1	1600	220	.14	350	.22
WBL	1	1600	80	.05*	300	.19*
WBT	1	1600	30	.02	80	.05
WBR	1	1600	40	.03	150	.09
Right Turn Adjustment			EBR	.02*	EBR	.06*
TOTAL CAPACITY UTILIZATION				.41		.84

45. Catalina & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	70	.02*
SBT	1	1600	20	.04	10	.01
SBR	0	0	40		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	770	.25*	760	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	50	.03
WBT	2	3200	510	.22	790	.29*
WBR	0	0	180		130	
TOTAL CAPACITY UTILIZATION				.37		.34

46. Seaward & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	200	.13*
NBT	1	1600	160	.10	180	.11
NBR	1	1600	310	.19	290	.18
SBL	1	1600	30	.02	70	.04
SBT	1	1600	160	.10*	100	.06*
SBR	1	1600	190	.12	80	.05
EBL	1	1600	110	.07	80	.05
EBT	2	3200	730	.23*	660	.21*
EBR	1	1600	180	.11	120	.08
WBL	0.5		90		170	
WBT	1.5	3200	510	.20*	720	.30*
WBR	0		30		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.58		.70

47. Main & Loma Vista

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	340	.11*	460	.14*
NBR	f		40		180	
SBL	1	1600	590	.37*	390	.24*
SBT	2	3200	580	.18	640	.21
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	350	.11	490	.15
TOTAL CAPACITY UTILIZATION				.55		.51

49. Main & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		300	.19	640	
NBT	1.5	4800	600	.19*	720	.28*
NBR	f		140		90	
SBL	1.5		200		270	.17
SBT	1.5	4800	470	.15*	720	.24*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	290	.09	440	.14
EBR	f		700		610	
WBL	0	0	0		0	
WBT	1.5	4800	340	.11*	510	.16*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .68

50. Emma & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1040	.33*	1210	.38*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	80	.05*
WBT	3	4800	960	.20	1520	.32
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .45

51. Lemon Grove & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	40	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1060	.33*	1100	.34*
EBR	d	1600	60	.04	80	.05
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	930	.20	1340	.29
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .42

53. Kimball & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	390	.12*	570	.18*
SBT	0	0	0		0	
SBR	2	3200	1170	.37	660	.21
EBL	2	3200	300	.09*	900	.28*
EBT	3	4800	420	.09	1160	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1000	.31*	790	.25*
WBR	1	1600	740	.46	480	.30

Right Turn Adjustment Multi .24*

TOTAL CAPACITY UTILIZATION .76 .71

55. Kimball & SR 126 EB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1430	.30*	900	.19*
NBR	f		130		430	
SBL	1	1600	30	.02*	30	.02*
SBT	3	4800	1510	.31	920	.19
SBR	0	0	0		0	
EBL	2	3200	120	.04*	400	.13*
EBT	0	0	10		0	
EBR	f		290		560	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .34

56. Kimball & SR 126 WB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	640	.20*	290	.09*
NBT	3	4800	850	.18	790	.16
NBR	d	1600	60	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	740	.15*	570	.12*
SBR	d	1600	200	.13	110	.07
EBL	1.5		40		40	
EBT	0.5	3200	10	.02*	10	.02*
EBR	1	1600	630	.39	260	.16
WBL	0	0	170		120	
WBT	1	1600	130	.19*	80	.13*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.22*	EBR	.07*

TOTAL CAPACITY UTILIZATION .78 .43

Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	170	.05*	120	.04*
NBT	2	3200	90	.03	170	.05
NBR	1	1600	80	.05	170	.11
SBL	1	1600	30	.02	60	.04
SBT	2	3200	180	.06*	180	.06*
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	30	.02
EBT	2	3200	180	.06	570	.18*
EBR	1	1600	90	.06	240	.15
WBL	2	3200	200	.06	130	.04*
WBT	2	3200	390	.12*	300	.09
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .24 .34

60. Ramelli & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	70	.04*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	200	.13	510	.32
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	450	.11	1550	.36*
EBR	0	0	80		190	
WBL	1	1600	340	.21	210	.13*
WBT	3	4800	1780	.37*	1200	.25
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.17*

TOTAL CAPACITY UTILIZATION .42 .71

61. Montgomery & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	300	.19*	90	.06*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	30	.02	150	.09
SBL	1	1600	20	.01	20	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	100	.06	20	.01
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	570	.18	800	.25*
EBR	d	1600	100	.06	150	.09
WBL	1	1600	130	.08	90	.06*
WBT	2	3200	1110	.35*	730	.23
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*		

TOTAL CAPACITY UTILIZATION .60 .39

63. Petit & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	140	.09
NBT	1	1600	40	.11	60	.21*
NBR	0	0	130		270	
SBL	1	1600	40	.03	30	.02*
SBT	1	1600	70	.04*	50	.03
SBR	1	1600	120	.08	80	.05
EBL	1	1600	90	.06*	90	.06
EBT	2	3200	320	.10	780	.24*
EBR	d	1600	90	.06	260	.16
WBL	1	1600	190	.12	200	.13*
WBT	2	3200	790	.25*	580	.18
WBR	d	1600	30	.02	50	.03

TOTAL CAPACITY UTILIZATION .46 .60

65. Sanjon & Thompson

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	530	.17*	540	.17*
NBT	0	0	0		0	
NBR	1	1600	180	.11	220	.14
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	480	.24*	680	.31*
EBR	0	0	300		300	
WBL	1	1600	120	.08*	150	.09*
WBT	2	3200	510	.16	770	.24
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .49 .57

68. Seaward & Thompson

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08	210	.13*
NBT	2	3200	480	.15*	500	.16
NBR	d	1600	220	.14	180	.11
SBL	1	1600	110	.07*	60	.04
SBT	2	3200	380	.12	360	.11*
SBR	d	1600	50	.03	90	.06
EBL	1	1600	100	.06	90	.06
EBT	2	3200	650	.22*	790	.28*
EBR	0	0	60		110	
WBL	2	3200	200	.06*	280	.09*
WBT	2	3200	420	.13	770	.24
WBR	1	1600	40	.03	60	.04

TOTAL CAPACITY UTILIZATION .50 .61

71. Sanjon & Harbor

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	190	.12*	390	.24*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	270	.17	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	260	.16*	590	.37*
WBR	1	1600	480	.30	280	.18
Right Turn Adjustment			WBR	.05*		

TOTAL CAPACITY UTILIZATION .37 .69

75. Ashwood & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	90	.06*
NBR	d	1600	40	.03	60	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	70	.04
SBR	1	1600	120	.08	120	.08
EBL	1	1600	80	.05*	150	.09
EBT	2	3200	510	.16	830	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	550	.17*	580	.18
WBR	d	1600	110	.07	100	.06

TOTAL CAPACITY UTILIZATION .29 .47

77. Day & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	90	.06	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	500	.16	910	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	770	.24
WBR	d	1600	350	.22	260	.16

TOTAL CAPACITY UTILIZATION .42 .39

85. Victoria & Olivas Park

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	810	.25*	660	.21*
NBT	3	4800	1920	.40	1830	.38
NBR	1	1600	500	.31	440	.28
SBL	2	3200	520	.16	220	.07
SBT	3	4800	1610	.34*	1770	.37*
SBR	f		160		180	
EBL	2	3200	260	.08	360	.11
EBT	2	3200	170	.05*	250	.08*
EBR	f		220		890	
WBL	1	1600	120	.08*	360	.23*
WBT	2	3200	70	.02	340	.11
WBR	f		120		240	

TOTAL CAPACITY UTILIZATION .72 .89

86. Telephone & Olivas Park

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	420	.13*	870	.27*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	470	.29	880	.55
EBL	2	3200	670	.21*	640	.20*
EBT	2	3200	350	.11	520	.16
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	440	.14*	400	.13*
WBR	1	1600	610	.38	730	.46
Right Turn Adjustment			WBR	.14*	Multi	.25*
TOTAL CAPACITY UTILIZATION			.64		.87	

91. Johnson & Ralston

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	130	.08*
NBT	2	3200	550	.17	800	.25
NBR	d	1600	30	.02	200	.13
SBL	1	1600	50	.03	60	.04
SBT	2	3200	800	.25*	920	.29*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	80	.05
EBT	1	1600	120	.08	260	.16*
EBR	d	1600	110	.07	260	.16
WBL	1	1600	110	.07	70	.04*
WBT	1	1600	290	.18*	140	.09
WBR	d	1600	90	.06	80	.05
TOTAL CAPACITY UTILIZATION			.52		.57	

92. Johnson & Bristol

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	70	.04*
NBT	2	3200	590	.18	1050	.33
NBR	f		290		1180	
SBL	1	1600	10	.01	20	.01
SBT	2	3200	1010	.32*	1170	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	20	.01
EBT	1	1600	40	.03*	310	.19*
EBR	1	1600	140	.09	190	.12
WBL	2	3200	1090	.34*	600	.19*
WBT	1	1600	270	.17	200	.13
WBR	d	1600	50	.03	30	.02
Right Turn Adjustment			EBR	.04*		
TOTAL CAPACITY UTILIZATION			.75		.79	

94. Johnson & North Bank

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	90	.06*
NBT	3	4800	190	.04	530	.11
NBR	d	1600	30	.02	230	.14
SBL	1	1600	60	.04	130	.08
SBT	3	4800	1610	.38*	1490	.35*
SBR	0	0	230		170	
EBL	2.5		570	.12*	1820	.38*
EBT	1.5	6400	90	.06	410	.26
EBR	1	1600	440	.28	320	.20
WBL	1.5		200		310	
WBT	1.5	4800	140	.07*	180	.10*
WBR	1	1600	40	.03	150	.09
Right Turn Adjustment			EBR	.13*		
TOTAL CAPACITY UTILIZATION			.74		.89	

95. Bristol & Ramelli

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01
NBT	1	1600	20	.02*	10	.02*
NBR	0	0	10		20	
SBL	1	1600	20	.01*	50	.03*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	240	.15	140	.09
EBL	1	1600	20	.01*	110	.07
EBT	2	3200	310	.10	790	.25*
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01*
WBT	2	3200	1040	.35*	550	.18
WBR	0	0	80		40	
Right Turn Adjustment			SBR	.12*		

TOTAL CAPACITY UTILIZATION .51 .31

96. Montgomery & North Bank

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	110	.07*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	450	.28	200	.13
EBL	1	1600	110	.07*	320	.20*
EBT	2	3200	110	.03	410	.13
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	500	.31*	280	.18*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.18*		

TOTAL CAPACITY UTILIZATION .62 .47

100. Saticoy & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	140	.09*
NBT	1	1600	200	.13*	140	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	200	.13*	90	.06
SBT	1	1600	110	.07	150	.09*
SBR	1	1600	270	.17	160	.10
EBL	1	1600	120	.08*	190	.12*
EBT	2	3200	230	.07	690	.22
EBR	1	1600	110	.07	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	370	.16*	510	.18*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .50 .48

101. Saticoy & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	180		70	
NBT	1	1600	70	.19*	50	.10*
NBR	0	0	50		40	
SBL	0	0	10		20	
SBT	1	1600	80	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	30	.02
EBT	1	1600	200	.18*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	60	.04*	30	.02*
WBT	1	1600	270	.17	270	.17
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .50 .51

102. Wells & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	250	.16*
NBT	1	1600	120	.08	300	.19
NBR	1	1600	60	.04	250	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	280	.18*	210	.13*
SBR	1	1600	50	.03	20	.01
EBL	1	1600	20	.01	40	.03
EBT	1	1600	50	.17*	200	.26*
EBR	0	0	220		210	
WBL	1	1600	320	.20*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .65 .63

104. Wells & SR 126 EB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	870	.18	1430	.30
NBR	f		590		1600	
SBL	0	0	0		0	
SBT	3	4800	2660	.55*	1730	.36*
SBR	f		80		60	
EBL	1	1600	100	.06*	340	.21*
EBT	0	0	0		0	
EBR	1	1600	170	.11	620	.39
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.18*

TOTAL CAPACITY UTILIZATION .66 .75

105. Wells & Darling

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1250	.26	2870	.60*
NBR	d	1600	60	.04	170	.11
SBL	1	1600	130	.08	350	.22*
SBT	3	4800	2420	.50*	1840	.38
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		30	
EBT	1	1600	30	.13*	40	.07*
EBR	0	0	90		40	
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .69 1.07

106. Wells & Telephone

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	360	.11*	460	.14
NBT	3	4800	1230	.26	2920	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2500	.52*	1940	.40
SBR	1	1600	130	.08	420	.26
EBL	1.5		150	{.05}*	250	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	560	.18	570	.18
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.04*		

TOTAL CAPACITY UTILIZATION .74 .73

114. California & Thompson

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		30	.02
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	50	.03	80	.05
SBL	1.5		140		160	
SBT	1.5	4800	80	.05*	170	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	870	.32*	940	.33*
EBR	0	0	150		100	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	320	.10	400	.14
WBR	0	0	10		60	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .43 .47

115. Chestnut & Thompson

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	80	.05
SBT	1	1600	270	.18*	350	.24*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	590	.18*	670	.21*
EBR	f		410		520	
WBL	1	1600	200	.13*	210	.13*
WBT	2	3200	450	.15	630	.22
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .50 .59

120. Ventura & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	360	.23*	690	.43*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	110	.07*
SBT	1	1600	370	.23	380	.24
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	300	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	190	.12*
WBR	1	1600	160	.10	140	.09

TOTAL CAPACITY UTILIZATION .42 .71

132. Ventura & Stanley

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	340	.21*	290	.18*
NBT	1	1600	260	.16	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	380	.24*
SBR	1	1600	530	.33	380	.24
EBL	1	1600	400	.25*	660	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .75 .83

136. US 101 SB Ramps & Valentine

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		470	.15*	550	.17*
SBT	0	4800	0		0	
SBR	1.5		70		20	
EBL	1	1600	120	.08*	540	.34*
EBT	2	3200	180	.06	700	.22
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1000	.31*	400	.13*
WBR	f		820		910	

TOTAL CAPACITY UTILIZATION .54 .64

138. Johnson & US 101 SB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	690	.43*
NBT	1	1600	150	.09	550	.34
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	620	.39*	400	.25*
SBR	f		1610		1750	
EBL	1	1600	130	.08*	290	.18*
EBT	0	0	0		0	
EBR	1	1600	130	.08	100	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .57 .86

160. Victoria & US 101 NB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	530	.17*	580	.18*
NBT	3	4800	1430	.30	1990	.41
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2730	.43*	2270	.35*
SBR	1	1600	140	.09	370	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	840	.26*	610	.19*
WBT	0	0	0		0	
WBR	3	4800	870	.18	1170	.24

TOTAL CAPACITY UTILIZATION .86 .72

161. Victoria & Valentine

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	220	.07*
NBT	3	4800	1850	.39	2370	.50
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1780	.56*	1650	.52*
SBR	f		1700		1190	
EBL	2.5		300		650	
EBT	0.5	4800	50	.07*	20	.14*
EBR	1	1600	340	.21	580	.36
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment			EBR	.06*	EBR	.15*

TOTAL CAPACITY UTILIZATION .79 .91

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	230	.14*	340	.21*
SBT	0	0	0		0	
SBR	1	1600	30	.02	50	.03
EBL	1	1600	10	.01	80	.05*
EBT	1	1600	240	.15*	260	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	230	.11*
WBR	0	0	50		130	

TOTAL CAPACITY UTILIZATION .29 .37

163. Santa Clara & Main

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	220	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	350	.11*	460	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	170	.11*
WBT	2	3200	360	.12	490	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .30

164. Seaward & Poli

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		180	
NBT	1	1600	0	.18*	0	.22*
NBR	0	0	130		170	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	350	.22*
EBR	d	1600	80	.05	130	.08
WBL	1	1600	240	.15*	110	.07*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .51

165. Seaward & Harbor

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	80	.05
NBT	2	3200	370	.13*	300	.12*
NBR	0	0	40		70	
SBL	2	3200	700	.22*	700	.22*
SBT	2	3200	180	.06	320	.10
SBR	1	1600	320	.20	440	.28
EBL	2	3200	340	.11	320	.10
EBT	2	3200	700	.23*	1270	.41*
EBR	0	0	20		50	
WBL	1	1600	20	.01*	30	.02*
WBT	2	3200	290	.09	500	.16
WBR	2	3200	1090	.34	1330	.42
Right Turn Adjustment			WBR	.05*		

TOTAL CAPACITY UTILIZATION .64 .77

166. College & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.07*	0	.07*
NBR	0	0	70		90	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	570	.20*	890	.30*
EBR	0	0	60		70	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	700	.22	660	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .40

168. Day & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	270	.17
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	250	.16*	220	.14*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .74 .76

169. Kimball & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	110	.07*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	210	.26	390	.36*
EBR	0	0	210		190	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	520	.33*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .44

170. Petit & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		10	
NBT	1	1600	0	.04*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	170	.11	230	.14*
EBR	1	1600	30	.02	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .18

171. Saticoy & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.13	310	.26*
EBR	0	0	60		100	
WBL	0	0	20		20	{.01}*
WBT	1	1600	420	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	130	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	200	.13*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .25

173. Victoria & SR 126 WB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1260	.31	2180	.53*
NBR	0	0	230		350	
SBL	0	0	0		0	
SBT	3	4800	2020	.46*	1560	.34
SBR	0	0	190		80	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	650	.41	430	.27
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	150	.09
Right Turn Adjustment		Multi		.43*	Multi	.22*

TOTAL CAPACITY UTILIZATION .89 .75

174. Petit & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	40	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	590	.18
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	530	.33*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .42 .27

175. Ventura & North Bank

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	90		50	
SBT	1	1600	0	.11*	0	.11*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	550	.34
EBT	2	3200	1090	.34	2590	.81*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	380	.24*	430	.27
WBR	1	1600	60	.04	40	.03

TOTAL CAPACITY UTILIZATION .46 .92

176. Saticoy & Darling

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	150	.10	240	.16*
NBR	1	1600	110	.07	30	.02
SBL	0	0	60		10	{.01}*
SBT	1	1600	250	.19*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	70		50	
EBT	1	1600	70	.11*	60	.09*
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	{.03}*
WBT	1	1600	20	.08	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .35 .29

177. Wells & SR 126 WB Ramps

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1360	.43*
NBR	f		420		390	
SBL	0	0	0		0	
SBT	2	3200	1050	.33*	740	.23
SBR	f		430		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1690		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	110	.07
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .33 .50

178. SR-33 Ramps & Stanley

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	720	.45	840	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	270	.17	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	710	.44*	940	.59*
WBR	f		180		160	
Right Turn Adjustment			NBR	.25*	NBR	.16*

TOTAL CAPACITY UTILIZATION .69 .75

179. SR-33 Ramps & Shell

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	680		650	
SBT	1	1600	0	.44*	0	.42*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	700	.48*	690	.50*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .93 .93

180. Estates & Telegraph

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	60	.04
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	820	.26*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	40	.03	90	.06*
WBT	2	3200	640	.20*	790	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .40

181. Ventura & Ramona

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	40	.03
NBT	1	1600	370	.24*	630	.40*
NBR	0	0	20		10	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	400	.26	470	.31
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		10	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .50

182. Olive & Main St

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	580	.36*	450	.28*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	160	.11*	170	.11
WBR	1	1600	190	.12	450	.28

TOTAL CAPACITY UTILIZATION .54 .61

190. Petit Av & North Bank Dr

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	290	.18	240	.15
EBL	1	1600	50	.03*	310	.19*
EBT	2	3200	70	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	100	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .22 .27

191. Saticoy Av & North Bank Dr

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	0	.00
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01*	50	.03*
SBT	1	1600	10	.02	30	.04
SBR	0	0	20		30	
EBL	1	1600	20	.01*	40	.03*
EBT	2	3200	100	.03	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	50	.02*	90	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.04*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	200	.13
NBT	3	4800	1450	.30	3170	.66*
NBR	d	1600	30	.02	70	.04
SBL	1	1600	110	.07	160	.10*
SBT	3	4800	2820	.59*	2260	.47
SBR	d	1600	140	.09	90	.06
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	150	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .72 .86

193. Saticoy Av & A St

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	240	.15*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	180	.11*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .17 .12

194. Wells Rd & A St

2025 Scenario 2 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	390	.14	850	.32*
NBR	0	0	50		180	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	820	.26*	590	.19
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.44		.41

**NON-COMMITTED
IMPROVEMENTS**

105. Wells & Darling

2025 Scenario 2 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1250	.26	2870	.60*
NBR	d	1600	60	.04	170	.11
SBL	2	3200	130	.04	350	.11*
SBT	3	4800	2420	.50*	1840	.38
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	30	.02*
EBT	1	1600	30	.08	40	.05
EBR	0	0	90		40	
WBL	2	3200	60	.02	290	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	
TOTAL CAPACITY UTILIZATION			.63		.88	

SCENARIO 2
(ALTERNATIVE NETWORK)

1. Victoria & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	240	.15*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	160	.10	250	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	70	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	290	.18	480	.30*
EBR	1	1600	230	.14	20	.01
WBL	2	3200	370	.12	240	.08*
WBT	1	1600	590	.37*	330	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .51 .54

2. Victoria & Loma Vista

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	270	.17*
NBT	2	3200	240	.08	450	.14
NBR	d	1600	20	.01	30	.02
SBL	1	1600	20	.01	20	.01
SBT	2	3200	480	.15*	270	.08*
SBR	d	1600	100	.06	20	.01
EBL	0	0	80		30	
EBT	1	1600	40	.25*	30	.24*
EBR	0	0	280		320	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .55 .51

3. Victoria & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1130	.35*
NBT	2	3200	510	.16	790	.25
NBR	1	1600	150	.09	230	.14
SBL	1	1600	180	.11	200	.13
SBT	3	4800	640	.13*	520	.11*
SBR	d	1600	40	.03	30	.02
EBL	1	1600	50	.03	40	.03
EBT	1.5	4800	350	{.16}*	730	{.23}*
EBR	1.5		650		760	{.21}
WBL	2	3200	360	.11*	220	.07*
WBT	2	3200	600	.19	320	.10
WBR	d	1600	60	.04	70	.04

TOTAL CAPACITY UTILIZATION .61 .76

4. Victoria & Woodland

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13*	60	.04
NBT	3	4800	1380	.30	2010	.45*
NBR	0	0	80		160	
SBL	1	1600	20	.01	20	.01*
SBT	3	4800	1690	.36*	1530	.32
SBR	0	0	40		10	
EBL	0	0	20		20	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	140		30	
WBL	1.5		250		90	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		30		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .69 .54

5. Victoria & SR 126 SB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1300	.21	2370	.38*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2390	.39*	1740	.29
SBR	0	0	100		90	
EBL	1.5		210		150	
EBT	0.5	3200	200	.13*	120	.08*
EBR	1	1600	210	.13	220	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	250	.16	580	.36
Right Turn Adjustment			WBR	.02*	WBR	.36*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .54 .82

6. Victoria & Thille

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1240	.26	2210	.35*
NBR	0	0	460	.29	50	
SBL	1	1600	160	.10	40	.03*
SBT	4	6400	2030	.37*	1740	.30
SBR	0	0	330		210	
EBL	1.5		230		290	
EBT	0.5	3200	30	.08*	10	.09*
EBR	1	1600	130	.08	200	.13
WBL	1	1600	30	.02	110	.07
WBT	1	1600	10	.02*	80	.09*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .50 .56

7. Victoria & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	320	.10
NBT	4	6400	1240	.23	1360	.23*
NBR	0	0	260		140	
SBL	2	3200	370	.12	360	.11*
SBT	4	6400	1610	.25*	1260	.20
SBR	1	1600	330	.21	350	.22
EBL	2	3200	320	.10*	630	.20*
EBT	3	4800	370	.09	930	.22
EBR	0	0	80		130	
WBL	2	3200	130	.04	260	.08
WBT	3	4800	720	.15*	670	.14*
WBR	1	1600	180	.11	340	.21

TOTAL CAPACITY UTILIZATION .60 .68

8. Victoria & Ralston

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	240	.15*	360	.23*
NBT	4	6400	1400	.23	1680	.30
NBR	0	0	60		230	
SBL	1	1600	100	.06	200	.13
SBT	4	6400	1580	.26*	1710	.28*
SBR	0	0	110		110	
EBL	1	1600	40	.03	150	.09
EBT	1	1600	140	.09*	280	.18*
EBR	1	1600	220	.14	290	.18
WBL	1	1600	210	.13*	180	.11*
WBT	1	1600	270	.17	150	.09
WBR	1	1600	190	.12	130	.08

TOTAL CAPACITY UTILIZATION .63 .80

10. Victoria & Moon

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	180	.11
NBT	4	6400	1760	.29*	1920	.36*
NBR	0	0	110		390	
SBL	1	1600	30	.02*	110	.07*
SBT	4	6400	1710	.27	1800	.32
SBR	0	0	20		240	
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	80	.05*
EBR	1	1600	30	.02	170	.11
WBL	1	1600	300	.19*	180	.11*
WBT	1	1600	110	.07	60	.04
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .54 .59

14. Hill & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	90	.09*	50	.08*
NBR	0	0	10		60	
SBL	1	1600	60	.04*	240	.15*
SBT	1	1600	30	.02	60	.04
SBR	1	1600	60	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	570	.13	1350	.30*
EBR	0	0	50		90	
WBL	1	1600	70	.04	30	.02*
WBT	3	4800	1020	.27*	730	.16
WBR	0	0	290		60	

TOTAL CAPACITY UTILIZATION .51 .55

15. Johnson & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	360	.11*	180	.06
NBT	2	3200	160	.08	220	.08*
NBR	0	0	80		40	
SBL	1	1600	50	.03	80	.05*
SBT	2	3200	150	.05*	190	.06
SBR	d	1600	50	.03	60	.04
EBL	1	1600	60	.04*	50	.03
EBT	3	4800	270	.08	1000	.31*
EBR	0	0	160	.10	570	.36
WBL	1	1600	10	.01	40	.03*
WBT	3	4800	1130	.25*	560	.13
WBR	0	0	50		50	

TOTAL CAPACITY UTILIZATION .45 .47

18. Seaward & US 101 NB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	580	.18*
NBT	2	3200	750	.23	800	.25
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	740	.23*	790	.25*
SBR	1	1600	240	.15	280	.18
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	290	.09*	350	.11*
WBT	0	0	0		0	
WBR	2	3200	460	.14	470	.15

TOTAL CAPACITY UTILIZATION .50 .54

19. Monmouth/US 101 SB & Harbor

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		680		1030	
SBT	0.5	3200	40	.23*	70	.36*
SBR	0		10		40	
EBL	1	1600	120	.08*	160	.10*
EBT	2	3200	400	.13	420	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	390	.24*	570	.36*
WBR	1	1600	310	.19	330	.21

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .58 .85

20. Harbor & Olivas Park

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06	140	.09*
NBT	2	3200	980	.31*	1210	.38
NBR	1	1600	450	.28	170	.11
SBL	2	3200	440	.14*	370	.12
SBT	2	3200	670	.21	1350	.42*
SBR	1	1600	150	.09	140	.09
EBL	1	1600	80	.05*	220	.14
EBT	2	3200	90	.03	170	.05*
EBR	d	1600	60	.04	130	.08
WBL	1	1600	70	.04	360	.23*
WBT	2	3200	60	.02*	150	.05
WBR	f		320		410	

TOTAL CAPACITY UTILIZATION .52 .79

23. Mills & Loma Vista

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		360	{.13}*	310	{.10}*
NBT	0.5	3200	70	.13	20	.10
NBR	1	1600	50	.03	80	.05
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	330	.10*	610	.19*
EBR	d	1600	320	.20	550	.34
WBL	1	1600	90	.06*	70	.04*
WBT	2	3200	420	.13	350	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.08*

TOTAL CAPACITY UTILIZATION .33 .44

24. Mills & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	170	.11*
NBT	1	1600	430	.27*	280	.18
NBR	1	1600	270	.17	440	.28
SBL	1	1600	60	.04*	130	.08
SBT	2	3200	410	.13	530	.17*
SBR	1	1600	10	.01	10	.01
EBL	1	1600	20	.01	20	.01
EBT	2	3200	300	.09*	540	.17*
EBR	1	1600	80	.05	120	.08
WBL	2	3200	300	.09*	270	.08*
WBT	2	3200	380	.14	410	.15
WBR	0	0	80		60	
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .49 .55

25. Mills & Maple

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	1070	.37*	970	.35*
NBR	0	0	110		140	
SBL	1	1600	60	.04*	120	.08*
SBT	2	3200	800	.27	1030	.34
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	240		250	
WBT	1	1600	20	.16*	20	.17*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .57 .60

26. Mills & Dean

2025 Scenario 2 (Alt. Net.) w/Baseline							
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR		
			VOL	V/C	VOL	V/C	
NBL	1	1600	60	.04	110	.07*	
NBT	2	3200	1300	.41*	1110	.35	
NBR	1	1600	290	.18	390	.24	
SBL	1	1600	30	.02*	40	.03	
SBT	2	3200	910	.29	1130	.36*	
SBR	0	0	20		30		
EBL	1	1600	20	.01	40	.03	
EBT	1	1600	20	.01*	30	.02*	
EBR	1	1600	20	.01	200	.13	
WBL	2	3200	440	.14*	270	.08*	
WBT	1	1600	50	.05	50	.06	
WBR	0	0	30		40		
Right Turn Adjustment						EBR	.06*

TOTAL CAPACITY UTILIZATION .58 .59

27. Mills & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	110		360	
NBT	1	1600	300	.26*	490	.53*
NBR	1	1600	270	.17	220	.14
SBL	2.5		1020		1190	
SBT	0.5	4800	390	.30*	360	.33*
SBR	0		40		50	
EBL	2	3200	140	.04*	110	.03
EBT	4	6400	990	.15	960	.15*
EBR	1	1600	170	.11	350	.22
WBL	2	3200	370	.12	400	.13*
WBT	3	4800	1090	.23*	1220	.25
WBR	2	3200	1290	.40	1140	.36

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .83 1.14

28. US 101 NB Ramps & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	600	.19*	310	.10*
SBT	0	0	0		0	
SBR	3	4800	1780	.37	1280	.27
EBL	0	0	0		0	
EBT	3	4800	1980	.41*	2250	.47*
EBR	f		310		140	
WBL	2	3200	390	.12*	490	.15*
WBT	3	4800	970	.20	1490	.31
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .72 .72

29. SR 126 EB Ramps & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	310	.10	500	.16*
EBT	3	4800	2240	.47*	2320	.48
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1160	.24	2020	.42*
WBR	f		130		320	

TOTAL CAPACITY UTILIZATION .47 .58

30. Callens & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		170	{.06}*	610	{.19}*
NBT	0.5	3200	10	.06	10	.19
NBR	1	1600	60	.04	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	1940	.30*	2160	.34*
EBR	d	1600	280	.18	150	.09
WBL	2	3200	100	.03*	190	.06*
WBT	3	4800	1120	.24	1720	.36
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .41 .61

31. Donlon & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		510	
NBT	0	3200	0	.06*	0	.23*
NBR	0.5		30		210	
SBL	1.5		330		320	
SBT	0.5	3200	160	.15*	90	.13*
SBR	1	1600	180	.11	190	.12
EBL	0	0	0		0	
EBT	4	6400	1740	.27*	2220	.35*
EBR	d	1600	160	.10	130	.08
WBL	2	3200	110	.03*	260	.08*
WBT	3	4800	1000	.21	1350	.28
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .51 .79

32. Telephone & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08	520	.16
NBT	2	3200	310	.10*	1110	.35*
NBR	1	1600	130	.08	350	.22
SBL	1.5		240	.15	480	
SBT	1.5	4800	1060	.33*	810	.27*
SBR	f		720		920	
EBL	2	3200	450	.14	710	.22
EBT	3	4800	970	.20*	1340	.28*
EBR	f		320		440	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .63 .90

33. US 101 NB Ramps & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		700		560	
NBT	0.5	3200	20	.23*	100	.21*
NBR	1	1600	270	.17	400	.25
SBL	0.5		40		10	
SBT	0	3200	0	{.11}*	0	{.01}*
SBR	1.5		330		220	
EBL	1	1600	20	.01*	270	.17*
EBT	3	4800	780	.16	1930	.40
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1020	.21*	1430	.30*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .69

34. Portola & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	270	.08*	310	.10*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	140	.09	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	640	.13	1730	.36*
EBR	d	1600	230	.14	300	.19
WBL	1	1600	20	.01	60	.04*
WBT	3	4800	840	.18*	950	.21
WBR	0	0	20		40	

Right Turn Adjustment SBR .06*

TOTAL CAPACITY UTILIZATION .36 .51

35. Saratoga & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	20	.01
NBT	1	1600	10	.08*	50	.12*
NBR	0	0	110		140	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	20	.01	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	650	.14	1610	.34*
EBR	d	1600	60	.04	160	.10
WBL	1	1600	50	.03	90	.06*
WBT	3	4800	900	.19*	1000	.22
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .30 .55

38. Telephone & Market

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09	80	.05
NBT	3	4800	620	.13*	940	.20*
NBR	d	1600	130	.08	110	.07
SBL	1	1600	410	.26*	170	.11*
SBT	3	4800	370	.08	820	.17
SBR	d	1600	170	.11	170	.11
EBL	1	1600	110	.07	250	.16*
EBT	1	1600	310	.19*	230	.14
EBR	1	1600	50	.03	120	.08
WBL	1	1600	60	.04*	200	.13
WBT	1	1600	130	.08	430	.27*
WBR	1	1600	110	.07	500	.31

TOTAL CAPACITY UTILIZATION .62 .74

42. Telephone & McGrath

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	130	.08*
NBT	3	4800	790	.16	930	.19
NBR	d	1600	290	.18	100	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	280	.09*	1050	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	70	.04
EBT	1	1600	80	.05*	30	.02*
EBR	1	1600	60	.04	230	.14
WBL	1	1600	60	.04*	340	.21*
WBT	1	1600	30	.02	130	.08
WBR	1	1600	60	.04	120	.08
Right Turn Adjustment					EBR	.06*
TOTAL CAPACITY UTILIZATION			.29		.70	

45. Catalina & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	50	.04*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	250	.08*	80	.03*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		10	{.01}*
EBT	1.5	3200	760	.25*	760	.24
EBR	0		20		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	500	.20	760	.28*
WBR	0	0	150		140	
TOTAL CAPACITY UTILIZATION			.38		.34	

46. Seaward & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	210	.13*
NBT	1	1600	170	.11	150	.09
NBR	1	1600	270	.17	170	.11
SBL	1	1600	30	.02	70	.04
SBT	1	1600	140	.09*	80	.05*
SBR	1	1600	190	.12	80	.05
EBL	1	1600	110	.07	90	.06
EBT	2	3200	700	.22*	640	.20*
EBR	1	1600	200	.13	140	.09
WBL	0.5		80		130	
WBT	1.5	3200	470	.18*	690	.28*
WBR	0		20		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.54		.66	

47. Main & Loma Vista

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	320	.10*	440	.14*
NBR	f		40		200	
SBL	1	1600	570	.36*	370	.23*
SBT	2	3200	540	.17	580	.19
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	340	.11	450	.14
TOTAL CAPACITY UTILIZATION			.53		.50	

49. Main & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290	.18	600	
NBT	1.5	4800	580	.18*	750	.28*
NBR	f		180		160	
SBL	1.5		190	.12	240	.15
SBT	1.5	4800	490	.16*	780	.26*
SBR	0		30		40	
EBL	0	0	0		0	
EBT	2	3200	240	.08	380	.12
EBR	f		730		630	
WBL	0	0	0		0	
WBT	1.5	4800	310	.10*	440	.14*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .44 .68

50. Emma & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1110	.35*	1290	.40*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	50	.03*	80	.05*
WBT	3	4800	970	.20	1590	.33
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .47

51. Lemon Grove & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		60	
NBT	1.5	3200	20	.03*	20	.04*
NBR	0		130	.08	60	
SBL	1.5		30		80	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1150	.36*	1270	.40*
EBR	d	1600	40	.03	40	.03
WBL	1	1600	70	.04*	70	.04*
WBT	3	4800	950	.21	1420	.31
WBR	0	0	50		50	

Right Turn Adjustment NBR .02*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .46 .51

53. Kimball & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	80		60	
NBT	0	0	440		1520	
NBR	0	0	50		70	
SBL	2	3200	210	.07*	440	.14*
SBT	0	0	1310		700	
SBR	2	3200	370	.12	240	.08
EBL	2	3200	130	.04*	70	.02
EBT	3	4800	260	.06	840	.19*
EBR	0	0	30		80	
WBL	0	0	260		80	{.05}*
WBT	2	3200	670	.29*	590	.21
WBR	1	1600	580	.36	350	.22

Right Turn Adjustment Multi .09*

TOTAL CAPACITY UTILIZATION .49 .38

55. Kimball & SR 126 EB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1520	.32	1150	.24*
NBR	f		150		700	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1790	.37*	1030	.21
SBR	0	0	0		0	
EBL	2	3200	110	.03*	290	.09*
EBT	0	0	10		0	
EBR	f		340		630	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .34

56. Kimball & SR 126 WB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	370	.12*
NBT	3	4800	900	.19	860	.18
NBR	d	1600	70	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	790	.16*	630	.13*
SBR	d	1600	220	.14	80	.05
EBL	1.5		20		20	
EBT	0.5	3200	10	.01*	10	.01*
EBR	1	1600	830	.52	290	.18
WBL	0	0	170		130	
WBT	1	1600	140	.19*	70	.13*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.35*	EBR	.08*

TOTAL CAPACITY UTILIZATION .92 .47
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	170	.05*	100	.03
NBT	2	3200	110	.03	230	.07*
NBR	1	1600	90	.06	180	.11
SBL	1	1600	20	.01	60	.04*
SBT	2	3200	240	.08*	190	.06
SBR	1	1600	20	.01	30	.02
EBL	1	1600	20	.01*	40	.03
EBT	2	3200	190	.06	570	.18*
EBR	1	1600	80	.05	250	.16
WBL	2	3200	210	.07	140	.04*
WBT	2	3200	400	.13*	300	.09
WBR	1	1600	10	.01	30	.02
Right Turn Adjustment					NBR	.01*

TOTAL CAPACITY UTILIZATION .27 .34

60. Ramelli & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	40	.03*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	30	.02	30	.02
SBL	1	1600	0	.00	0	.00
SBT	1	1600	10	.01*	0	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	330	.08	980	.23*
EBR	0	0	40		120	
WBL	1	1600	40	.03	120	.08*
WBT	3	4800	1060	.22*	750	.16
WBR	0	0	0		10	

TOTAL CAPACITY UTILIZATION .28 .35

61. Montgomery & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	40	.03*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	70	.04	170	.11
SBL	1	1600	20	.01	20	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	100	.06	30	.02
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	550	.17	870	.27*
EBR	d	1600	30	.02	10	.01
WBL	1	1600	110	.07	60	.04*
WBT	2	3200	1130	.35*	690	.22
WBR	1	1600	10	.01	30	.02
Right Turn Adjustment			SBR	.01*	NBR	.05*
TOTAL CAPACITY UTILIZATION				.55		.40

63. Petit & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12*	120	.08
NBT	1	1600	40	.10	60	.22*
NBR	0	0	120		290	
SBL	1	1600	30	.02	20	.01*
SBT	1	1600	90	.06*	50	.03
SBR	1	1600	110	.07	70	.04
EBL	1	1600	90	.06*	90	.06
EBT	2	3200	340	.11	790	.25*
EBR	d	1600	70	.04	250	.16
WBL	1	1600	200	.13	220	.14*
WBT	2	3200	810	.25*	570	.18
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION				.49		.62

65. Sanjon & Thompson

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	520	.16*	540	.17*
NBT	0	0	0		0	
NBR	1	1600	180	.11	170	.11
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	460	.24*	640	.29*
EBR	0	0	300		300	
WBL	1	1600	120	.08*	140	.09*
WBT	2	3200	510	.16	750	.23
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.48		.55

68. Seaward & Thompson

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10	280	.18*
NBT	2	3200	460	.14*	380	.12
NBR	d	1600	150	.09	150	.09
SBL	1	1600	120	.08*	90	.06
SBT	2	3200	330	.10	280	.09*
SBR	d	1600	50	.03	90	.06
EBL	1	1600	80	.05	90	.06
EBT	2	3200	660	.23*	730	.26*
EBR	0	0	80		110	
WBL	2	3200	170	.05*	210	.07*
WBT	2	3200	410	.13	750	.23
WBR	1	1600	40	.03	60	.04
TOTAL CAPACITY UTILIZATION				.50		.60

71. Sanjon & Harbor

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	150	.09*	400	.25*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	300	.19	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	260	.16*	570	.36*
WBR	1	1600	480	.30	250	.16
Right Turn Adjustment			WBR	.07*		
TOTAL CAPACITY UTILIZATION				.36		.69

75. Ashwood & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	100	.06*
NBR	d	1600	40	.03	70	.04
SBL	1	1600	60	.04*	160	.10*
SBT	1	1600	50	.03	80	.05
SBR	1	1600	150	.09	120	.08
EBL	1	1600	80	.05*	170	.11
EBT	2	3200	540	.17	840	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	560	.18*	590	.18
WBR	d	1600	110	.07	100	.06
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.31		.46

77. Day & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	90	.06	110	.07
EBL	1	1600	110	.07*	50	.03
EBT	2	3200	490	.15	900	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	960	.30*	780	.24
WBR	d	1600	340	.21	240	.15
TOTAL CAPACITY UTILIZATION				.44		.39

85. Victoria & Olivas Park

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	810	.25*	660	.21*
NBT	3	4800	1840	.38	1660	.35
NBR	1	1600	520	.33	480	.30
SBL	2	3200	480	.15	200	.06
SBT	3	4800	1510	.31*	1680	.35*
SBR	f		140		170	
EBL	2	3200	270	.08	340	.11
EBT	2	3200	180	.06*	260	.08*
EBR	f		240		910	
WBL	1	1600	160	.10*	350	.22*
WBT	2	3200	60	.02	410	.13
WBR	f		120		160	
TOTAL CAPACITY UTILIZATION				.72		.86

86. Telephone & Olivas Park

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	490	.15*	880	.28*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	230	.14	410	.26
EBL	2	3200	380	.12*	330	.10*
EBT	2	3200	320	.10	510	.16
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	410	.13*	470	.15*
WBR	1	1600	590	.37	740	.46
Right Turn Adjustment			WBR	.13*	WBR	.10*
TOTAL CAPACITY UTILIZATION				.55		.65

91. Johnson & Ralston

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08*	150	.09*
NBT	2	3200	410	.13	410	.13
NBR	d	1600	10	.01	100	.06
SBL	1	1600	30	.02	50	.03
SBT	2	3200	380	.12*	670	.21*
SBR	d	1600	70	.04	50	.03
EBL	1	1600	40	.03*	90	.06
EBT	1	1600	80	.05	300	.19*
EBR	d	1600	120	.08	150	.09
WBL	1	1600	150	.09	70	.04*
WBT	1	1600	320	.20*	160	.10
WBR	d	1600	90	.06	40	.03
TOTAL CAPACITY UTILIZATION				.43		.53

92. Johnson & Bristol

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	90	.06*
NBT	2	3200	380	.12	470	.15
NBR	f		20		290	
SBL	1	1600	20	.01	10	.01
SBT	2	3200	530	.17*	800	.26*
SBR	0	0	20		20	
EBL	1	1600	20	.01*	30	.02
EBT	1	1600	30	.02	250	.16*
EBR	1	1600	140	.09	200	.13
WBL	2	3200	190	.06	110	.03*
WBT	1	1600	220	.14*	120	.08
WBR	d	1600	20	.01	70	.04
TOTAL CAPACITY UTILIZATION				.33		.51

94. Johnson & North Bank

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	60	.04*
NBT	3	4800	130	.03	330	.07
NBR	d	1600	30	.02	520	.33
SBL	1	1600	20	.01	90	.06
SBT	3	4800	400	.13*	810	.20*
SBR	0	0	260	.16	150	
EBL	2.5		200	.06	650	.20
EBT	1.5	6400	420	.13*	2240	.70*
EBR	1	1600	430	.27	280	.18
WBL	1.5		1840	.58*	1230	.38*
WBT	1.5	4800	170	.11	210	.13
WBR	1	1600	30	.02	140	.09
Right Turn Adjustment			EBR	.09*		
TOTAL CAPACITY UTILIZATION				.99		1.32

95. Bristol & Ramelli

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	10	.01*
NBT	1	1600	10	.01	10	.01
NBR	0	0	10		10	
SBL	1	1600	10	.01	30	.02
SBT	1	1600	20	.01*	30	.02*
SBR	1	1600	100	.06	70	.04
EBL	1	1600	10	.01*	110	.07*
EBT	2	3200	40	.02	90	.03
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01
WBT	2	3200	160	.05*	80	.04*
WBR	0	0	10		40	
Right Turn Adjustment			SBR	.04*		

TOTAL CAPACITY UTILIZATION .12 .14

96. Montgomery & North Bank

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	130	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	270	.17	160	.10
EBL	1	1600	110	.07*	210	.13*
EBT	2	3200	130	.04	440	.14
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	550	.34*	320	.20*
WBR	d	1600	180	.11	80	.05
Right Turn Adjustment			SBR	.07*		

TOTAL CAPACITY UTILIZATION .54 .43

100. Saticoy & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12	150	.09*
NBT	1	1600	200	.13*	130	.08
NBR	1	1600	120	.08	90	.06
SBL	1	1600	160	.10*	90	.06
SBT	1	1600	120	.08	140	.09*
SBR	1	1600	270	.17	160	.10
EBL	1	1600	130	.08*	180	.11
EBT	2	3200	200	.06	650	.20*
EBR	1	1600	100	.06	190	.12
WBL	1	1600	80	.05	110	.07*
WBT	2	3200	350	.15*	480	.16
WBR	0	0	130		30	

TOTAL CAPACITY UTILIZATION .46 .45

101. Saticoy & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	190		80	
NBT	1	1600	70	.19*	60	.11*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	40	.05*
SBR	0	0	60		20	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	210	.18*	400	.34*
EBR	0	0	70		140	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	270	.17	270	.17
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .49 .52

102. Wells & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	250	.16*
NBT	1	1600	130	.08	300	.19
NBR	1	1600	50	.03	250	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	280	.18*	200	.13*
SBR	1	1600	40	.03	20	.01
EBL	1	1600	20	.01	40	.03
EBT	1	1600	50	.17*	190	.24*
EBR	0	0	220		200	
WBL	1	1600	300	.19*	130	.08*
WBT	1	1600	160	.11	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .63 .61

104. Wells & SR 126 EB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	830	.17	1400	.29
NBR	f		570		1440	
SBL	0	0	0		0	
SBT	3	4800	2490	.52*	1690	.35*
SBR	f		80		60	
EBL	1	1600	100	.06*	340	.21*
EBT	0	0	0		0	
EBR	1	1600	180	.11	610	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.17*

TOTAL CAPACITY UTILIZATION .63 .73

105. Wells & Darling

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	50	.03
NBT	3	4800	1200	.25	2680	.56*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	130	.08	350	.22*
SBT	3	4800	2280	.48*	1790	.37
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		30	
EBT	1	1600	30	.13*	40	.07*
EBR	0	0	100		40	
WBL	1	1600	70	.04*	290	.18*
WBT	1	1600	30	.06	40	.14
WBR	0	0	60		190	

TOTAL CAPACITY UTILIZATION .67 1.03

106. Wells & Telephone

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	390	.12
NBT	3	4800	1190	.25	2750	.59*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2350	.49*	1880	.39
SBR	1	1600	160	.10	420	.26
EBL	1.5		150	{.05}*	260	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	500	.16	520	.16
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.02*		

TOTAL CAPACITY UTILIZATION .68 .70

114. California & Thompson

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		30		30	
NBT	0.5	3200	10	.01*	20	.02*
NBR	1	1600	60	.04	80	.05
SBL	1.5		120		150	
SBT	1.5	4800	90	.05*	190	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	830	.31*	920	.32*
EBR	0	0	170		90	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	320	.10	380	.14
WBR	0	0	10		70	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .41 .46

115. Chestnut & Thompson

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	100	.06
SBT	1	1600	270	.18*	330	.23*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	550	.17*	620	.19*
EBR	f		400		550	
WBL	1	1600	200	.13*	200	.13*
WBT	2	3200	450	.15	630	.21
WBR	0	0	30		50	

TOTAL CAPACITY UTILIZATION .49 .56

120. Ventura & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	60	.04
NBT	1	1600	350	.22*	690	.43*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	120	.08*
SBT	1	1600	370	.23	380	.24
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	290	.18
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	190	.12*
WBR	1	1600	160	.10	140	.09

TOTAL CAPACITY UTILIZATION .41 .72

132. Ventura & Stanley

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	290	.18*
NBT	1	1600	260	.16	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	380	.24*
SBR	1	1600	530	.33	390	.24
EBL	1	1600	400	.25*	660	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .75 .83

136. US 101 SB Ramps & Valentine

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		480	.15*	540	.17*
SBT	0	4800	0		0	
SBR	1.5		70		20	
EBL	1	1600	120	.08*	530	.33*
EBT	2	3200	190	.06	700	.22
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1010	.32*	400	.13*
WBR	f		780		880	

TOTAL CAPACITY UTILIZATION .55 .63

138. Johnson & US 101 SB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	660	.41*
NBT	1	1600	160	.10	620	.39
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	670	.42*	400	.25*
SBR	f		1950		1960	
EBL	1	1600	120	.08*	280	.18*
EBT	0	0	0		0	
EBR	1	1600	120	.08	80	.05
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .59 .84

160. Victoria & US 101 NB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	480	.15*	480	.15*
NBT	3	4800	1380	.29	1840	.38
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2440	.38*	2150	.34*
SBR	1	1600	130	.08	370	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	910	.28*	600	.19*
WBT	0	0	0		0	
WBR	3	4800	860	.18	1080	.23

TOTAL CAPACITY UTILIZATION .81 .68

161. Victoria & Valentine

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	210	.07*
NBT	3	4800	1770	.37	2090	.45
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1600	.50*	1560	.49*
SBR	f		1660		1150	
EBL	2.5		280		670	
EBT	0.5	4800	50	.07*	20	.14*
EBR	1	1600	370	.23	540	.34
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment			EBR	.08*	EBR	.13*

TOTAL CAPACITY UTILIZATION .75 .86

Note: Assumes E/W Split Phasing
 Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	250	.16*	340	.21*
SBT	0	0	0		0	
SBR	1	1600	30	.02	50	.03
EBL	1	1600	10	.01	80	.05*
EBT	1	1600	240	.15*	260	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	230	.11*
WBR	0	0	50		110	

TOTAL CAPACITY UTILIZATION .31 .37

163. Santa Clara & Main

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	250	.08	210	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	340	.11*	460	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	150	.09*
WBT	2	3200	360	.12	480	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .28

164. Seaward & Poli

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.20*
NBR	0	0	120		150	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	350	.22*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	230	.14*	90	.06*
WBT	1	1600	170	.11	290	.18
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .48

165. Seaward & Harbor

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	350	.13*	280	.11*
NBR	0	0	50		70	
SBL	2	3200	480	.15*	390	.12*
SBT	2	3200	180	.06	300	.09
SBR	1	1600	320	.20	460	.29
EBL	2	3200	370	.12	390	.12
EBT	2	3200	700	.23*	1190	.39*
EBR	0	0	20		50	
WBL	1	1600	20	.01*	30	.02*
WBT	2	3200	300	.09	470	.15
WBR	2	3200	880	.28	1010	.32
Right Turn Adjustment			WBR	.05*		

TOTAL CAPACITY UTILIZATION .57 .64

166. College & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.07*
NBR	0	0	60		90	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	600	.21*	910	.31*
EBR	0	0	60		70	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	730	.23	690	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .41

168. Day & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	210	.13*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	290	.18
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	460	.41*	480	.44*
EBR	0	0	190		220	
WBL	1	1600	270	.17*	210	.13*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .75 .74

169. Kimball & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	310	.19*	180	.11*
NBT	0	0	0		0	
NBR	1	1600	30	.02	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	200	.30*	410	.38*
EBR	0	0	280		200	
WBL	1	1600	60	.04*	30	.02*
WBT	1	1600	530	.33	210	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .53 .51

170. Petit & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	240	.15*
EBR	1	1600	30	.02	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .19

171. Saticoy & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		60	
NBT	1	1600	0	.08*	0	.05*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.13	320	.26*
EBR	0	0	60		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	430	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .32

172. Wells & Foothill

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	130	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	50	.04	210	.14*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	310	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .26

173. Victoria & SR 126 WB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1170	.28	2030	.49*
NBR	0	0	190		320	
SBL	0	0	0		0	
SBT	3	4800	1890	.43*	1480	.33
SBR	0	0	180		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	600	.38	370	.23
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	180	.11
Right Turn Adjustment		Multi	.40*	Multi	.22*	

TOTAL CAPACITY UTILIZATION .83 .71

174. Petit & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	40	.03*
NBT	1	1600	10	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	20	.01	20	.01
SBT	1	1600	10	.03*	30	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	290	.09	580	.18
EBR	1	1600	50	.03	100	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	560	.35*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .44 .27

175. Ventura & North Bank

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	20		30	
SBT	1	1600	0	.06*	0	.10*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	440	.28
EBT	2	3200	1190	.37	3280	1.03*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	490	.31*	410	.26
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .48 1.13

176. Saticoy & Darling

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	160	.11	220	.14*
NBR	1	1600	110	.07	20	.01
SBL	0	0	60		10	{.01}*
SBT	1	1600	240	.19*	180	.12
SBR	1	1600	80	.05	70	.04
EBL	0	0	60		60	{.04}*
EBT	1	1600	70	.10*	50	.09
EBR	0	0	30		30	
WBL	0	0	80	{.05}*	50	
WBT	1	1600	20	.08	70	.09*
WBR	0	0	30		20	

TOTAL CAPACITY UTILIZATION .35 .28

177. Wells & SR 126 WB Ramps

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	510	.16	1370	.43*
NBR	f		400		370	
SBL	0	0	0		0	
SBT	2	3200	1030	.32*	730	.23
SBR	f		430		210	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1550		1020	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .32 .49

178. SR-33 Ramps & Stanley

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	720	.45	840	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	270	.17	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	710	.44*	930	.58*
WBR	f		180		160	
Right Turn Adjustment			NBR	.25*	NBR	.17*

TOTAL CAPACITY UTILIZATION .69 .75

179. SR-33 Ramps & Shell

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	680		650	
SBT	1	1600	0	.44*	0	.42*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	700	.48*	690	.50*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .93 .93

180. Estates & Telegraph

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03
NBT	1	1600	10	.04	10	.07*
NBR	0	0	60		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	550	.17	810	.25*
EBR	d	1600	50	.03	60	.04
WBL	1	1600	40	.03	80	.05*
WBT	2	3200	670	.21*	800	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .38

181. Ventura & Ramona

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	40	.03
NBT	1	1600	370	.24*	630	.40*
NBR	0	0	20		10	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	390	.26	480	.32
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .50

182. Olive & Main St

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	590	.37*	440	.28*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	160	.11*	170	.11
WBR	1	1600	190	.12	450	.28

TOTAL CAPACITY UTILIZATION .55 .61

190. Petit Av & North Bank Dr

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	30	.02*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	300	.19	280	.18
EBL	1	1600	80	.05*	350	.22*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	120	.04*	80	.03*
WBR	d	1600	60	.04	40	.03
Right Turn Adjustment			SBR	.13*		
TOTAL CAPACITY UTILIZATION				.24	.30	

191. Saticoy Av & North Bank Dr

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01*
NBT	1	1600	30	.03*	20	.02
NBR	0	0	10		10	
SBL	1	1600	20	.01*	50	.03
SBT	1	1600	10	.02	30	.04*
SBR	0	0	20		30	
EBL	1	1600	20	.01	30	.02*
EBT	2	3200	80	.03*	70	.02
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	70	.02*
WBR	d	1600	60	.04	120	.08
Right Turn Adjustment			WBR	.01*	WBR	.04*
TOTAL CAPACITY UTILIZATION				.08	.13	

192. Los Angeles Av & North Bank

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	150	.09
NBT	3	4800	1360	.28	2920	.61*
NBR	d	1600	30	.02	70	.04
SBL	1	1600	110	.07	170	.11*
SBT	3	4800	2600	.54*	2150	.45
SBR	d	1600	150	.09	90	.06
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	130	.08	150	.09
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.02*	WBR	.02*
TOTAL CAPACITY UTILIZATION				.66	.82	

193. Saticoy Av & A St

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	250	.16*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	200	.13	180	.11*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01
TOTAL CAPACITY UTILIZATION				.18	.12	

194. Wells Rd & A St

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	370	.13	860	.33*
NBR	0	0	50		180	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	810	.26*	580	.18
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	110	.07	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.04*		

TOTAL CAPACITY UTILIZATION .43 .42

196. Ramelli & Ralston

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	10	.01
NBT	1	1600	10	.01	30	.13*
NBR	0	0	10		170	
SBL	1	1600	10	.01	0	.00
SBT	1	1600	100	.08*	60	.06
SBR	0	0	30		30	
EBL	1	1600	10	.01*	20	.01
EBT	1	1600	60	.05	300	.23*
EBR	0	0	20		60	
WBL	1	1600	50	.03	10	.01*
WBT	1	1600	360	.24*	110	.07
WBR	0	0	20		0	

TOTAL CAPACITY UTILIZATION .33 .37

197. Kimball & Ralston

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	10	.01
NBT	3	4800	460	.10	1410	.29*
NBR	1	1600	0	.00	70	.04
SBL	1	1600	0	.00	0	.00
SBT	3	4800	1220	.25*	620	.13
SBR	1	1600	330	.21	120	.08
EBL	1	1600	20	.01*	250	.16*
EBT	1	1600	10	.01	140	.09
EBR	1	1600	30	.02	70	.04
WBL	1	1600	0	.00	0	.00
WBT	2	3200	100	.03*	30	.01*
WBR	1	1600	10	.01	10	.01

TOTAL CAPACITY UTILIZATION .32 .46

198. Montgomery & Ralston

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	0	.00
NBT	2	3200	260	.10*	190	.10*
NBR	0	0	60		130	
SBL	1	1600	10	.01*	40	.03*
SBT	2	3200	180	.06	230	.07
SBR	0	0	10		0	
EBL	1	1600	10	.01*	60	.04
EBT	1	1600	10	.01	80	.06*
EBR	0	0	0		20	
WBL	1	1600	150	.09	70	.04*
WBT	1	1600	90	.14*	30	.04
WBR	0	0	130		40	

TOTAL CAPACITY UTILIZATION .26 .23

199. Kimball & North Bank

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	20	.01*	50	.03*
SBT	0	0	0		0	
SBR	2	3200	1240	.39	670	.21
EBL	2	3200	350	.11*	1360	.43*
EBT	2	3200	260	.08	630	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	790	.27*	490	.18*
WBR	0	0	70		70	
Right Turn Adjustment			SBR	.30*		
TOTAL CAPACITY UTILIZATION				.69		.64

200. Harbor & Mills

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	440	.14*	830	.26*
NBR	1	1600	320	.20	190	.12
SBL	1	1600	330	.21*	120	.08*
SBT	2	3200	570	.18	750	.23
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	50	.03*	400	.25*
WBT	0	0	0		0	
WBR	1	1600	40	.03	280	.18
Right Turn Adjustment			NBR	.04*		
TOTAL CAPACITY UTILIZATION				.42		.59

201. Mills & B St

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	0	.00
NBT	2	3200	1040	.33*	1160	.36*
NBR	1	1600	320	.20	690	.43
SBL	1	1600	280	.18*	190	.12*
SBT	2	3200	800	.25	1300	.41
SBR	1	1600	60	.04	140	.09
EBL	1	1600	80	.05	110	.07
EBT	1	1600	150	.09*	120	.08*
EBR	1	1600	0	.00	0	.00
WBL	2	3200	420	.13*	600	.19*
WBT	1	1600	80	.05	150	.09
WBR	1	1600	100	.06	420	.26
TOTAL CAPACITY UTILIZATION				.73		.75

202. Telephone & B St

2025 Scenario 2 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	260	.16*
NBT	2	3200	950	.30*	820	.26
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	370	.12	1160	.36*
SBR	1	1600	80	.05	430	.27
EBL	1	1600	280	.18*	200	.13*
EBT	0	0	0		0	
EBR	1	1600	390	.24	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.48		.65

**NON-COMMITTED
IMPROVEMENTS**

27. Mills & Main

2025 Scenario 2 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07	360	.23*
NBT	2	3200	300	.09*	490	.15
NBR	1	1600	270	.17	220	.14
SBL	2.5		1020		1190	
SBT	1.5	6400	390	.23*	360	.25*
SBR	0		40		50	
EBL	2	3200	140	.04*	110	.03
EBT	4	6400	990	.15	960	.15*
EBR	1	1600	170	.11	350	.22
WBL	2	3200	370	.12	400	.13*
WBT	3	4800	1090	.23*	1220	.25
WBR	2	3200	1290	.40	1140	.36

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .59 .76

94. Johnson & North Bank

2025 Scenario 2 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	60	.04*
NBT	3	4800	130	.03	330	.07
NBR	d	1600	30	.02	520	.33
SBL	1	1600	20	.01	90	.06
SBT	3	4800	400	.13*	810	.20*
SBR	0	0	260	.16	150	
EBL	2	3200	200	.06	650	.20
EBT	3	4800	420	.09*	2240	.47*
EBR	1	1600	430	.27	280	.18
WBL	3	4800	1840	.38*	1230	.26*
WBT	2	3200	170	.06	210	.11
WBR	0	0	30		140	

Right Turn Adjustment EBR .13*

TOTAL CAPACITY UTILIZATION .79 .97

105. Wells & Darling

2025 Scenario 2 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	50	.03
NBT	3	4800	1200	.25	2680	.56*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	130	.04	350	.11*
SBT	3	4800	2280	.48*	1790	.37
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	30	.02*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	70	.02	290	.09
WBT	1	1600	30	.06*	40	.14*
WBR	0	0	60		190	

TOTAL CAPACITY UTILIZATION .61 .83

175. Ventura & North Bank

2025 Scenario 2 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	20		30	
SBT	1	1600	0	.06*	0	.10*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	440	.28
EBT	3	4800	1190	.25	3280	.68*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	490	.31*	410	.26
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .48 .78

SCENARIO 3

1. Victoria & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	240	.15*
NBT	1	1600	10	.01	80	.05
NBR	1	1600	180	.11	330	.21
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	300	.19	460	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	460	.14	250	.08*
WBT	1	1600	560	.35*	330	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .49 .53

2. Victoria & Loma Vista

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	250	.16*
NBT	2	3200	270	.08	540	.17
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	530	.17*	290	.09*
SBR	d	1600	110	.07	20	.01
EBL	0	0	70		20	
EBT	1	1600	30	.24*	30	.23*
EBR	0	0	280		320	
WBL	0	0	70	{.04}*	30	{.02}*
WBT	1	1600	40	.11	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .56 .50

3. Victoria & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	680	.21*	1150	.36*
NBT	2	3200	540	.17	900	.28
NBR	1	1600	150	.09	220	.14
SBL	1	1600	150	.09	200	.13
SBT	3	4800	720	.15*	540	.11*
SBR	d	1600	40	.03	30	.02
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	350	{.16}*	720	{.23}*
EBR	1.5		690		790	{.22}
WBL	2	3200	340	.11*	230	.07*
WBT	2	3200	580	.18	330	.10
WBR	d	1600	50	.03	60	.04

TOTAL CAPACITY UTILIZATION .63 .77

4. Victoria & Woodland

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	60	.04
NBT	3	4800	1440	.32	2120	.47*
NBR	0	0	80		140	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1810	.38*	1580	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	150		30	
WBL	1.5		260		90	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .71 .56

5. Victoria & SR 126 SB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1430	.23	2680	.43*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2550	.41*	1860	.30
SBR	0	0	70		80	
EBL	1.5		220		160	
EBT	0.5	3200	190	.13*	130	.09*
EBR	1	1600	230	.14	250	.16
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	260	.16	560	.35
Right Turn Adjustment Multi			.03*		WBR	.35*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .57 .87

6. Victoria & Thille

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1360	.28	2490	.40*
NBR	0	0	480	.30	50	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2170	.40*	1860	.33
SBR	0	0	360		230	
EBL	1.5		240		320	
EBT	0.5	3200	30	.08*	10	.10*
EBR	1	1600	120	.08	200	.13
WBL	1	1600	30	.02	120	.08
WBT	1	1600	10	.02*	60	.08*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .53 .61

7. Victoria & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	300	.09*	320	.10
NBT	4	6400	1300	.24	1650	.28*
NBR	0	0	260		150	
SBL	2	3200	340	.11	350	.11*
SBT	4	6400	1730	.27*	1360	.21
SBR	1	1600	370	.23	400	.25
EBL	2	3200	400	.13*	640	.20*
EBT	3	4800	390	.10	900	.21
EBR	0	0	80		120	
WBL	2	3200	220	.07	290	.09
WBT	3	4800	740	.15*	620	.13*
WBR	1	1600	170	.11	320	.20

TOTAL CAPACITY UTILIZATION .64 .72

8. Victoria & Ralston

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	260	.16*	410	.26*
NBT	4	6400	1430	.24	1960	.34
NBR	0	0	80		220	
SBL	1	1600	100	.06	210	.13
SBT	4	6400	1780	.30*	1800	.30*
SBR	0	0	110		110	
EBL	1	1600	40	.03	140	.09
EBT	1	1600	110	.07*	240	.15*
EBR	1	1600	220	.14	320	.20
WBL	1	1600	260	.16*	140	.09*
WBT	1	1600	230	.14	130	.08
WBR	1	1600	190	.12	120	.08

TOTAL CAPACITY UTILIZATION .69 .80

10. Victoria & Moon

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	180	.11
NBT	4	6400	1820	.30	2240	.40*
NBR	0	0	100		330	
SBL	1	1600	40	.03	120	.08*
SBT	4	6400	1950	.31*	1860	.33
SBR	0	0	20		250	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	180	.11
WBL	1	1600	300	.19*	140	.09*
WBT	1	1600	110	.07	60	.04
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .57 .63

14. Hill & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		30	
NBT	1	1600	100	.10*	60	.14*
NBR	0	0	10		140	
SBL	1	1600	50	.03*	250	.16*
SBT	1	1600	40	.03	70	.04
SBR	1	1600	70	.04	230	.14
EBL	1	1600	170	.11*	110	.07
EBT	3	4800	510	.12	1210	.29*
EBR	0	0	60		200	
WBL	1	1600	180	.11	30	.02*
WBT	3	4800	1120	.29*	720	.16
WBR	0	0	280		50	

TOTAL CAPACITY UTILIZATION .53 .61

15. Johnson & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	190	.06
NBT	2	3200	170	.11	230	.14*
NBR	0	0	170		400	.25
SBL	1	1600	30	.02	100	.06*
SBT	2	3200	170	.05*	210	.07
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	220	.07	1080	.31*
EBR	0	0	170	.11	430	
WBL	1	1600	320	.20	360	.23*
WBT	3	4800	1390	.30*	540	.12
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .48 .74

18. Seaward & US 101 NB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	610	.19*	650	.20*
NBT	2	3200	920	.29	970	.30
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	860	.27*	1080	.34*
SBR	1	1600	230	.14	190	.12
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	440	.14*	430	.13*
WBT	0	0	0		0	
WBR	2	3200	400	.13	450	.14

TOTAL CAPACITY UTILIZATION .60 .67

19. Monmouth/US 101 SB & Harbor

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	50	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		630		1060	
SBT	0.5	3200	50	.22*	80	.37*
SBR	0		10		40	
EBL	1	1600	130	.08*	160	.10*
EBT	2	3200	410	.13	430	.15
EBR	0	0	20		50	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	390	.24*	620	.39*
WBR	1	1600	320	.20	320	.20

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .57 .89

20. Harbor & Olivas Park

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	150	.09
NBT	2	3200	880	.28*	1030	.32*
NBR	1	1600	520	.33	250	.16
SBL	2	3200	500	.16*	500	.16*
SBT	2	3200	610	.19	1170	.37
SBR	1	1600	140	.09	120	.08
EBL	1	1600	70	.04	170	.11
EBT	2	3200	150	.05*	250	.08*
EBR	d	1600	60	.04	130	.08
WBL	1	1600	80	.05*	420	.26*
WBT	2	3200	100	.03	150	.05
WBR	f		380		690	
Right Turn Adjustment			NBR	.01*		

TOTAL CAPACITY UTILIZATION .55 .82

23. Mills & Loma Vista

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		380	{.14}*	290	{.10}*
NBT	0.5	3200	70	.14	20	.10
NBR	1	1600	40	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	340	.11*	620	.19*
EBR	d	1600	310	.19	530	.33
WBL	1	1600	80	.05*	80	.05*
WBT	2	3200	420	.13	360	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .34 .44

24. Mills & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	150	.09*
NBT	1	1600	420	.26*	260	.16
NBR	1	1600	210	.13	370	.23
SBL	1	1600	60	.04*	130	.08
SBT	2	3200	380	.12	470	.15*
SBR	1	1600	10	.01	10	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	350	.11*	550	.17*
EBR	1	1600	80	.05	130	.08
WBL	2	3200	260	.08*	220	.07*
WBT	2	3200	410	.15	430	.15
WBR	0	0	70		60	
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .49 .50

25. Mills & Maple

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	1000	.34*	830	.30*
NBR	0	0	80		120	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	730	.24	910	.30
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	220		210	
WBT	1	1600	20	.15*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .52 .51

26. Mills & Dean

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	100	.06*
NBT	2	3200	1210	.38*	950	.30
NBR	1	1600	270	.17	380	.24
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	820	.26	960	.31*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	220	.14
WBL	2	3200	420	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .54 .54

27. Mills & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	60	.06*	80	.07*
NBR	1	1600	360	.23	250	.16
SBL	2.5		1220		1320	
SBT	0.5	4800	80	.28*	90	.30*
SBR	0		40		20	
EBL	2	3200	110	.03*	100	.03*
EBT	4	6400	1050	.16	1100	.17
EBR	1	1600	20	.01	30	.02
WBL	2	3200	160	.05	370	.12
WBT	3	4800	1150	.24*	1490	.31*
WBR	2	3200	1420	.44	1390	.43
Right Turn Adjustment			NBR	.09*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .70 .71

28. US 101 NB Ramps & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	660	.21*	330	.10*
SBT	0	0	0		0	
SBR	3	4800	1680	.35	1430	.30
EBL	0	0	0		0	
EBT	3	4800	2300	.48*	2530	.53*
EBR	f		320		150	
WBL	2	3200	420	.13*	550	.17*
WBT	3	4800	1070	.22	1810	.38
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .82 .80

29. SR 126 EB Ramps & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	260	.08	410	.13*
EBT	3	4800	2660	.55*	2730	.57
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1290	.27	2420	.50*
WBR	f		130		390	

TOTAL CAPACITY UTILIZATION .55 .63

30. Callens & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		190	{.06}*	640	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01*
EBT	4	6400	2300	.36*	2460	.38
EBR	d	1600	340	.21	240	.15
WBL	2	3200	90	.03*	170	.05
WBT	3	4800	1230	.26	2150	.45*
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .47 .68

31. Donlon & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180		660	
NBT	0	3200	0	.07*	0	.24*
NBR	0.5		30		120	
SBL	1.5		400		330	
SBT	0.5	3200	180	.18*	130	.14*
SBR	1	1600	180	.11	220	.14
EBL	0	0	0		0	
EBT	4	6400	2000	.31*	2550	.40*
EBR	d	1600	220	.14	140	.09
WBL	2	3200	90	.03*	230	.07*
WBT	3	4800	1070	.22	1630	.34
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .59 .85

32. Telephone & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10	750	.23
NBT	2	3200	360	.11*	1140	.36*
NBR	1	1600	80	.05	320	.20
SBL	1.5		240	.15	460	
SBT	1.5	4800	1120	.35*	870	.28*
SBR	f		670		930	
EBL	2	3200	450	.14	710	.22
EBT	3	4800	1100	.23*	1550	.32*
EBR	f		440		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .69 .96

33. US 101 NB Ramps & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		680		570	
NBT	0.5	3200	20	.22*	90	.21*
NBR	1	1600	290	.18	410	.26
SBL	0.5		40		10	
SBT	0	3200	0	{.12}*	0	{.01}*
SBR	1.5		360		240	
EBL	1	1600	20	.01*	290	.18*
EBT	3	4800	840	.18	1940	.40
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1030	.22*	1440	.30*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .57 .70

34. Portola & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	320	.10*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	140	.09	60	.04
EBL	1	1600	40	.03*	180	.11
EBT	3	4800	710	.15	1720	.36*
EBR	d	1600	230	.14	320	.20
WBL	1	1600	20	.01	60	.04*
WBT	3	4800	880	.19*	950	.20
WBR	0	0	20		30	
Right Turn Adjustment			SBR	.06*		

TOTAL CAPACITY UTILIZATION .37 .51

35. Saratoga & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	20	.01
NBT	1	1600	10	.08*	60	.14*
NBR	0	0	110		160	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	30	.02	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	730	.15	1590	.33*
EBR	d	1600	50	.03	160	.10
WBL	1	1600	50	.03	80	.05*
WBT	3	4800	940	.20*	1000	.22
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .31 .55

38. Telephone & Market

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	250	.16*
NBT	3	4800	800	.17*	1140	.24
NBR	d	1600	90	.06	110	.07
SBL	1	1600	500	.31*	150	.09
SBT	3	4800	510	.11	870	.18*
SBR	d	1600	180	.11	160	.10
EBL	1	1600	30	.02	220	.14*
EBT	1	1600	260	.16*	240	.15
EBR	1	1600	230	.14	310	.19
WBL	1	1600	60	.04*	200	.13
WBT	1	1600	140	.09	400	.25*
WBR	1	1600	100	.06	540	.34
Right Turn Adjustment					WBR	.01*

TOTAL CAPACITY UTILIZATION .68 .74

42. Telephone & McGrath

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	310	.19*
NBT	3	4800	1010	.21	1270	.26
NBR	d	1600	340	.21	100	.06
SBL	1	1600	40	.03	70	.04
SBT	2	3200	680	.21*	1280	.40*
SBR	1	1600	40	.03	40	.03
EBL	1	1600	10	.01	60	.04
EBT	1	1600	30	.02*	20	.01*
EBR	1	1600	250	.16	390	.24
WBL	1	1600	90	.06*	300	.19*
WBT	1	1600	40	.03	70	.04
WBR	1	1600	30	.02	150	.09
Right Turn Adjustment			EBR	.04*	EBR	.09*
TOTAL CAPACITY UTILIZATION				.46		.88

45. Catalina & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	30	.02
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	70	.02*
SBT	1	1600	20	.04	10	.01
SBR	0	0	40		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	770	.25*	770	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	500	.22	790	.29*
WBR	0	0	190		130	
TOTAL CAPACITY UTILIZATION				.37		.34

46. Seaward & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12*
NBT	1	1600	160	.10	180	.11
NBR	1	1600	320	.20	290	.18
SBL	1	1600	30	.02	70	.04
SBT	1	1600	160	.10*	100	.06*
SBR	1	1600	190	.12	80	.05
EBL	1	1600	100	.06	90	.06
EBT	2	3200	730	.23*	660	.21*
EBR	1	1600	190	.12	120	.08
WBL	0.5		100		170	
WBT	1.5	3200	510	.20*	720	.31*
WBR	0		30		90	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.59		.70

47. Main & Loma Vista

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	350	.11*	470	.15*
NBR	f		40		180	
SBL	1	1600	590	.37*	400	.25*
SBT	2	3200	580	.18	640	.21
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	350	.11	490	.15
TOTAL CAPACITY UTILIZATION				.55		.53

49. Main & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		300	.19	630	
NBT	1.5	4800	630	.20*	720	.28*
NBR	f		140		90	
SBL	1.5		200		270	.17
SBT	1.5	4800	470	.15*	730	.24*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	310	.10	430	.13
EBR	f		700		620	
WBL	0	0	0		0	
WBT	1.5	4800	340	.11*	500	.16*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .46 .68

50. Emma & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1050	.33*	1230	.38*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	80	.05*
WBT	3	4800	980	.20	1520	.32
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .45

51. Lemon Grove & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		40	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		90	.06	30	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1060	.33*	1110	.35*
EBR	d	1600	70	.04	80	.05
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	960	.21	1350	.29
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .43

53. Kimball & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	260	.08*	490	.15*
SBT	0	0	0		0	
SBR	2	3200	1210	.38	660	.21
EBL	2	3200	260	.08*	980	.31*
EBT	3	4800	320	.07	1020	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	910	.28*	650	.20*
WBR	1	1600	670	.42	360	.23

Right Turn Adjustment Multi .32*

TOTAL CAPACITY UTILIZATION .76 .66

55. Kimball & SR 126 EB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1350	.28	850	.18*
NBR	f		120		440	
SBL	1	1600	30	.02	30	.02*
SBT	3	4800	1480	.31*	880	.18
SBR	0	0	0		0	
EBL	2	3200	120	.04*	400	.13*
EBT	0	0	10		0	
EBR	f		240		530	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .33

56. Kimball & SR 126 WB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	250	.08*
NBT	3	4800	820	.17	790	.16
NBR	d	1600	60	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	710	.15*	540	.11*
SBR	d	1600	190	.12	90	.06
EBL	1.5		40		40	
EBT	0.5	3200	10	.02*	10	.02*
EBR	1	1600	610	.38	240	.15
WBL	0	0	180		120	
WBT	1	1600	130	.19*	70	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.22*	EBR	.07*

TOTAL CAPACITY UTILIZATION .76 .40

Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	160	.05*	90	.03
NBT	2	3200	90	.03	180	.06*
NBR	1	1600	90	.06	170	.11
SBL	1	1600	30	.02	60	.04*
SBT	2	3200	180	.06*	170	.05
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	40	.03
EBT	2	3200	180	.06	560	.18*
EBR	1	1600	60	.04	220	.14
WBL	2	3200	200	.06	120	.04*
WBT	2	3200	380	.12*	310	.10
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .24 .34

60. Ramelli & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	170	.11	520	.33
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	0	.00	10	.01
EBT	3	4800	350	.08*	1470	.32*
EBR	0	0	40		80	
WBL	1	1600	430	.27*	180	.11*
WBT	3	4800	1650	.34	1090	.23
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.23*

TOTAL CAPACITY UTILIZATION .37 .68

61. Montgomery & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	270	.17*	60	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	30	.02	140	.09
SBL	1	1600	20	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	30	.02
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	510	.16	780	.24*
EBR	d	1600	90	.06	120	.08
WBL	1	1600	100	.06	70	.04*
WBT	2	3200	1120	.35*	680	.21
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*	NBR	.01*
TOTAL CAPACITY UTILIZATION				.58		.35

63. Petit & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	150	.09
NBT	1	1600	40	.10	60	.19*
NBR	0	0	120		250	
SBL	1	1600	30	.02	30	.02*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	90	.06*	80	.05
EBT	2	3200	320	.10	780	.24*
EBR	d	1600	90	.06	250	.16
WBL	1	1600	150	.09	210	.13*
WBT	2	3200	780	.24*	530	.17
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION				.46		.58

65. Sanjon & Thompson

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	550	.17*
NBT	0	0	0		0	
NBR	1	1600	180	.11	220	.14
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	490	.25*	670	.31*
EBR	0	0	300		310	
WBL	1	1600	120	.08*	150	.09*
WBT	2	3200	520	.16	790	.25
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.49		.57

68. Seaward & Thompson

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06	210	.13*
NBT	2	3200	500	.16*	500	.16
NBR	d	1600	220	.14	190	.12
SBL	1	1600	110	.07*	60	.04
SBT	2	3200	380	.12	360	.11*
SBR	d	1600	50	.03	100	.06
EBL	1	1600	90	.06	80	.05
EBT	2	3200	670	.23*	790	.28*
EBR	0	0	60		110	
WBL	2	3200	210	.07*	240	.08*
WBT	2	3200	430	.13	790	.25
WBR	1	1600	30	.02	60	.04
TOTAL CAPACITY UTILIZATION				.53		.60

71. Sanjon & Harbor

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	190	.12*	400	.25*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	110	.07*
EBT	1	1600	280	.18	480	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	260	.16*	600	.38*
WBR	1	1600	490	.31	290	.18
Right Turn Adjustment			WBR	.06*		
TOTAL CAPACITY UTILIZATION				.38		.70

75. Ashwood & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	80	.05*
NBR	d	1600	40	.03	70	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	70	.04
SBR	1	1600	120	.08	120	.08
EBL	1	1600	80	.05*	150	.09
EBT	2	3200	510	.16	830	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	540	.17*	590	.18
WBR	d	1600	100	.06	90	.06
TOTAL CAPACITY UTILIZATION				.29		.46

77. Day & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	220	.07*	350	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	490	.15	900	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	770	.24
WBR	d	1600	330	.21	250	.16
TOTAL CAPACITY UTILIZATION				.42		.39

85. Victoria & Olivas Park

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	850	.27*	690	.22*
NBT	3	4800	1920	.40	1810	.38
NBR	1	1600	490	.31	430	.27
SBL	2	3200	510	.16	230	.07
SBT	3	4800	1640	.34*	1780	.37*
SBR	f		190		200	
EBL	2	3200	290	.09	410	.13
EBT	2	3200	180	.06*	250	.08*
EBR	f		240		900	
WBL	1	1600	110	.07*	360	.23*
WBT	2	3200	70	.02	310	.10
WBR	f		130		260	
TOTAL CAPACITY UTILIZATION				.74		.90

86. Telephone & Olivas Park

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	450	.14*	890	.28*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	500	.31	910	.57
EBL	2	3200	720	.23*	700	.22*
EBT	2	3200	400	.13	560	.18
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	480	.15*	450	.14*
WBR	1	1600	640	.40	720	.45
Right Turn Adjustment			WBR	.14*	Multi	.21*
TOTAL CAPACITY UTILIZATION				.68		.87

91. Johnson & Ralston

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	130	.08*
NBT	2	3200	460	.14	780	.24
NBR	d	1600	20	.01	180	.11
SBL	1	1600	40	.03	60	.04
SBT	2	3200	690	.22*	870	.27*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	90	.06
EBT	1	1600	110	.07	220	.14*
EBR	d	1600	110	.07	290	.18
WBL	1	1600	130	.08	60	.04*
WBT	1	1600	230	.14*	100	.06
WBR	d	1600	90	.06	50	.03
TOTAL CAPACITY UTILIZATION				.46		.53

92. Johnson & Bristol

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	520	.16	1000	.31
NBR	f		190		1100	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	940	.30*	1170	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	280	.18*
EBR	1	1600	140	.09	190	.12
WBL	2	3200	1040	.33*	440	.14*
WBT	1	1600	270	.17	160	.10
WBR	d	1600	30	.02	20	.01
Right Turn Adjustment			EBR	.06*		
TOTAL CAPACITY UTILIZATION				.72		.74

94. Johnson & North Bank

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	110	.07*
NBT	3	4800	170	.04	520	.11
NBR	d	1600	20	.01	190	.12
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1550	.37*	1400	.33*
SBR	0	0	230		170	
EBL	2.5		440	.09*	1770	.37*
EBT	1.5	6400	70	.04	340	.21
EBR	1	1600	450	.28	350	.22
WBL	1.5		140		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.16*		
TOTAL CAPACITY UTILIZATION				.71		.85

95. Bristol & Ramelli

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01*
NBT	1	1600	20	.02*	10	.02
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02
SBT	1	1600	20	.01	40	.03*
SBR	1	1600	300	.19	90	.06
EBL	1	1600	10	.01*	140	.09
EBT	2	3200	200	.07	680	.22*
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01*
WBT	2	3200	900	.30*	390	.13
WBR	0	0	70		30	
Right Turn Adjustment			SBR	.16*		
TOTAL CAPACITY UTILIZATION				.50		.27

96. Montgomery & North Bank

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	120	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	380	.24	170	.11
EBL	1	1600	100	.06*	320	.20*
EBT	2	3200	110	.03	400	.13
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	470	.29*	280	.18*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.14*		
TOTAL CAPACITY UTILIZATION				.55		.48

100. Saticoy & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	190	.12*	100	.06
SBT	1	1600	110	.07	140	.09*
SBR	1	1600	260	.16	160	.10
EBL	1	1600	120	.08*	180	.11*
EBT	2	3200	220	.07	650	.20
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	330	.15*	470	.17*
WBR	0	0	140		60	
TOTAL CAPACITY UTILIZATION				.48		.46

101. Saticoy & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		80	
NBT	1	1600	70	.18*	50	.10*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	30	.02
EBT	1	1600	190	.17*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	270	.17	280	.18
WBR	1	1600	10	.01	10	.01
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.47		.51

102. Wells & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	250	.16*
NBT	1	1600	130	.08	290	.18
NBR	1	1600	60	.04	280	.18
SBL	1	1600	10	.01	10	.01
SBT	1	1600	280	.18*	200	.13*
SBR	1	1600	40	.03	30	.02
EBL	1	1600	20	.01	40	.03
EBT	1	1600	40	.16*	190	.25*
EBR	0	0	210		210	
WBL	1	1600	340	.21*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .66 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	880	.18	1450	.30
NBR	f		590		1560	
SBL	0	0	0		0	
SBT	3	4800	2650	.55*	1730	.36*
SBR	f		80		60	
EBL	1	1600	100	.06*	320	.20*
EBT	0	0	0		0	
EBR	1	1600	170	.11	610	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.18*

TOTAL CAPACITY UTILIZATION .66 .74

105. Wells & Darling

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1260	.26	2860	.60*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	120	.08	340	.21*
SBT	3	4800	2420	.50*	1860	.39
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	100		40	
WBL	1	1600	60	.04*	280	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .69 1.07

106. Wells & Telephone

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	420	.13
NBT	3	4800	1240	.26	2920	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2510	.52*	1950	.41
SBR	1	1600	130	.08	420	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	540	.17	540	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .72 .73

114. California & Thompson

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		30	.02
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	60	.04	90	.06
SBL	1.5		130		140	
SBT	1.5	4800	80	.05*	180	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	880	.33*	960	.33*
EBR	0	0	160		90	
WBL	1	1600	70	.04*	80	.05*
WBT	2	3200	320	.10	410	.14
WBR	0	0	10		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .44 .47

115. Chestnut & Thompson

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	90	.06
SBT	1	1600	270	.18*	350	.24*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	590	.18*	670	.21*
EBR	f		400		530	
WBL	1	1600	200	.13*	200	.13*
WBT	2	3200	450	.15	630	.22
WBR	0	0	30		80	

TOTAL CAPACITY UTILIZATION .50 .59

120. Ventura & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	40	.03
NBT	1	1600	340	.21*	690	.43*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	110	.07*
SBT	1	1600	370	.23	400	.25
SBR	1	1600	70	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	310	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	200	.13*
WBR	1	1600	160	.10	140	.09

TOTAL CAPACITY UTILIZATION .40 .72

132. Ventura & Stanley

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	300	.19*
NBT	1	1600	270	.17	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	460	.29*	400	.25*
SBR	1	1600	530	.33	370	.23
EBL	1	1600	390	.24*	650	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .85

136. US 101 SB Ramps & Valentine

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		520	.16*	600	.19*
SBT	0	4800	0		0	
SBR	1.5		80		20	
EBL	1	1600	120	.08*	540	.34*
EBT	2	3200	180	.06	700	.22
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1010	.32*	400	.13*
WBR	f		810		890	

TOTAL CAPACITY UTILIZATION .56 .66

138. Johnson & US 101 SB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	700	.44*
NBT	1	1600	140	.09	550	.34
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	640	.40*	400	.25*
SBR	f		1490		1610	
EBL	1	1600	110	.07*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	140	.09	100	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .58 .85

160. Victoria & US 101 NB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	560	.18*	600	.19*
NBT	3	4800	1400	.29	1970	.41
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2690	.42*	2200	.34*
SBR	1	1600	130	.08	350	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	850	.27*	630	.20*
WBT	0	0	0		0	
WBR	3	4800	880	.18	1150	.24

TOTAL CAPACITY UTILIZATION .87 .73

161. Victoria & Valentine

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	210	.07*
NBT	3	4800	1880	.40	2430	.52
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1760	.55*	1630	.51*
SBR	f		1680		1170	
EBL	2.5		300		640	
EBT	0.5	4800	40	.07*	20	.14*
EBR	1	1600	400	.25	640	.40
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment			EBR	.10*	EBR	.19*

TOTAL CAPACITY UTILIZATION .82 .94

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	230	.14*	330	.21*
SBT	0	0	0		0	
SBR	1	1600	30	.02	50	.03
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	240	.12*
WBR	0	0	50		130	

TOTAL CAPACITY UTILIZATION .28 .38

163. Santa Clara & Main

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	230	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	350	.11*	460	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	170	.11*
WBT	2	3200	360	.12	500	.17
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .30

164. Seaward & Poli

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		180	
NBT	1	1600	0	.18*	0	.22*
NBR	0	0	120		170	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	360	.23*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	240	.15*	100	.06*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .51

165. Seaward & Harbor

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	80	.05
NBT	2	3200	380	.13*	300	.11*
NBR	0	0	30		50	
SBL	2	3200	730	.23*	750	.23*
SBT	2	3200	190	.06	320	.10
SBR	1	1600	310	.19	470	.29
EBL	2	3200	340	.11	320	.10
EBT	2	3200	690	.22*	1300	.42*
EBR	0	0	20		40	
WBL	1	1600	20	.01*	20	.01*
WBT	2	3200	300	.09	500	.16
WBR	2	3200	1130	.35	1390	.43
Right Turn Adjustment			WBR	.06*		

TOTAL CAPACITY UTILIZATION .65 .77

166. College & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.07*
NBR	0	0	60		90	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	580	.20*	890	.30*
EBR	0	0	60		80	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	690	.22	670	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .40

168. Day & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	270	.17
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.41*	480	.44*
EBR	0	0	200		230	
WBL	1	1600	240	.15*	210	.13*
WBT	1	1600	420	.32	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .73 .75

169. Kimball & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	210	.26	390	.36*
EBR	0	0	210		190	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	530	.33*	190	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .45

170. Petit & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.12	320	.26*
EBR	0	0	50		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	430	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	210	.14*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .26

173. Victoria & SR 126 WB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1260	.31	2150	.52*
NBR	0	0	230		350	
SBL	0	0	0		0	
SBT	3	4800	2000	.46*	1540	.34
SBR	0	0	190		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	620	.39	410	.26
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	200	.13	150	.09
Right Turn Adjustment		Multi	.41*	Multi	.21*	

TOTAL CAPACITY UTILIZATION .87 .73

174. Petit & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	30	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	590	.18
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	530	.33*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .41 .27

175. Ventura & North Bank

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		70	
SBT	1	1600	0	.10*	0	.13*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	540	.34
EBT	2	3200	940	.29	2490	.78*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	420	.26
WBR	1	1600	50	.03	20	.01

TOTAL CAPACITY UTILIZATION .42 .91

176. Saticoy & Darling

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	150	.10	240	.16*
NBR	1	1600	110	.07	30	.02
SBL	0	0	50		10	{.01}*
SBT	1	1600	240	.18*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		60	
EBT	1	1600	70	.11*	60	.10*
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	{.03}*
WBT	1	1600	20	.08	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .34 .30

177. Wells & SR 126 WB Ramps

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1380	.43*
NBR	f		420		390	
SBL	0	0	0		0	
SBT	2	3200	1070	.33*	750	.23
SBR	f		430		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1660		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	710	.44	830	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	710	.44*	910	.57*
WBR	f		180		170	
Right Turn Adjustment			NBR	.24*	NBR	.17*

TOTAL CAPACITY UTILIZATION .68 .74

179. SR-33 Ramps & Shell

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	740	.53*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	60	.04
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	810	.25*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	660	.21*	780	.24
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .29 .39

181. Ventura & Ramona

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	360	.24*	630	.41*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	80	.05*
SBT	1	1600	400	.26	480	.32
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .52

182. Olive & Main St

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	590	.37*	450	.28*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	170	.11*	170	.11
WBR	1	1600	200	.13	450	.28

TOTAL CAPACITY UTILIZATION .55 .61

190. Petit Av & North Bank Dr

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	250	.16	240	.15
EBL	1	1600	60	.04*	280	.18*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	120	.04*	90	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.10*		

TOTAL CAPACITY UTILIZATION .21 .26

191. Saticoy Av & North Bank Dr

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01
NBT	1	1600	30	.03	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01	60	.04*
SBT	1	1600	10	.03*	30	.04
SBR	0	0	30		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	90	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	80	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.03*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1420	.30	3130	.65*
NBR	d	1600	20	.01	70	.04
SBL	1	1600	110	.07	170	.11*
SBT	3	4800	2800	.58*	2250	.47
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .71 .86

193. Saticoy Av & A St

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	230	.14*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .16 .13

194. Wells Rd & A St

2025 Scenario 3 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	130	.08
NBT	2	3200	390	.14	880	.33*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	840	.27*	580	.18
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	150	.09*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	40		10	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.44	.42	

**NON-COMMITTED
IMPROVEMENTS**

92. Johnson & Bristol

2025 Scenario 3 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	520	.16	1000	.31
NBR	f		190		1100	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	940	.30*	1170	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	280	.18*
EBR	1	1600	140	.09	190	.12
WBL	2	3200	1040	.33*	440	.14*
WBT	1	1600	270	.17	160	.10
WBR	d	1600	30	.02	20	.01
Right Turn Adjustment			EBR	.06*		
TOTAL CAPACITY UTILIZATION				.72		.74

105. Wells & Darling

2025 Scenario 3 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1260	.26	2860	.60*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	120	.04	340	.11*
SBT	3	4800	2420	.50*	1860	.39
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	60	.02	280	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	
TOTAL CAPACITY UTILIZATION				.63		.89

161. Victoria & Valentine

2025 Scenario 3 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	210	.07*
NBT	3	4800	1880	.40	2430	.52
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1760	.55*	1630	.51*
SBR	f		1680		1170	
EBL	2.5		300		640	
EBT	0.5	4800	40	.07*	20	.14*
EBR	2	3200	400	.13	640	.20
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.01*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.72		.76

SCENARIO 3
(ALTERNATIVE NETWORK)

1. Victoria & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	230	.14*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	190	.12	340	.21
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	290	.18	450	.28*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	440	.14	250	.08*
WBT	1	1600	580	.36*	330	.21
WBR	d	1600	10	.01	20	.01
Right Turn Adjustment					NBR	.01*
TOTAL CAPACITY UTILIZATION			.50		.52	

2. Victoria & Loma Vista

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	240	.15*
NBT	2	3200	260	.08	530	.17
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	530	.17*	280	.09*
SBR	d	1600	100	.06	20	.01
EBL	0	0	80		30	
EBT	1	1600	30	.23*	30	.23*
EBR	0	0	260		300	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	
TOTAL CAPACITY UTILIZATION			.55		.49	

3. Victoria & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1100	.34*
NBT	2	3200	530	.17	870	.27
NBR	1	1600	150	.09	220	.14
SBL	1	1600	150	.09	190	.12
SBT	3	4800	700	.15*	520	.11*
SBR	d	1600	40	.03	30	.02
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	350	{.15}*	720	{.23}*
EBR	1.5		630		760	{.22}
WBL	2	3200	330	.10*	220	.07*
WBT	2	3200	590	.18	330	.10
WBR	d	1600	50	.03	60	.04
TOTAL CAPACITY UTILIZATION			.61		.75	

4. Victoria & Woodland

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13*	60	.04
NBT	3	4800	1410	.31	2040	.46*
NBR	0	0	80		160	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1710	.36*	1530	.32
SBR	0	0	30		10	
EBL	0	0	10		30	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	150		30	
WBL	1.5		260		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		30		20	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.69		.55	

5. Victoria & SR 126 SB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1340	.22	2560	.41*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2440	.39*	1800	.29
SBR	0	0	70		80	
EBL	1.5		220		160	
EBT	0.5	3200	190	.13*	120	.09*
EBR	1	1600	220	.14	230	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	250	.16	550	.34
Right Turn Adjustment Multi			.04*		WBR	.34*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .56 .84

6. Victoria & Thille

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1270	.26	2370	.38*
NBR	0	0	480	.30	50	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2060	.38*	1800	.32
SBR	0	0	350		220	
EBL	1.5		240		320	
EBT	0.5	3200	30	.08*	10	.10*
EBR	1	1600	120	.08	200	.13
WBL	1	1600	30	.02	110	.07
WBT	1	1600	10	.02*	70	.09*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .51 .60

7. Victoria & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	320	.10
NBT	4	6400	1280	.24	1580	.27*
NBR	0	0	260		140	
SBL	2	3200	340	.11	340	.11*
SBT	4	6400	1680	.26*	1320	.21
SBR	1	1600	310	.19	380	.24
EBL	2	3200	330	.10*	600	.19*
EBT	3	4800	370	.09	910	.21
EBR	0	0	70		110	
WBL	2	3200	230	.07	300	.09
WBT	3	4800	720	.15*	620	.13*
WBR	1	1600	170	.11	320	.20

TOTAL CAPACITY UTILIZATION .61 .70

8. Victoria & Ralston

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	260	.16*	410	.26*
NBT	4	6400	1420	.23	1890	.33
NBR	0	0	80		220	
SBL	1	1600	100	.06	200	.13
SBT	4	6400	1740	.29*	1760	.29*
SBR	0	0	110		110	
EBL	1	1600	40	.03	120	.08
EBT	1	1600	120	.08*	240	.15*
EBR	1	1600	220	.14	330	.21
WBL	1	1600	240	.15*	140	.09*
WBT	1	1600	230	.14	130	.08
WBR	1	1600	190	.12	120	.08

TOTAL CAPACITY UTILIZATION .68 .79

10. Victoria & Moon

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	180	.11
NBT	4	6400	1820	.30	2180	.39*
NBR	0	0	100		320	
SBL	1	1600	40	.03	120	.08*
SBT	4	6400	1900	.30*	1840	.33
SBR	0	0	20		250	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	170	.11
WBL	1	1600	320	.20*	150	.09*
WBT	1	1600	100	.06	60	.04
WBR	1	1600	60	.04	50	.03

TOTAL CAPACITY UTILIZATION .57 .62

14. Hill & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	100	.10*	60	.14*
NBR	0	0	10		140	
SBL	1	1600	50	.03*	250	.16*
SBT	1	1600	30	.02	70	.04
SBR	1	1600	70	.04	240	.15
EBL	1	1600	170	.11*	110	.07
EBT	3	4800	500	.12	1220	.29*
EBR	0	0	60		190	
WBL	1	1600	180	.11	30	.02*
WBT	3	4800	1100	.29*	700	.16
WBR	0	0	280		50	

TOTAL CAPACITY UTILIZATION .53 .61

15. Johnson & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	160	.10	230	.14*
NBR	0	0	170	.11	390	.24
SBL	1	1600	30	.02	100	.06*
SBT	2	3200	170	.05*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	210	.07	1050	.31*
EBR	0	0	160	.10	450	
WBL	1	1600	380	.24	350	.22*
WBT	3	4800	1370	.30*	520	.12
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .48 .73

18. Seaward & US 101 NB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	620	.19*	620	.19*
NBT	2	3200	740	.23	810	.25
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	770	.24*	810	.25*
SBR	1	1600	240	.15	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	280	.09*	360	.11*
WBT	0	0	0		0	
WBR	2	3200	480	.15	480	.15

TOTAL CAPACITY UTILIZATION .52 .55

19. Monmouth/US 101 SB & Harbor

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		670		1050	
SBT	0.5	3200	50	.23*	70	.36*
SBR	0		10		40	
EBL	1	1600	120	.08*	160	.10*
EBT	2	3200	410	.13	430	.15
EBR	0	0	20		40	
WBL	1	1600	30	.02	30	.02
WBT	1	1600	390	.24*	590	.37*
WBR	1	1600	320	.20	330	.21

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .58 .86

20. Harbor & Olivas Park

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06	130	.08
NBT	2	3200	1030	.32*	1240	.39*
NBR	1	1600	430	.27	160	.10
SBL	2	3200	460	.14*	440	.14*
SBT	2	3200	660	.21	1370	.43
SBR	1	1600	150	.09	150	.09
EBL	1	1600	80	.05*	230	.14
EBT	2	3200	80	.03	160	.05*
EBR	d	1600	60	.04	130	.08
WBL	1	1600	70	.04	360	.23*
WBT	2	3200	60	.02*	150	.05
WBR	f		380		480	

TOTAL CAPACITY UTILIZATION .53 .81

23. Mills & Loma Vista

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		360	{.13}*	300	{.10}*
NBT	0.5	3200	70	.13	20	.10
NBR	1	1600	50	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	320	.10*	600	.19*
EBR	d	1600	320	.20	550	.34
WBL	1	1600	90	.06*	80	.05*
WBT	2	3200	420	.13	340	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.08*

TOTAL CAPACITY UTILIZATION .33 .45

24. Mills & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13	150	.09
NBT	1	1600	430	.27*	280	.18*
NBR	1	1600	250	.16	430	.27
SBL	1	1600	60	.04*	130	.08*
SBT	2	3200	410	.13	520	.16
SBR	1	1600	10	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	310	.10*	540	.17*
EBR	1	1600	80	.05	130	.08
WBL	2	3200	300	.09*	270	.08*
WBT	2	3200	390	.14	410	.14
WBR	0	0	70		50	
Right Turn Adjustment					NBR	.03*

TOTAL CAPACITY UTILIZATION .50 .54

25. Mills & Maple

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	1060	.36*	940	.34*
NBR	0	0	100		140	
SBL	1	1600	60	.04*	120	.08*
SBT	2	3200	800	.27	1030	.34
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	260		260	
WBT	1	1600	20	.18*	20	.18*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .58 .60

26. Mills & Dean

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	110	.07*
NBT	2	3200	1280	.40*	1090	.34
NBR	1	1600	300	.19	410	.26
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	930	.30	1130	.36*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	190	.12
WBL	2	3200	450	.14*	270	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.05*

TOTAL CAPACITY UTILIZATION .57 .58

27. Mills & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	110		430	
NBT	1	1600	300	.26*	600	.64*
NBR	1	1600	290	.18	260	.16
SBL	2.5		850	.27	1170	
SBT	0.5	4800	600	.41*	380	.33*
SBR	0		50		50	
EBL	2	3200	130	.04*	140	.04*
EBT	4	6400	1000	.16	940	.15
EBR	1	1600	240	.15	360	.23
WBL	2	3200	330	.10	380	.12
WBT	3	4800	1170	.24*	1240	.26*
WBR	2	3200	1280	.40	1010	.32

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .95 1.27

28. US 101 NB Ramps & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	630	.20*	340	.11*
SBT	0	0	0		0	
SBR	3	4800	1790	.37	1250	.26
EBL	0	0	0		0	
EBT	3	4800	1830	.38*	2170	.45*
EBR	f		310		210	
WBL	2	3200	400	.13*	450	.14*
WBT	3	4800	990	.21	1390	.29
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .71 .70

29. SR 126 EB Ramps & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	300	.09	530	.17*
EBT	3	4800	2240	.47*	2350	.49
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1210	.25	1940	.40*
WBR	f		130		340	

TOTAL CAPACITY UTILIZATION .47 .57

30. Callens & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		170	{.06}*	540	{.17}*
NBT	0.5	3200	10	.06	10	.17
NBR	1	1600	70	.04	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2000	.31*	2190	.34*
EBR	d	1600	240	.15	130	.08
WBL	2	3200	100	.03*	190	.06*
WBT	3	4800	1170	.25	1730	.36
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .42 .59

31. Donlon & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		170		520	
NBT	0	3200	0	.07*	0	.23*
NBR	0.5		40		220	
SBL	1.5		320		320	
SBT	0.5	3200	180	.16*	100	.13*
SBR	1	1600	170	.11	200	.13
EBL	0	0	0		0	
EBT	4	6400	1820	.28*	2240	.35*
EBR	d	1600	140	.09	140	.09
WBL	2	3200	90	.03*	250	.08*
WBT	3	4800	1030	.21	1350	.28
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .54 .79

32. Telephone & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08	530	.17
NBT	2	3200	340	.11*	1100	.34*
NBR	1	1600	120	.08	360	.23
SBL	1.5		240	.15	480	
SBT	1.5	4800	1050	.33*	870	.28*
SBR	f		720		900	
EBL	2	3200	430	.13	690	.22
EBT	3	4800	1010	.21*	1360	.28*
EBR	f		330		440	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .65 .90

33. US 101 NB Ramps & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		690		580	
NBT	0.5	3200	20	.22*	100	.21*
NBR	1	1600	270	.17	410	.26
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		230	
EBL	1	1600	20	.01*	270	.17*
EBT	3	4800	790	.16	1900	.40
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1020	.21*	1440	.30*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .69

34. Portola & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	330	.10*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	180	.11
EBT	3	4800	650	.14	1690	.35*
EBR	d	1600	230	.14	310	.19
WBL	1	1600	20	.01	60	.04*
WBT	3	4800	860	.18*	940	.20
WBR	0	0	20		30	
Right Turn Adjustment				SBR	.05*	

TOTAL CAPACITY UTILIZATION .35 .50

35. Saratoga & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	30	.02
NBT	1	1600	10	.08*	50	.14*
NBR	0	0	110		180	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	30	.02	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	670	.14	1560	.33*
EBR	d	1600	50	.03	160	.10
WBL	1	1600	50	.03	80	.05*
WBT	3	4800	910	.19*	980	.21
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .30 .55

38. Telephone & Market

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08	110	.07
NBT	3	4800	660	.14*	970	.20*
NBR	d	1600	140	.09	110	.07
SBL	1	1600	430	.27*	160	.10*
SBT	3	4800	370	.08	880	.18
SBR	d	1600	170	.11	180	.11
EBL	1	1600	100	.06	240	.15*
EBT	1	1600	310	.19*	240	.15
EBR	1	1600	60	.04	110	.07
WBL	1	1600	60	.04*	210	.13
WBT	1	1600	130	.08	430	.27*
WBR	1	1600	110	.07	520	.33

TOTAL CAPACITY UTILIZATION .64 .72

42. Telephone & McGrath

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	120	.08*
NBT	3	4800	830	.17	970	.20
NBR	d	1600	300	.19	100	.06
SBL	1	1600	60	.04	60	.04
SBT	2	3200	310	.10*	1130	.35*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	40	.03*
EBR	1	1600	110	.07	210	.13
WBL	1	1600	70	.04*	320	.20*
WBT	1	1600	40	.03	140	.09
WBR	1	1600	50	.03	130	.08
Right Turn Adjustment					EBR	.04*
TOTAL CAPACITY UTILIZATION			.29		.70	

45. Catalina & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	50	.04*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	250	.08*	80	.03*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		40		10	{.01}*
EBT	1.5	3200	760	.25*	760	.24
EBR	0		10		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	500	.21	770	.28*
WBR	0	0	160		140	
TOTAL CAPACITY UTILIZATION			.38		.34	

46. Seaward & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	220	.14*
NBT	1	1600	170	.11	170	.11
NBR	1	1600	260	.16	210	.13
SBL	1	1600	40	.03	80	.05
SBT	1	1600	140	.09*	80	.05*
SBR	1	1600	190	.12	80	.05
EBL	1	1600	110	.07	90	.06
EBT	2	3200	720	.23*	650	.20*
EBR	1	1600	200	.13	140	.09
WBL	0.5		80		130	
WBT	1.5	3200	460	.18*	680	.28*
WBR	0		20		90	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.56		.67	

47. Main & Loma Vista

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	310	.10*	450	.14*
NBR	f		40		180	
SBL	1	1600	570	.36*	380	.24*
SBT	2	3200	550	.18	590	.19
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	340	.11	440	.14
TOTAL CAPACITY UTILIZATION			.53		.51	

49. Main & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290	.18	650	
NBT	1.5	4800	590	.18*	740	.29*
NBR	f		170		130	
SBL	1.5		190	.12	250	.16
SBT	1.5	4800	500	.17*	760	.25*
SBR	0		30		40	
EBL	0	0	0		0	
EBT	2	3200	250	.08	370	.12
EBR	f		710		640	
WBL	0	0	0		0	
WBT	1.5	4800	310	.10*	430	{.13}*
WBR	1.5		120		220	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .67

50. Emma & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1090	.34*	1280	.40*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	80	.05*
WBT	3	4800	970	.20	1610	.34
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .47

51. Lemon Grove & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		140	.09	50	
SBL	1.5		40		90	
SBT	0.5	3200	10	.02*	10	.03*
SBR	1	1600	60	.04	60	.04
EBL	1	1600	30	.02	60	.04
EBT	2	3200	1180	.37*	1250	.39*
EBR	d	1600	10	.01	40	.03
WBL	1	1600	100	.06*	70	.04*
WBT	3	4800	970	.21	1470	.32
WBR	0	0	60		60	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .49 .49

53. Kimball & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	260	.08*	500	.16*
SBT	0	0	0		0	
SBR	2	3200	1190	.37	640	.20
EBL	2	3200	260	.08*	940	.29*
EBT	3	4800	320	.07	1010	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	910	.28*	650	.20*
WBR	1	1600	680	.43	360	.23

Right Turn Adjustment Multi .32*

TOTAL CAPACITY UTILIZATION .76 .65

55. Kimball & SR 126 EB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1350	.28	850	.18*
NBR	f		120		410	
SBL	1	1600	30	.02	30	.02*
SBT	3	4800	1460	.30*	860	.18
SBR	0	0	0		0	
EBL	2	3200	130	.04*	380	.12*
EBT	0	0	10		0	
EBR	f		240		550	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .32

56. Kimball & SR 126 WB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	250	.08*
NBT	3	4800	820	.17	770	.16
NBR	d	1600	60	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	690	.14*	530	.11*
SBR	d	1600	220	.14	110	.07
EBL	1.5		40		40	
EBT	0.5	3200	10	.02*	10	.02*
EBR	1	1600	620	.39	240	.15
WBL	0	0	170		120	
WBT	1	1600	140	.19*	70	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.23*	EBR	.07*

TOTAL CAPACITY UTILIZATION .76 .40
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	160	.05*	90	.03
NBT	2	3200	90	.03	170	.05*
NBR	1	1600	90	.06	160	.10
SBL	1	1600	30	.02	60	.04*
SBT	2	3200	180	.06*	170	.05
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01	40	.03
EBT	2	3200	180	.06*	570	.18*
EBR	1	1600	60	.04	210	.13
WBL	2	3200	210	.07*	120	.04*
WBT	2	3200	380	.12	310	.10
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .24 .33

60. Ramelli & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	170	.11	530	.33
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	340	.08	1430	.31*
EBR	0	0	40		80	
WBL	1	1600	370	.23	190	.12*
WBT	3	4800	1680	.35*	1060	.22
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.22*

TOTAL CAPACITY UTILIZATION .38 .67

61. Montgomery & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	270	.17*	70	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	20	.01	140	.09
SBL	1	1600	20	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	30	.02
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	510	.16	790	.25*
EBR	d	1600	80	.05	120	.08
WBL	1	1600	90	.06	70	.04*
WBT	2	3200	1120	.35*	680	.21
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*	NBR	.01*
TOTAL CAPACITY UTILIZATION			.58		.36	

63. Petit & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	150	.09
NBT	1	1600	40	.10	60	.19*
NBR	0	0	120		250	
SBL	1	1600	30	.02	30	.02*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	80	.05*	80	.05
EBT	2	3200	330	.10	780	.24*
EBR	d	1600	90	.06	250	.16
WBL	1	1600	150	.09	220	.14*
WBT	2	3200	790	.25*	520	.16
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION			.46		.59	

65. Sanjon & Thompson

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	550	.17*
NBT	0	0	0		0	
NBR	1	1600	180	.11	160	.10
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	470	.24*	670	.31*
EBR	0	0	300		310	
WBL	1	1600	120	.08*	140	.09*
WBT	2	3200	510	.16	760	.24
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.48		.57	

68. Seaward & Thompson

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09	270	.17*
NBT	2	3200	460	.14*	420	.13
NBR	d	1600	160	.10	130	.08
SBL	1	1600	120	.08*	80	.05
SBT	2	3200	350	.11	270	.08*
SBR	d	1600	50	.03	100	.06
EBL	1	1600	90	.06	90	.06
EBT	2	3200	640	.23*	770	.27*
EBR	0	0	80		100	
WBL	2	3200	160	.05*	200	.06*
WBT	2	3200	420	.13	760	.24
WBR	1	1600	30	.02	70	.04
TOTAL CAPACITY UTILIZATION			.50		.58	

71. Sanjon & Harbor

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	150	.09*	390	.24*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	110	.07*
EBT	1	1600	310	.19	480	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	590	.37*
WBR	1	1600	490	.31	240	.15
Right Turn Adjustment			WBR	.08*		

TOTAL CAPACITY UTILIZATION .37 .68

75. Ashwood & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03	40	.03
NBT	1	1600	60	.04*	100	.06*
NBR	d	1600	60	.04	70	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	80	.05
SBR	1	1600	150	.09	120	.08
EBL	1	1600	80	.05*	170	.11
EBT	2	3200	510	.16	850	.27*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	560	.18*	590	.18
WBR	d	1600	100	.06	90	.06

TOTAL CAPACITY UTILIZATION .31 .48

77. Day & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	90	.06	110	.07
EBL	1	1600	110	.07*	60	.04
EBT	2	3200	480	.15	890	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	770	.24
WBR	d	1600	350	.22	230	.14

TOTAL CAPACITY UTILIZATION .43 .39

85. Victoria & Olivas Park

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	820	.26*	660	.21*
NBT	3	4800	1860	.39	1760	.37
NBR	1	1600	490	.31	430	.27
SBL	2	3200	500	.16	220	.07
SBT	3	4800	1620	.34*	1700	.35*
SBR	f		170		200	
EBL	2	3200	310	.10	380	.12
EBT	2	3200	200	.06*	270	.08*
EBR	f		230		920	
WBL	1	1600	110	.07*	340	.21*
WBT	2	3200	70	.02	430	.13
WBR	f		130		210	

TOTAL CAPACITY UTILIZATION .73 .85

86. Telephone & Olivas Park

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	520	.16*	900	.28*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	300	.19	430	.27
EBL	2	3200	380	.12*	340	.11*
EBT	2	3200	360	.11	550	.17
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	440	.14*	530	.17*
WBR	1	1600	600	.38	740	.46
Right Turn Adjustment			WBR	.12*	WBR	.08*
TOTAL CAPACITY UTILIZATION			.56		.66	

91. Johnson & Ralston

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	130	.08*
NBT	1	1600	470	.29	770	.48
NBR	d	1600	20	.01	170	.11
SBL	1	1600	40	.03	60	.04
SBT	1	1600	750	.47*	880	.55*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	80	.05
EBT	1	1600	100	.06	230	.14*
EBR	d	1600	110	.07	260	.16
WBL	1	1600	110	.07	60	.04*
WBT	1	1600	230	.14*	90	.06
WBR	d	1600	90	.06	50	.03
TOTAL CAPACITY UTILIZATION			.71		.81	

92. Johnson & Bristol

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	520	.16	990	.31
NBR	f		190		1090	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	970	.31*	1150	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	280	.18*
EBR	1	1600	140	.09	190	.12
WBL	2	3200	1000	.31*	460	.14*
WBT	1	1600	260	.16	170	.11
WBR	d	1600	30	.02	10	.01
Right Turn Adjustment			EBR	.06*		
TOTAL CAPACITY UTILIZATION			.71		.74	

94. Johnson & North Bank

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	70	.04*
NBT	3	4800	170	.04	520	.11
NBR	d	1600	20	.01	190	.12
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1550	.37*	1390	.33*
SBR	0	0	230		170	
EBL	2.5		440	.09*	1750	.36*
EBT	1.5	6400	70	.04	350	.22
EBR	1	1600	450	.28	340	.21
WBL	1.5		140		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.16*		
TOTAL CAPACITY UTILIZATION			.71		.81	

95. Bristol & Ramelli

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01
NBT	1	1600	20	.02*	10	.02*
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02*
SBT	1	1600	20	.01	30	.02
SBR	1	1600	260	.16	110	.07
EBL	1	1600	10	.01*	150	.09*
EBT	2	3200	200	.07	670	.21
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01
WBT	2	3200	890	.30*	380	.13*
WBR	0	0	70		30	
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .47 .26

96. Montgomery & North Bank

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	120	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	370	.23	170	.11
EBL	1	1600	100	.06*	310	.19*
EBT	2	3200	110	.03	390	.12
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	470	.29*	270	.17*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .54 .46

100. Saticoy & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	190	.12*	100	.06
SBT	1	1600	110	.07	140	.09*
SBR	1	1600	260	.16	160	.10
EBL	1	1600	110	.07*	180	.11*
EBT	2	3200	220	.07	650	.20
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	330	.15*	470	.17*
WBR	0	0	140		60	

TOTAL CAPACITY UTILIZATION .47 .46

101. Saticoy & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		80	
NBT	1	1600	70	.18*	50	.10*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	190	.17*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	280	.18	280	.18
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .47 .51

102. Wells & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	250	.16*
NBT	1	1600	130	.08	290	.18
NBR	1	1600	60	.04	260	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	280	.18*	200	.13*
SBR	1	1600	40	.03	30	.02
EBL	1	1600	20	.01	40	.03
EBT	1	1600	40	.16*	190	.25*
EBR	0	0	210		210	
WBL	1	1600	340	.21*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .66 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	890	.19	1430	.30
NBR	f		590		1570	
SBL	0	0	0		0	
SBT	3	4800	2650	.55*	1730	.36*
SBR	f		80		60	
EBL	1	1600	100	.06*	330	.21*
EBT	0	0	0		0	
EBR	1	1600	170	.11	610	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.17*

TOTAL CAPACITY UTILIZATION .66 .74

105. Wells & Darling

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2840	.59*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	120	.08	340	.21*
SBT	3	4800	2420	.50*	1850	.39
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	100		40	
WBL	1	1600	60	.04*	280	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .69 1.06

106. Wells & Telephone

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	420	.13
NBT	3	4800	1250	.26	2900	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2510	.52*	1940	.40
SBR	1	1600	130	.08	420	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	540	.17	540	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .72 .73

114. California & Thompson

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		30	.02
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	50	.03	90	.06
SBL	1.5		120		150	
SBT	1.5	4800	90	.05*	190	.07*
SBR	0		10		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	850	.32*	950	.33*
EBR	0	0	170		100	
WBL	1	1600	70	.04*	80	.05*
WBT	2	3200	310	.10	380	.14
WBR	0	0	10		70	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .43 .47

115. Chestnut & Thompson

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	80	.05
SBT	1	1600	270	.18*	340	.23*
SBR	0	0	10		30	
EBL	1	1600	20	.01	20	.01
EBT	2	3200	560	.18*	660	.21*
EBR	f		400		540	
WBL	1	1600	200	.13*	200	.13*
WBT	2	3200	450	.15	620	.21
WBR	0	0	30		60	

TOTAL CAPACITY UTILIZATION .50 .58

120. Ventura & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	340	.21*	690	.43*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	120	.08*
SBT	1	1600	370	.23	390	.24
SBR	1	1600	70	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	170	.11*	300	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	190	.12*
WBR	1	1600	170	.11	140	.09

TOTAL CAPACITY UTILIZATION .41 .72

132. Ventura & Stanley

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	300	.19*
NBT	1	1600	270	.17	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	460	.29*	390	.24*
SBR	1	1600	530	.33	370	.23
EBL	1	1600	390	.24*	660	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .84

136. US 101 SB Ramps & Valentine

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		530	.17*	540	.17*
SBT	0	4800	0		0	
SBR	1.5		70		20	
EBL	1	1600	120	.08*	530	.33*
EBT	2	3200	180	.06	680	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	980	.31*	400	.13*
WBR	f		810		880	

TOTAL CAPACITY UTILIZATION .56 .63

138. Johnson & US 101 SB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	700	.44*
NBT	1	1600	140	.09	510	.32
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	640	.40*	400	.25*
SBR	f		1490		1600	
EBL	1	1600	110	.07*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	130	.08	80	.05
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .58 .85

160. Victoria & US 101 NB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	530	.17*
NBT	3	4800	1380	.29	1930	.40
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2640	.41*	2180	.34*
SBR	1	1600	130	.08	350	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	800	.25*	640	.20*
WBT	0	0	0		0	
WBR	3	4800	890	.19	1110	.23

TOTAL CAPACITY UTILIZATION .82 .71

161. Victoria & Valentine

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	220	.07*
NBT	3	4800	1840	.39	2280	.49
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1680	.52*	1620	.51*
SBR	f		1660		1160	
EBL	2.5		300		640	
EBT	0.5	4800	40	.07*	20	.14*
EBR	1	1600	410	.26	560	.35
WBL	0	0	20		30	
WBT	1	1600	10	.02*	30	.04*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment			EBR	.11*	EBR	.14*

TOTAL CAPACITY UTILIZATION .80 .90

Note: Assumes E/W Split Phasing
 Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	250	.16*	340	.21*
SBT	0	0	0		0	
SBR	1	1600	30	.02	50	.03
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	240	.15*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	240	.12*
WBR	0	0	50		130	

TOTAL CAPACITY UTILIZATION .31 .38

163. Santa Clara & Main

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	210	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	350	.11*	470	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	160	.10*
WBT	2	3200	360	.12	480	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .29

164. Seaward & Poli

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		190	
NBT	1	1600	0	.18*	0	.22*
NBR	0	0	120		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	340	.21*
EBR	d	1600	80	.05	150	.09
WBL	1	1600	230	.14*	90	.06*
WBT	1	1600	170	.11	290	.18
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .49

165. Seaward & Harbor

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.13*	280	.11*
NBR	0	0	50		80	
SBL	2	3200	500	.16*	420	.13*
SBT	2	3200	180	.06	300	.09
SBR	1	1600	310	.19	470	.29
EBL	2	3200	330	.10	360	.11
EBT	2	3200	740	.24*	1260	.41*
EBR	0	0	20		40	
WBL	1	1600	20	.01*	40	.03*
WBT	2	3200	310	.10	500	.16
WBR	2	3200	920	.29	1090	.34
Right Turn Adjustment			WBR	.02*		

TOTAL CAPACITY UTILIZATION .56 .68

166. College & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.08*
NBR	0	0	50		110	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	590	.20*	910	.31*
EBR	0	0	60		80	
WBL	1	1600	130	.08*	50	.03*
WBT	2	3200	720	.23	690	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .42

168. Day & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	210	.13*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	270	.17
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.40*	470	.43*
EBR	0	0	190		220	
WBL	1	1600	260	.16*	210	.13*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .73 .73

169. Kimball & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	200	.26	390	.36*
EBR	0	0	210		190	
WBL	1	1600	60	.04	30	.02*
WBT	1	1600	530	.33*	190	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .46

170. Petit & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	180	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.12	320	.26*
EBR	0	0	50		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	430	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	210	.14*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .26

173. Victoria & SR 126 WB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1210	.29	2100	.51*
NBR	0	0	200		340	
SBL	0	0	0		0	
SBT	3	4800	1920	.44*	1500	.33
SBR	0	0	190		80	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	600	.38	400	.25
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	150	.09
Right Turn Adjustment		Multi	.40*	Multi	.20*	

TOTAL CAPACITY UTILIZATION .84 .71

174. Petit & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	30	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	590	.18
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	530	.33*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .41 .27

175. Ventura & North Bank

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		60	
SBT	1	1600	0	.10*	0	.12*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	550	.34
EBT	2	3200	940	.29	2470	.77*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	380	.24
WBR	1	1600	50	.03	20	.01

TOTAL CAPACITY UTILIZATION .42 .89

176. Saticoy & Darling

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	150	.10	230	.15*
NBR	1	1600	110	.07	30	.02
SBL	0	0	50		10	{.01}*
SBT	1	1600	240	.18*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		60	
EBT	1	1600	70	.11*	60	.10*
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	{.03}*
WBT	1	1600	20	.08	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .34 .29

177. Wells & SR 126 WB Ramps

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1370	.43*
NBR	f		430		380	
SBL	0	0	0		0	
SBT	2	3200	1070	.33*	750	.23
SBR	f		430		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1660		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	710	.44	830	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	700	.44*	910	.57*
WBR	f		180		170	
Right Turn Adjustment			NBR	.24*	NBR	.17*

TOTAL CAPACITY UTILIZATION .68 .74

179. SR-33 Ramps & Shell

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	740	.53*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03
NBT	1	1600	10	.04	10	.07*
NBR	0	0	60		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	810	.25*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	660	.21*	790	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .39

181. Ventura & Ramona

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	360	.24*	630	.41*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	400	.26	470	.31
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .51

182. Olive & Main St

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	600	.38*	450	.28*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	170	.11*	170	.11
WBR	1	1600	200	.13	450	.28

TOTAL CAPACITY UTILIZATION .56 .61

190. Petit Av & North Bank Dr

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	260	.16	240	.15
EBL	1	1600	60	.04*	280	.18*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	90	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.10*		

TOTAL CAPACITY UTILIZATION .20 .26

191. Saticoy Av & North Bank Dr

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01*	60	.04*
SBT	1	1600	10	.02	30	.04
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	90	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	80	.03*
WBR	d	1600	60	.04	140	.09
Right Turn Adjustment			WBR	.01*	WBR	.03*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1430	.30	3110	.65*
NBR	d	1600	20	.01	70	.04
SBL	1	1600	110	.07	170	.11*
SBT	3	4800	2800	.58*	2240	.47
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .71 .86

193. Saticoy Av & A St

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	230	.14*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .16 .13

194. Wells Rd & A St

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	390	.14	860	.32*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	840	.27*	580	.18
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	150	.09*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.05*		

TOTAL CAPACITY UTILIZATION .44 .41

200. Harbor & Mills

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17*	940	.29*
NBR	1	1600	370	.23	210	.13
SBL	1	1600	290	.18*	140	.09*
SBT	2	3200	590	.18	850	.27
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	50	.03*	420	.26*
WBT	0	0	0		0	
WBR	1	1600	50	.03	280	.18
Right Turn Adjustment			NBR	.04*		

TOTAL CAPACITY UTILIZATION .42 .64

201. Mills & B St

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	0	.00
NBT	2	3200	1100	.34*	1210	.38*
NBR	1	1600	400	.25	750	.47
SBL	1	1600	340	.21*	270	.17*
SBT	2	3200	820	.26	1360	.43
SBR	1	1600	70	.04	150	.09
EBL	1	1600	70	.04	120	.08
EBT	1	1600	150	.09*	120	.08*
EBR	1	1600	0	.00	0	.00
WBL	2	3200	400	.13*	640	.20*
WBT	1	1600	80	.05	150	.09
WBR	1	1600	150	.09	490	.31

TOTAL CAPACITY UTILIZATION .77 .83

202. Telephone & B St

2025 Scenario 3 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03	240	.15*
NBT	2	3200	950	.30*	840	.26
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	480	.15	1170	.37*
SBR	1	1600	70	.04	460	.29
EBL	1	1600	300	.19*	210	.13*
EBT	0	0	0		0	
EBR	1	1600	390	.24	180	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .49 .65

**NON-COMMITTED
IMPROVEMENTS**

27. Mills & Main

2025 Scenario 3 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07	430	.27*
NBT	2	3200	300	.09*	600	.19
NBR	1	1600	290	.18	260	.16
SBL	2.5		850		1170	
SBT	1.5	6400	600	.23*	380	.25*
SBR	0		50		50	
EBL	2	3200	130	.04*	140	.04*
EBT	4	6400	1000	.16	940	.15
EBR	1	1600	240	.15	360	.23
WBL	2	3200	330	.10	380	.12
WBT	3	4800	1170	.24*	1240	.26*
WBR	2	3200	1280	.40	1010	.32

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .60 .82

105. Wells & Darling

2025 Scenario 3 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2840	.59*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	120	.04	340	.11*
SBT	3	4800	2420	.50*	1850	.39
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	60	.02	280	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .63 .88

SCENARIO 4

1. Victoria & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	240	.15*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	190	.12	350	.22
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	170	.11
EBT	1	1600	300	.19	460	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	450	.14	260	.08*
WBT	1	1600	570	.36*	330	.21
WBR	d	1600	10	.01	20	.01
Right Turn Adjustment					NBR	.01*
TOTAL CAPACITY UTILIZATION			.50		.54	

2. Victoria & Loma Vista

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12*	260	.16*
NBT	2	3200	270	.08	560	.18
NBR	d	1600	10	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	540	.17*	300	.09*
SBR	d	1600	100	.06	10	.01
EBL	0	0	70		20	
EBT	1	1600	40	.25*	30	.24*
EBR	0	0	290		330	
WBL	0	0	70	{.04}*	30	{.02}*
WBT	1	1600	40	.11	30	.05
WBR	0	0	60		20	
TOTAL CAPACITY UTILIZATION			.58		.51	

3. Victoria & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1140	.36*
NBT	2	3200	550	.17	920	.29
NBR	1	1600	150	.09	210	.13
SBL	1	1600	190	.12	200	.13
SBT	3	4800	710	.15*	570	.12*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	380	{.16}*	730	{.23}*
EBR	1.5		660		780	{.22}
WBL	2	3200	390	.12*	220	.07*
WBT	2	3200	600	.19	350	.11
WBR	d	1600	60	.04	70	.04
TOTAL CAPACITY UTILIZATION			.64		.78	

4. Victoria & Woodland

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	60	.04
NBT	3	4800	1420	.31	2120	.48*
NBR	0	0	70		170	
SBL	1	1600	20	.01	20	.01*
SBT	3	4800	1810	.38*	1590	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	150		30	
WBL	1.5		250		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.72		.57	

5. Victoria & SR 126 SB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1380	.22	2670	.43*
NBR	0	0	50		50	
SBL	0	0	0		0	
SBT	4	6400	2600	.42*	1900	.31
SBR	0	0	80		80	
EBL	1.5		220	.14	140	.09
EBT	0.5	3200	230	.14*	180	.11*
EBR	1	1600	220	.14	220	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	260	.16	590	.37
Right Turn Adjustment			WBR	.01*	WBR	.37*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .57 .91

6. Victoria & Thille

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	70	.04
NBT	4	6400	1320	.28	2480	.40*
NBR	0	0	460	.29	60	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2200	.40*	1900	.33
SBR	0	0	370		210	
EBL	1.5		240		330	
EBT	0.5	3200	20	.08*	10	.11*
EBR	1	1600	130	.08	200	.13
WBL	1	1600	30	.02	90	.06
WBT	1	1600	10	.02*	90	.10*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .53 .64

7. Victoria & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	330	.10
NBT	4	6400	1310	.25	1660	.29*
NBR	0	0	270		170	
SBL	2	3200	360	.11	410	.13*
SBT	4	6400	1820	.28*	1330	.21
SBR	1	1600	300	.19	380	.24
EBL	2	3200	310	.10*	620	.19*
EBT	3	4800	390	.09	970	.23
EBR	0	0	50		120	
WBL	2	3200	300	.09	360	.11
WBT	3	4800	750	.16*	760	.16*
WBR	1	1600	180	.11	330	.21

TOTAL CAPACITY UTILIZATION .64 .77

8. Victoria & Ralston

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	240	.15*	380	.24*
NBT	4	6400	1470	.24	2020	.35
NBR	0	0	70		220	
SBL	1	1600	100	.06	200	.13
SBT	4	6400	1910	.32*	1850	.31*
SBR	0	0	120		120	
EBL	1	1600	40	.03	120	.08
EBT	1	1600	150	.09*	290	.18*
EBR	1	1600	220	.14	310	.19
WBL	1	1600	240	.15*	190	.12*
WBT	1	1600	250	.16	170	.11
WBR	1	1600	200	.13	140	.09

TOTAL CAPACITY UTILIZATION .71 .85

10. Victoria & Moon

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1830	.31	2250	.41*
NBR	0	0	150		370	
SBL	1	1600	50	.03	120	.08*
SBT	4	6400	2040	.32*	1960	.35
SBR	0	0	20		250	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	160	.10
WBL	1	1600	330	.21*	210	.13*
WBT	1	1600	120	.08	60	.04
WBR	1	1600	70	.04	60	.04

TOTAL CAPACITY UTILIZATION .60 .68

14. Hill & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	110	.11*	60	.17*
NBR	0	0	10		190	
SBL	1	1600	60	.04*	240	.15*
SBT	1	1600	40	.03	70	.04
SBR	1	1600	80	.05	230	.14
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	550	.13	1320	.31*
EBR	0	0	80		160	
WBL	1	1600	130	.08	40	.03*
WBT	3	4800	1210	.31*	790	.18
WBR	0	0	290		90	

TOTAL CAPACITY UTILIZATION .57 .66

15. Johnson & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	360	.11*	250	.08
NBT	2	3200	170	.11	220	.14*
NBR	0	0	300	.19	430	.27
SBL	1	1600	80	.05	160	.10*
SBT	2	3200	150	.05*	210	.07
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03	40	.03
EBT	3	4800	280	.09*	1330	.35*
EBR	0	0	170	.11	360	
WBL	1	1600	480	.30*	530	.33*
WBT	3	4800	1420	.31	600	.14
WBR	0	0	70		90	

TOTAL CAPACITY UTILIZATION .55 .92

18. Seaward & US 101 NB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	540	.17*	600	.19*
NBT	2	3200	860	.27	900	.28
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	730	.23*	950	.30*
SBR	1	1600	240	.15	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	390	.12*	390	.12*
WBT	0	0	0		0	
WBR	2	3200	380	.12	450	.14

TOTAL CAPACITY UTILIZATION .52 .61

19. Monmouth/US 101 SB & Harbor

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		630		1000	
SBT	0.5	3200	30	.21*	70	.35*
SBR	0		10		50	
EBL	1	1600	130	.08*	160	.10*
EBT	2	3200	390	.13	400	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	570	.36*
WBR	1	1600	310	.19	310	.19

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .84

20. Harbor & Olivas Park

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	130	.08*
NBT	2	3200	930	.29*	1120	.35
NBR	1	1600	380	.24	190	.12
SBL	2	3200	170	.05*	170	.05
SBT	2	3200	730	.23	1190	.37*
SBR	1	1600	140	.09	110	.07
EBL	1	1600	70	.04*	160	.10
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	50	.03	420	.26*
WBT	2	3200	110	.03*	150	.05
WBR	f		50		380	

TOTAL CAPACITY UTILIZATION .41 .78

23. Mills & Loma Vista

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		380	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	340	.11*	610	.19*
EBR	d	1600	320	.20	520	.33
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	430	.13	360	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .33 .43

24. Mills & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	140	.09
NBT	1	1600	410	.26*	250	.16*
NBR	1	1600	210	.13	390	.24
SBL	1	1600	60	.04*	140	.09*
SBT	2	3200	360	.11	460	.14
SBR	1	1600	10	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	340	.11*	530	.17*
EBR	1	1600	80	.05	130	.08
WBL	2	3200	270	.08*	220	.07*
WBT	2	3200	410	.15	420	.15
WBR	0	0	70		70	
Right Turn Adjustment					NBR	.03*

TOTAL CAPACITY UTILIZATION .49 .52

25. Mills & Maple

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	990	.34*	830	.29*
NBR	0	0	100		100	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	720	.24	890	.30
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	220		210	
WBT	1	1600	20	.15*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .52 .50

26. Mills & Dean

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	100	.06*
NBT	2	3200	1220	.38*	940	.29
NBR	1	1600	280	.18	370	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	810	.26	930	.30*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	220	.14
WBL	2	3200	410	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .54 .53

27. Mills & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	80	.07*
NBR	1	1600	340	.21	240	.15
SBL	2.5		1190		1300	
SBT	0.5	4800	80	.27*	90	.29*
SBR	0		40		20	
EBL	2	3200	100	.03*	100	.03*
EBT	4	6400	1060	.17	1080	.17
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	370	.12
WBT	3	4800	1110	.23*	1410	.29*
WBR	2	3200	1440	.45	1360	.43
Right Turn Adjustment			Multi	.10*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .69 .68

28. US 101 NB Ramps & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	610	.19*	330	.10*
SBT	0	0	0		0	
SBR	3	4800	1700	.35	1340	.28
EBL	0	0	0		0	
EBT	3	4800	2270	.47*	2480	.52*
EBR	f		310		160	
WBL	2	3200	390	.12*	520	.16*
WBT	3	4800	1010	.21	1800	.38
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .78 .78

29. SR 126 EB Ramps & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	280	.09	420	.13*
EBT	3	4800	2560	.53*	2660	.55
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1210	.25	2370	.49*
WBR	f		140		320	

TOTAL CAPACITY UTILIZATION .53 .62

30. Callens & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	650	{.21}*
NBT	0.5	3200	10	.06	10	.21
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2250	.35*	2380	.37*
EBR	d	1600	300	.19	260	.16
WBL	2	3200	100	.03*	180	.06*
WBT	3	4800	1180	.25	2000	.42
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .46 .66

31. Donlon & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		560	
NBT	0	3200	0	.06*	0	.23*
NBR	0.5		40		170	
SBL	1.5		380		350	
SBT	0.5	3200	150	.17*	80	.13*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1960	.31*	2380	.37*
EBR	d	1600	210	.13	210	.13
WBL	2	3200	110	.03*	250	.08*
WBT	3	4800	1060	.22	1580	.33
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .57 .81

32. Telephone & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	670	.21
NBT	2	3200	250	.08*	1080	.34*
NBR	1	1600	90	.06	290	.18
SBL	1.5		260	.16	590	
SBT	1.5	4800	1000	.31*	720	.27*
SBR	f		750		970	
EBL	2	3200	460	.14	760	.24
EBT	3	4800	1080	.23*	1390	.29*
EBR	f		410		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .62 .90

33. US 101 NB Ramps & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		680		530	
NBT	0.5	3200	30	.22*	80	.19*
NBR	1	1600	270	.17	400	.25
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		230	
EBL	1	1600	20	.01*	290	.18*
EBT	3	4800	740	.15	1950	.41
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1020	.21*	1530	.32*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .70

34. Portola & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08*	320	.10*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	620	.13	1760	.37*
EBR	d	1600	230	.14	300	.19
WBL	1	1600	20	.01	60	.04*
WBT	3	4800	870	.19*	1040	.23
WBR	0	0	20		40	
Right Turn Adjustment			SBR	.05*		

TOTAL CAPACITY UTILIZATION .36 .52

35. Saratoga & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	20	.01
NBT	1	1600	10	.08*	60	.15*
NBR	0	0	110		180	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	30	.02	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	630	.13	1610	.34*
EBR	d	1600	60	.04	180	.11
WBL	1	1600	50	.03	80	.05*
WBT	3	4800	930	.20*	1080	.24
WBR	0	0	20		50	

TOTAL CAPACITY UTILIZATION .31 .57

38. Telephone & Market

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	200	.13
NBT	3	4800	540	.11*	890	.19*
NBR	d	1600	90	.06	100	.06
SBL	1	1600	490	.31*	160	.10*
SBT	3	4800	290	.06	690	.14
SBR	d	1600	170	.11	160	.10
EBL	1	1600	60	.04	210	.13*
EBT	1	1600	270	.17*	240	.15
EBR	1	1600	160	.10	300	.19
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	130	.08	370	.23*
WBR	1	1600	110	.07	610	.38
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .62 .72

42. Telephone & McGrath

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	230	.14*
NBT	3	4800	670	.14	940	.20
NBR	d	1600	280	.18	90	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	320	.10*	1060	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	30	.02*
EBR	1	1600	120	.08	330	.21
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.02	100	.06
WBR	1	1600	60	.04	160	.10
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	80	.03*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	750	.25*	750	.24
EBR	0		10		10	
WBL	1	1600	10	.01*	50	.03
WBT	2	3200	500	.21	750	.28*
WBR	0	0	170		130	
TOTAL CAPACITY UTILIZATION			.37		.34	

46. Seaward & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	180	.11*
NBT	1	1600	150	.09	180	.11
NBR	1	1600	320	.20	270	.17
SBL	1	1600	40	.03	70	.04
SBT	1	1600	150	.09*	90	.06*
SBR	1	1600	180	.11	80	.05
EBL	1	1600	120	.08	90	.06
EBT	2	3200	730	.23*	670	.21*
EBR	1	1600	140	.09	100	.06
WBL	0.5		100		190	
WBT	1.5	3200	510	.20*	700	.30*
WBR	0		30		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.55		.68	

47. Main & Loma Vista

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	340	.11*	470	.15*
NBR	f		40		160	
SBL	1	1600	600	.38*	410	.26*
SBT	2	3200	570	.18	630	.20
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	130	{.08}*
WBT	1	1600	30	.05	40	.11
WBR	2	3200	350	.11	470	.15
TOTAL CAPACITY UTILIZATION			.56		.54	

49. Main & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		300		550	
NBT	1.5	4800	580	.18*	720	.26*
NBR	f		140		90	
SBL	1.5		190	.12	250	.16
SBT	1.5	4800	480	.16*	640	.22*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	310	.10	420	.13
EBR	f		670		630	
WBL	0	0	0		0	
WBT	1.5	4800	340	.11*	480	.15*
WBR	1.5		120		190	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .63

50. Emma & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1030	.32*	1150	.36*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	90	.06*
WBT	3	4800	940	.20	1450	.30
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .44

51. Lemon Grove & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	40	
SBL	1.5		30		80	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1060	.33*	1080	.34*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	910	.20	1270	.27
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .42

53. Kimball & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	500	.16*	650	.20*
SBT	0	0	0		0	
SBR	2	3200	1140	.36	640	.20
EBL	2	3200	330	.10*	800	.25*
EBT	3	4800	480	.10	1300	.27
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1070	.33*	930	.29*
WBR	1	1600	790	.49	590	.37

Right Turn Adjustment Multi .16*

TOTAL CAPACITY UTILIZATION .75 .74

55. Kimball & SR 126 EB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1490	.31*	920	.19
NBR	f		150		420	
SBL	1	1600	30	.02*	20	.01
SBT	3	4800	1550	.32	940	.20*
SBR	0	0	0		0	
EBL	2	3200	130	.04*	430	.13*
EBT	0	0	10		0	
EBR	f		330		600	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .37 .33

56. Kimball & SR 126 WB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	700	.22*	320	.10*
NBT	3	4800	850	.18	820	.17
NBR	d	1600	60	.04	230	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	740	.15*	590	.12*
SBR	d	1600	190	.12	100	.06
EBL	1.5		40		40	
EBT	0.5	3200	10	.02*	10	.02*
EBR	1	1600	670	.42	270	.17
WBL	0	0	170		110	
WBT	1	1600	140	.19*	90	.13*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.23*	EBR	.07*

TOTAL CAPACITY UTILIZATION .81 .44
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	170	.05*	140	.04*
NBT	2	3200	90	.03	170	.05
NBR	1	1600	80	.05	150	.09
SBL	1	1600	20	.01	60	.04
SBT	2	3200	180	.06*	160	.05*
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	40	.03
EBT	2	3200	190	.06	570	.18*
EBR	1	1600	110	.07	260	.16
WBL	2	3200	170	.05	140	.04*
WBT	2	3200	410	.13*	290	.09
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.01*

TOTAL CAPACITY UTILIZATION .25 .32

60. Ramelli & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	120	.08*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	220	.14	480	.30
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	510	.13	1620	.40*
EBR	0	0	130		280	
WBL	1	1600	350	.22	240	.15*
WBT	3	4800	1800	.38*	1300	.27
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.10*

TOTAL CAPACITY UTILIZATION .45 .74

61. Montgomery & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	150	.09*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	40	.03	140	.09
SBL	1	1600	20	.01	20	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	90	.06	40	.03
EBL	1	1600	10	.01*	50	.03
EBT	2	3200	570	.18	810	.25*
EBR	d	1600	160	.10	190	.12
WBL	1	1600	160	.10	110	.07*
WBT	2	3200	1100	.34*	750	.23
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.61		.42

63. Petit & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	140	.09
NBT	1	1600	40	.11	50	.20*
NBR	0	0	140		270	
SBL	1	1600	40	.03	30	.02*
SBT	1	1600	60	.04*	50	.03
SBR	1	1600	120	.08	90	.06
EBL	1	1600	90	.06*	90	.06
EBT	2	3200	330	.10	800	.25*
EBR	d	1600	90	.06	270	.17
WBL	1	1600	210	.13	210	.13*
WBT	2	3200	800	.25*	580	.18
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION				.46		.60

65. Sanjon & Thompson

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	520	.16*
NBT	0	0	0		0	
NBR	1	1600	180	.11	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	470	.23*	670	.30*
EBR	0	0	280		290	
WBL	1	1600	130	.08*	140	.09*
WBT	2	3200	520	.16	750	.23
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.47		.55

68. Seaward & Thompson

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	130	.08	240	.15*
NBT	2	3200	440	.14*	460	.14
NBR	d	1600	230	.14	170	.11
SBL	1	1600	100	.06*	60	.04
SBT	2	3200	330	.10	340	.11*
SBR	d	1600	50	.03	70	.04
EBL	1	1600	80	.05	80	.05
EBT	2	3200	660	.23*	760	.26*
EBR	0	0	70		80	
WBL	2	3200	200	.06*	280	.09*
WBT	2	3200	420	.13	740	.23
WBR	1	1600	40	.03	70	.04
TOTAL CAPACITY UTILIZATION				.49		.61

71. Sanjon & Harbor

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	180	.11*	380	.24*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	260	.16	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	590	.37*
WBR	1	1600	470	.29	250	.16
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.36		.69

75. Ashwood & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	70	.04*
NBR	d	1600	40	.03	60	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	60	.04
SBR	1	1600	140	.09	120	.08
EBL	1	1600	80	.05*	160	.10
EBT	2	3200	520	.16	820	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	530	.17*	570	.18
WBR	d	1600	110	.07	90	.06
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.30		.45

77. Day & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	360	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	490	.15	910	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	960	.30*	780	.24
WBR	d	1600	320	.20	260	.16
TOTAL CAPACITY UTILIZATION				.43		.39

85. Victoria & Olivas Park

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21	580	.18*
NBT	3	4800	1890	.39*	1830	.38
NBR	1	1600	560	.35	460	.29
SBL	2	3200	520	.16*	220	.07
SBT	3	4800	1520	.32	1630	.34*
SBR	f		50		90	
EBL	2	3200	130	.04	180	.06
EBT	2	3200	160	.05*	230	.07*
EBR	f		190		960	
WBL	1	1600	130	.08*	370	.23*
WBT	2	3200	50	.02	370	.12
WBR	f		120		220	
TOTAL CAPACITY UTILIZATION				.68		.82

86. Telephone & Olivas Park

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	370	.12*	960	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	160	.10	680	.43
EBL	2	3200	480	.15*	400	.13*
EBT	2	3200	220	.07	290	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	170	.05*	270	.08*
WBR	1	1600	580	.36	740	.46
Right Turn Adjustment			WBR	.22*	Multi	.17*
TOTAL CAPACITY UTILIZATION				.56		.70

91. Johnson & Ralston

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	130	.08*
NBT	2	3200	630	.20	810	.25
NBR	d	1600	50	.03	230	.14
SBL	1	1600	50	.03	60	.04
SBT	2	3200	820	.26*	970	.30*
SBR	d	1600	80	.05	50	.03
EBL	1	1600	40	.03*	80	.05
EBT	1	1600	140	.09	310	.19*
EBR	d	1600	100	.06	200	.13
WBL	1	1600	120	.08	80	.05*
WBT	1	1600	340	.21*	210	.13
WBR	d	1600	100	.06	90	.06
TOTAL CAPACITY UTILIZATION				.56		.62

92. Johnson & Bristol

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	70	.04*
NBT	2	3200	660	.21	1090	.34
NBR	f		350		1210	
SBL	1	1600	10	.01	20	.01
SBT	2	3200	1040	.33*	1150	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	20	.01
EBT	1	1600	50	.03*	340	.21*
EBR	1	1600	150	.09	190	.12
WBL	2	3200	1170	.37*	740	.23*
WBT	1	1600	280	.18	220	.14
WBR	d	1600	50	.03	30	.02
Right Turn Adjustment			EBR	.04*		
TOTAL CAPACITY UTILIZATION				.79		.85

94. Johnson & North Bank

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	60	.04*
NBT	3	4800	210	.04	520	.11
NBR	d	1600	40	.03	300	.19
SBL	1	1600	100	.06	210	.13
SBT	3	4800	1620	.39*	1480	.35*
SBR	0	0	230		180	
EBL	2.5		650	.14*	1780	.37*
EBT	1.5	6400	140	.09	550	.34
EBR	1	1600	410	.26	300	.19
WBL	1.5		290		440	
WBT	1.5	4800	210	.10*	260	.15*
WBR	1	1600	70	.04	250	.16
Right Turn Adjustment			EBR	.09*		
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.76		.91

95. Bristol & Ramelli

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01
NBT	1	1600	20	.02*	10	.02*
NBR	0	0	10		20	
SBL	1	1600	20	.01*	70	.04*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	260	.16	190	.12
EBL	1	1600	10	.01*	60	.04
EBT	2	3200	410	.13	890	.28*
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01*
WBT	2	3200	1120	.37*	660	.23
WBR	0	0	70		60	
Right Turn Adjustment			SBR	.13*	SBR	.02*
TOTAL CAPACITY UTILIZATION				.54		.37

96. Montgomery & North Bank

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	50	.03*	110	.07*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	520	.33	220	.14
EBL	1	1600	140	.09*	330	.21*
EBT	2	3200	120	.04	420	.13
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	480	.30*	270	.17*
WBR	d	1600	230	.14	80	.05
Right Turn Adjustment			SBR	.21*		
TOTAL CAPACITY UTILIZATION				.66		.47

100. Saticoy & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	190	.12*	100	.06
SBT	1	1600	110	.07	140	.09*
SBR	1	1600	280	.18	170	.11
EBL	1	1600	130	.08*	190	.12*
EBT	2	3200	260	.08	710	.22
EBR	1	1600	110	.07	190	.12
WBL	1	1600	80	.05	110	.07
WBT	2	3200	390	.16*	510	.18*
WBR	0	0	130		60	
TOTAL CAPACITY UTILIZATION				.49		.48

101. Saticoy & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	190		70	
NBT	1	1600	70	.19*	50	.10*
NBR	0	0	50		40	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	190	.17*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	60	.04*	30	.02*
WBT	1	1600	250	.16	270	.17
WBR	1	1600	10	.01	10	.01
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.49		.51

102. Wells & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	250	.16*
NBT	1	1600	130	.08	290	.18
NBR	1	1600	60	.04	270	.17
SBL	1	1600	10	.01	10	.01
SBT	1	1600	270	.17*	210	.13*
SBR	1	1600	50	.03	20	.01
EBL	1	1600	20	.01	50	.03
EBT	1	1600	40	.16*	190	.25*
EBR	0	0	220		210	
WBL	1	1600	320	.20*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .63 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	860	.18	1460	.30
NBR	f		590		1560	
SBL	0	0	0		0	
SBT	3	4800	2660	.55*	1750	.36*
SBR	f		80		50	
EBL	1	1600	110	.07*	350	.22*
EBT	0	0	0		0	
EBR	1	1600	170	.11	610	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.04*	EBR	.16*

TOTAL CAPACITY UTILIZATION .66 .74

105. Wells & Darling

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1240	.26	2850	.59*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	130	.08	350	.22*
SBT	3	4800	2420	.50*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	90		40	
WBL	1	1600	60	.04*	270	.17*
WBT	1	1600	30	.06	40	.16
WBR	0	0	70		210	

TOTAL CAPACITY UTILIZATION .69 1.06

106. Wells & Telephone

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	370	.12*	470	.15
NBT	3	4800	1230	.26	2900	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2490	.52*	1930	.40
SBR	1	1600	140	.09	410	.26
EBL	1.5		150	{.05}*	250	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	590	.18	590	.18
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .74 .73

114. California & Thompson

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		40	
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	50	.03	80	.05
SBL	1.5		120		170	
SBT	1.5	4800	80	.05*	150	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	830	.31*	920	.32*
EBR	0	0	150		110	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	330	.11	380	.14
WBR	0	0	10		60	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .42 .46

115. Chestnut & Thompson

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	40	.03	80	.05
SBT	1	1600	270	.18*	320	.22*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	550	.17*	660	.21*
EBR	f		390		530	
WBL	1	1600	210	.13*	210	.13*
WBT	2	3200	460	.15	620	.22
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .49 .57

120. Ventura & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	360	.23*	700	.44*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	120	.08*
SBT	1	1600	370	.23	390	.24
SBR	1	1600	70	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	310	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	190	.12*
WBR	1	1600	170	.11	120	.08

TOTAL CAPACITY UTILIZATION .42 .73

132. Ventura & Stanley

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	340	.21*	320	.20*
NBT	1	1600	270	.17	350	.22
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	380	.24*
SBR	1	1600	510	.32	380	.24
EBL	1	1600	390	.24*	680	.43*
EBT	0	0	0		0	
EBR	1	1600	230	.14	160	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .87

136. US 101 SB Ramps & Valentine

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		350	.11*	400	.13*
SBT	0	4800	0		0	
SBR	1.5		80	.05	20	
EBL	1	1600	70	.04*	450	.28*
EBT	2	3200	240	.08	780	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	990	.31*	400	.13*
WBR	f		850		950	

TOTAL CAPACITY UTILIZATION .46 .54

138. Johnson & US 101 SB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	680	.43*
NBT	1	1600	160	.10	520	.33
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	580	.36*	400	.25*
SBR	f		1700		1860	
EBL	1	1600	170	.11*	360	.23*
EBT	0	0	0		0	
EBR	1	1600	120	.08	80	.05
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .56 .91

160. Victoria & US 101 NB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	470	.15*
NBT	3	4800	1440	.30	2040	.43
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2810	.44*	2340	.37*
SBR	1	1600	150	.09	390	.24
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	730	.23*	510	.16*
WBT	0	0	0		0	
WBR	3	4800	910	.19	1210	.25
Right Turn Adjustment					WBR	.02*

TOTAL CAPACITY UTILIZATION .83 .70

161. Victoria & Valentine

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	200	.06*
NBT	3	4800	1700	.36	2160	.46
NBR	0	0	20		60	
SBL	1	1600	50	.03	50	.03
SBT	2	3200	1720	.54*	1580	.49*
SBR	f		1720		1240	
EBL	2.5		360		750	
EBT	0.5	4800	50	.09*	30	.16*
EBR	1	1600	220	.14	410	.26
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.04*

TOTAL CAPACITY UTILIZATION .73 .78

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	220	.14*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	60	.04
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.06	240	.11*
WBR	0	0	40		120	

TOTAL CAPACITY UTILIZATION .28 .36

163. Santa Clara & Main

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	250	.08	220	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	330	.11*	460	.15*
EBR	0	0	10		10	
WBL	1	1600	150	.09*	160	.10*
WBT	2	3200	360	.12	480	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .29

164. Seaward & Poli

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.21*
NBR	0	0	130		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	350	.22*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	230	.14*	100	.06*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .49

165. Seaward & Harbor

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	370	.13*	310	.12*
NBR	0	0	40		60	
SBL	2	3200	550	.17*	580	.18*
SBT	2	3200	200	.06	320	.10
SBR	1	1600	310	.19	460	.29
EBL	2	3200	400	.13	350	.11
EBT	2	3200	610	.20*	1170	.38*
EBR	0	0	20		50	
WBL	1	1600	20	.01*	30	.02*
WBT	2	3200	270	.08	460	.14
WBR	2	3200	910	.28	1180	.37
Right Turn Adjustment			WBR	.07*		

TOTAL CAPACITY UTILIZATION .58 .70

166. College & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.07*	0	.07*
NBR	0	0	70		90	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	570	.20*	890	.30*
EBR	0	0	60		70	
WBL	1	1600	100	.06*	50	.03*
WBT	2	3200	700	.22	660	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .40

168. Day & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	260	.16
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	460	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	250	.16*	210	.13*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .74 .75

169. Kimball & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	290	.18*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	200	.26	390	.36*
EBR	0	0	210		180	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	530	.33*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .45

170. Petit & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	110		60	
NBT	1	1600	0	.08*	0	.05*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	130	.12	310	.25*
EBR	0	0	60		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	420	.28*	170	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	200	.13*
EBR	1	1600	90	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	50	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .25

173. Victoria & SR 126 WB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1240	.30	2190	.53*
NBR	0	0	200		350	
SBL	0	0	0		0	
SBT	3	4800	2030	.46*	1560	.34
SBR	0	0	180		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	670	.42	450	.28
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	140	.09
Right Turn Adjustment		Multi		.43*	Multi	.23*

TOTAL CAPACITY UTILIZATION .89 .76

174. Petit & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	40	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	280	.09	590	.18
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	530	.33*	310	.19*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .42 .26

175. Ventura & North Bank

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	90		60	
SBT	1	1600	0	.10*	0	.12*
SBR	0	0	70		130	
EBL	1	1600	160	.10*	500	.31
EBT	2	3200	1220	.38	2670	.83*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	440	.28*	470	.29
WBR	1	1600	80	.05	40	.03

TOTAL CAPACITY UTILIZATION .48 .95

176. Saticoy & Darling

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	170	.11	240	.16*
NBR	1	1600	110	.07	30	.02
SBL	0	0	60		10	{.01}*
SBT	1	1600	260	.20*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		50	
EBT	1	1600	80	.11*	60	.09*
EBR	0	0	40		40	
WBL	0	0	80	{.05}*	50	{.03}*
WBT	1	1600	20	.08	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .37 .29

177. Wells & SR 126 WB Ramps

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	540	.17	1390	.43*
NBR	f		410		400	
SBL	0	0	0		0	
SBT	2	3200	1060	.33*	750	.23
SBR	f		430		210	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1680		1050	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	700	.44	860	.54
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	700	.44*	930	.58*
WBR	f		190		170	
Right Turn Adjustment			NBR	.24*	NBR	.19*

TOTAL CAPACITY UTILIZATION .68 .77

179. SR-33 Ramps & Shell

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	730	.53*
WBR	0	0	70		120	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	50	.03
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	820	.26*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	670	.21*	790	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .29 .40

181. Ventura & Ramona

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	50	.03
NBT	1	1600	370	.24*	650	.42*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	390	.26	490	.33
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .52

182. Olive & Main St

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	590	.37*	470	.29*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	160	.11*	170	.11
WBR	1	1600	190	.12	450	.28

TOTAL CAPACITY UTILIZATION .55 .62

190. Petit Av & North Bank Dr

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	30	.02*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	290	.18	240	.15
EBL	1	1600	60	.04*	330	.21*
EBT	2	3200	80	.03	150	.05
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	110	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .22 .29

191. Saticoy Av & North Bank Dr

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01*	60	.04*
SBT	1	1600	10	.02	40	.04
SBR	0	0	20		30	
EBL	1	1600	20	.01*	40	.03*
EBT	2	3200	110	.03	90	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	60	.02*	110	.03*
WBR	d	1600	60	.04	160	.10
Right Turn Adjustment			WBR	.01*	WBR	.04*

TOTAL CAPACITY UTILIZATION .08 .16

192. Los Angeles Av & North Bank

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	220	.14
NBT	3	4800	1470	.31	3170	.66*
NBR	d	1600	30	.02	70	.04
SBL	1	1600	110	.07	160	.10*
SBT	3	4800	2840	.59*	2280	.48
SBR	d	1600	140	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	160	.10	170	.11
WBL	1	1600	50	.03	60	.04
WBT	1	1600	20	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.04*	WBR	.02*

TOTAL CAPACITY UTILIZATION .73 .86

193. Saticoy Av & A St

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	260	.16*	140	.09
NBR	1	1600	10	.01	40	.03
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	220	.14	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .18 .13

194. Wells Rd & A St

2025 Scenario 4 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	380	.14	870	.33*
NBR	0	0	60		180	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	820	.26*	590	.19
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.44	.42	

**NON-COMMITTED
IMPROVEMENTS**

15. Johnson & Telephone

2025 Scenario 4 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	360	.11*	250	.08
NBT	2	3200	170	.11	220	.14*
NBR	0	0	300	.19	430	.27
SBL	1	1600	80	.05	160	.10*
SBT	2	3200	150	.05*	210	.07
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03	40	.03
EBT	3	4800	280	.06*	1330	.28*
EBR	1	1600	170	.11	360	.23
WBL	1	1600	480	.30*	530	.33*
WBT	3	4800	1420	.31	600	.14
WBR	0	0	70		90	

TOTAL CAPACITY UTILIZATION .52 .85

94. Johnson & North Bank

2025 Scenario 4 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	60	.04*
NBT	3	4800	210	.04	520	.11
NBR	d	1600	40	.03	300	.19
SBL	1	1600	100	.06	210	.13
SBT	3	4800	1620	.34*	1480	.31*
SBR	1	1600	230	.14	180	.11
EBL	2.5		650	.14*	1780	.37*
EBT	1.5	6400	140	.09	550	.34
EBR	1	1600	410	.26	300	.19
WBL	1.5		290		440	
WBT	1.5	4800	210	.10*	260	.15*
WBR	1	1600	70	.04	250	.16
Right Turn Adjustment			EBR	.09*		
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .71 .87

105. Wells & Darling

2025 Scenario 4 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1240	.26	2850	.59*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	130	.04	350	.11*
SBT	3	4800	2420	.50*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	90		40	
WBL	2	3200	60	.02	270	.08
WBT	1	1600	30	.06*	40	.16*
WBR	0	0	70		210	

TOTAL CAPACITY UTILIZATION .63 .89

SCENARIO 4
(ALTERNATIVE NETWORK)

1. Victoria & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	240	.15*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	190	.12	320	.20
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	170	.11
EBT	1	1600	300	.19	470	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	440	.14	250	.08*
WBT	1	1600	570	.36*	330	.21
WBR	d	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .50 .53

2. Victoria & Loma Vista

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12*	270	.17*
NBT	2	3200	270	.08	530	.17
NBR	d	1600	10	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	540	.17*	280	.09*
SBR	d	1600	100	.06	20	.01
EBL	0	0	80		20	
EBT	1	1600	40	.26*	30	.24*
EBR	0	0	300		330	
WBL	0	0	70	{.04}*	30	{.02}*
WBT	1	1600	40	.11	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .59 .52

3. Victoria & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1160	.36*
NBT	2	3200	540	.17	880	.28
NBR	1	1600	150	.09	230	.14
SBL	1	1600	200	.13	210	.13
SBT	3	4800	710	.15*	530	.11*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	370	{.16}*	750	{.23}*
EBR	1.5		670		760	{.21}
WBL	2	3200	390	.12*	210	.07*
WBT	2	3200	610	.19	340	.11
WBR	d	1600	60	.04	90	.06

TOTAL CAPACITY UTILIZATION .64 .77

4. Victoria & Woodland

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	60	.04
NBT	3	4800	1410	.31	2120	.48*
NBR	0	0	70		170	
SBL	1	1600	20	.01	20	.01*
SBT	3	4800	1800	.38*	1540	.32
SBR	0	0	40		10	
EBL	0	0	20		20	
EBT	1	1600	10	.11*	10	.04*
EBR	0	0	140		30	
WBL	1.5		250		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		30		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .71 .57

5. Victoria & SR 126 SB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1320	.21	2540	.40*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2540	.41*	1810	.30
SBR	0	0	100		90	
EBL	1.5		220		150	
EBT	0.5	3200	190	.13*	110	.08*
EBR	1	1600	220	.14	230	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	260	.16	560	.35
Right Turn Adjustment Multi			.02*		WBR	.35*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .56 .83

6. Victoria & Thille

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1260	.26	2350	.38*
NBR	0	0	460	.29	60	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2150	.39*	1820	.32
SBR	0	0	360		200	
EBL	1.5		230		330	
EBT	0.5	3200	20	.08*	10	.11*
EBR	1	1600	130	.08	200	.13
WBL	1	1600	30	.02	90	.06
WBT	1	1600	10	.02*	90	.10*
WBR	0	0	20		70	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .52 .62

7. Victoria & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	310	.10*	330	.10
NBT	4	6400	1250	.24	1510	.26*
NBR	0	0	270		140	
SBL	2	3200	360	.11	370	.12*
SBT	4	6400	1760	.28*	1280	.20
SBR	1	1600	310	.19	400	.25
EBL	2	3200	320	.10*	630	.20*
EBT	3	4800	360	.09	950	.23
EBR	0	0	50		130	
WBL	2	3200	160	.05	310	.10
WBT	3	4800	720	.15*	650	.14*
WBR	1	1600	190	.12	350	.22

TOTAL CAPACITY UTILIZATION .63 .72

8. Victoria & Ralston

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	380	.24*
NBT	4	6400	1450	.24	1850	.33
NBR	0	0	60		230	
SBL	1	1600	110	.07	200	.13
SBT	4	6400	1740	.29*	1760	.29*
SBR	0	0	110		110	
EBL	1	1600	40	.03	110	.07
EBT	1	1600	160	.10*	320	.20*
EBR	1	1600	210	.13	300	.19
WBL	1	1600	250	.16*	220	.14*
WBT	1	1600	280	.18	170	.11
WBR	1	1600	170	.11	140	.09

TOTAL CAPACITY UTILIZATION .69 .87

10. Victoria & Moon

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1780	.30	2090	.39*
NBR	0	0	150		420	
SBL	1	1600	30	.02	110	.07*
SBT	4	6400	1900	.30*	1890	.33
SBR	0	0	20		240	
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	80	.05*
EBR	1	1600	30	.02	160	.10
WBL	1	1600	330	.21*	200	.13*
WBT	1	1600	120	.08	50	.03
WBR	1	1600	70	.04	40	.03

TOTAL CAPACITY UTILIZATION .58 .64

14. Hill & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	90	.09*	60	.10*
NBR	0	0	10		80	
SBL	1	1600	60	.04*	260	.16*
SBT	1	1600	30	.02	60	.04
SBR	1	1600	60	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	560	.13	1350	.30*
EBR	0	0	50		110	
WBL	1	1600	110	.07	30	.02*
WBT	3	4800	1090	.29*	750	.17
WBR	0	0	290		60	

TOTAL CAPACITY UTILIZATION .53 .58

15. Johnson & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	180	.09	230	.13*
NBR	0	0	120		200	
SBL	1	1600	40	.03	90	.06*
SBT	2	3200	170	.05*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	40	.03
EBT	3	4800	270	.08	1110	.34*
EBR	0	0	180	.11	510	
WBL	1	1600	120	.08	200	.13*
WBT	3	4800	1300	.28*	590	.13
WBR	0	0	60		50	

TOTAL CAPACITY UTILIZATION .46 .66

18. Seaward & US 101 NB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	540	.17*	600	.19*
NBT	2	3200	860	.27	910	.28
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	730	.23*	950	.30*
SBR	1	1600	240	.15	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	380	.12*	390	.12*
WBT	0	0	0		0	
WBR	2	3200	380	.12	450	.14

TOTAL CAPACITY UTILIZATION .52 .61

19. Monmouth/US 101 SB & Harbor

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		620		1010	
SBT	0.5	3200	40	.21*	70	.35*
SBR	0		10		50	
EBL	1	1600	130	.08*	160	.10*
EBT	2	3200	380	.13	400	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	570	.36*
WBR	1	1600	310	.19	310	.19

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .84

20. Harbor & Olivas Park

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	130	.08*
NBT	2	3200	930	.29*	1120	.35
NBR	1	1600	390	.24	190	.12
SBL	2	3200	170	.05*	170	.05
SBT	2	3200	720	.23	1190	.37*
SBR	1	1600	140	.09	110	.07
EBL	1	1600	70	.04*	160	.10
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	50	.03	420	.26*
WBT	2	3200	110	.03*	150	.05
WBR	f		50		370	

TOTAL CAPACITY UTILIZATION .41 .78

23. Mills & Loma Vista

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		380	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	350	.11*	610	.19*
EBR	d	1600	320	.20	520	.33
WBL	1	1600	70	.04*	70	.04*
WBT	2	3200	430	.13	360	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .33 .42

24. Mills & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	140	.09
NBT	1	1600	410	.26*	250	.16*
NBR	1	1600	210	.13	370	.23
SBL	1	1600	60	.04*	140	.09*
SBT	2	3200	360	.11	450	.14
SBR	1	1600	10	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	340	.11*	530	.17*
EBR	1	1600	70	.04	130	.08
WBL	2	3200	270	.08*	220	.07*
WBT	2	3200	410	.15	420	.15
WBR	0	0	70		70	
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .49 .51

25. Mills & Maple

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	990	.34*	820	.29*
NBR	0	0	100		100	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	720	.24	880	.29
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	210		210	
WBT	1	1600	20	.14*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .51 .50

26. Mills & Dean

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	140	.09*
NBT	2	3200	1220	.38*	930	.29
NBR	1	1600	260	.16	370	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	800	.26	930	.30*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	220	.14
WBL	2	3200	400	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment						EBR .05*

TOTAL CAPACITY UTILIZATION .54 .54

27. Mills & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	80	.07*
NBR	1	1600	340	.21	240	.15
SBL	2.5		1180		1300	
SBT	0.5	4800	80	.27*	90	.29*
SBR	0		40		20	
EBL	2	3200	100	.03*	100	.03*
EBT	4	6400	1050	.16	1080	.17
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	370	.12
WBT	3	4800	1110	.23*	1370	.29*
WBR	2	3200	1420	.44	1380	.43
Right Turn Adjustment			Multi	.08*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .67 .68

28. US 101 NB Ramps & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	580	.18*	320	.10*
SBT	0	0	0		0	
SBR	3	4800	1710	.36	1360	.28
EBL	0	0	0		0	
EBT	3	4800	2250	.47*	2480	.52*
EBR	f		310		150	
WBL	2	3200	390	.12*	520	.16*
WBT	3	4800	990	.21	1750	.36
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .77 .78

29. SR 126 EB Ramps & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	300	.09	460	.14*
EBT	3	4800	2500	.52*	2620	.55
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1190	.25	2320	.48*
WBR	f		130		300	

TOTAL CAPACITY UTILIZATION .52 .62

30. Callens & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	640	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2190	.34*	2340	.37*
EBR	d	1600	300	.19	260	.16
WBL	2	3200	100	.03*	180	.06*
WBT	3	4800	1150	.24	1970	.41
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .45 .65

31. Donlon & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		560	
NBT	0	3200	0	.06*	0	.23*
NBR	0.5		30		170	
SBL	1.5		390		350	
SBT	0.5	3200	140	.17*	80	.13*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1900	.30*	2350	.37*
EBR	d	1600	220	.14	210	.13
WBL	2	3200	110	.03*	250	.08*
WBT	3	4800	1040	.22	1550	.32
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .81

32. Telephone & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	680	.21
NBT	2	3200	250	.08*	1090	.34*
NBR	1	1600	90	.06	290	.18
SBL	1.5		250	.16	520	
SBT	1.5	4800	1010	.32*	720	.26*
SBR	f		740		940	
EBL	2	3200	450	.14	740	.23
EBT	3	4800	1070	.22*	1390	.29*
EBR	f		390		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .62 .89

33. US 101 NB Ramps & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		680		530	
NBT	0.5	3200	30	.22*	80	.19*
NBR	1	1600	260	.16	400	.25
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		250	
EBL	1	1600	20	.01*	300	.19*
EBT	3	4800	720	.15	1920	.40
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1010	.21*	1410	.30*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .69

34. Portola & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08*	300	.09*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	610	.13	1730	.36*
EBR	d	1600	210	.13	310	.19
WBL	1	1600	20	.01	60	.04*
WBT	3	4800	840	.18*	940	.20
WBR	0	0	20		40	
Right Turn Adjustment				SBR	.05*	

TOTAL CAPACITY UTILIZATION .35 .50

35. Saratoga & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	20	.01
NBT	1	1600	10	.08*	60	.15*
NBR	0	0	110		180	
SBL	1	1600	40	.03*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	20	.01	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	620	.13	1600	.33*
EBR	d	1600	70	.04	160	.10
WBL	1	1600	50	.03	80	.05*
WBT	3	4800	910	.19*	990	.22
WBR	0	0	20		50	

TOTAL CAPACITY UTILIZATION .31 .56

38. Telephone & Market

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	200	.13
NBT	3	4800	540	.11*	900	.19*
NBR	d	1600	90	.06	100	.06
SBL	1	1600	500	.31*	160	.10*
SBT	3	4800	280	.06	690	.14
SBR	d	1600	170	.11	160	.10
EBL	1	1600	60	.04	220	.14*
EBT	1	1600	270	.17*	240	.15
EBR	1	1600	150	.09	300	.19
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	130	.08	360	.23*
WBR	1	1600	120	.08	590	.37
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .62 .72

42. Telephone & McGrath

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	220	.14*
NBT	3	4800	670	.14	940	.20
NBR	d	1600	280	.18	90	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	310	.10*	1060	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	60	.04*	30	.02*
EBR	1	1600	120	.08	330	.21
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.02	100	.06
WBR	1	1600	60	.04	160	.10
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	80	.03*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	750	.25*	760	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	500	.21	750	.27*
WBR	0	0	180		120	
TOTAL CAPACITY UTILIZATION			.37		.33	

46. Seaward & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	170	.11*
NBT	1	1600	150	.09	180	.11
NBR	1	1600	320	.20	270	.17
SBL	1	1600	30	.02	70	.04
SBT	1	1600	150	.09*	90	.06*
SBR	1	1600	180	.11	80	.05
EBL	1	1600	120	.08	90	.06
EBT	2	3200	730	.23*	670	.21*
EBR	1	1600	140	.09	100	.06
WBL	0.5		100		190	
WBT	1.5	3200	510	.20*	700	.30*
WBR	0		30		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.55		.68	

47. Main & Loma Vista

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	340	.11*	470	.15*
NBR	f		40		170	
SBL	1	1600	610	.38*	400	.25*
SBT	2	3200	570	.18	630	.20
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	130	{.08}*
WBT	1	1600	30	.05	40	.11
WBR	2	3200	350	.11	460	.14
TOTAL CAPACITY UTILIZATION			.56		.53	

49. Main & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290	.18	540	
NBT	1.5	4800	580	.18*	720	.26*
NBR	f		140		90	
SBL	1.5		190	.12	250	.16
SBT	1.5	4800	470	.16*	630	.21*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	310	.10	420	.13
EBR	f		670		630	
WBL	0	0	0		0	
WBT	1.5	4800	340	.11*	490	.15*
WBR	1.5		120		190	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .62

50. Emma & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1030	.32*	1150	.36*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	90	.06*
WBT	3	4800	940	.20	1440	.30
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .44

51. Lemon Grove & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	40	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1050	.33*	1090	.34*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	920	.20	1260	.27
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .42

53. Kimball & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		30	
NBT	0	0	440		1090	
NBR	0	0	30		40	
SBL	2	3200	230	.07*	520	.16*
SBT	0	0	950		560	
SBR	2	3200	640	.20	380	.12
EBL	2	3200	130	.04*	200	.06*
EBT	3	4800	300	.06	890	.21
EBR	0	0	10		130	
WBL	0	0	80		40	
WBT	2	3200	740	.26*	670	.22*
WBR	1	1600	650	.41	430	.27

Right Turn Adjustment Multi .26*

TOTAL CAPACITY UTILIZATION .63 .44

55. Kimball & SR 126 EB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1590	.33*	1170	.24*
NBR	f		150		490	
SBL	1	1600	20	.01*	20	.01*
SBT	3	4800	1640	.34	1040	.22
SBR	0	0	0		0	
EBL	2	3200	120	.04*	300	.09*
EBT	0	0	10		0	
EBR	f		410		690	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .38 .34

56. Kimball & SR 126 WB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	750	.23*	420	.13*
NBT	3	4800	900	.19	840	.18
NBR	d	1600	60	.04	230	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	790	.16*	650	.14*
SBR	d	1600	180	.11	100	.06
EBL	1.5		40		40	
EBT	0.5	3200	10	.02*	10	.02*
EBR	1	1600	690	.43	300	.19
WBL	0	0	180		110	
WBT	1	1600	130	.19*	80	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.24*	EBR	.07*

TOTAL CAPACITY UTILIZATION .84 .48
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	200	.06*	150	.05*
NBT	2	3200	90	.03	190	.06
NBR	1	1600	90	.06	150	.09
SBL	1	1600	20	.01	60	.04
SBT	2	3200	190	.06*	190	.06*
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	40	.03
EBT	2	3200	190	.06	570	.18*
EBR	1	1600	120	.08	290	.18
WBL	2	3200	190	.06	140	.04*
WBT	2	3200	390	.12*	300	.09
WBR	1	1600	10	.01	40	.03

TOTAL CAPACITY UTILIZATION .25 .33

60. Ramelli & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	70	.04*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	40	.03	20	.01
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	340	.08	1220	.29*
EBR	0	0	60		170	
WBL	1	1600	150	.09	130	.08*
WBT	3	4800	1300	.27*	930	.20
WBR	0	0	0		10	

TOTAL CAPACITY UTILIZATION .35 .42

61. Montgomery & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	20	.01*
NBT	1	1600	90	.06	20	.01
NBR	d	1600	70	.04	200	.13
SBL	1	1600	20	.01	20	.01
SBT	1	1600	80	.05*	30	.02*
SBR	1	1600	80	.05	20	.01
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	540	.17	870	.27*
EBR	d	1600	30	.02	10	.01
WBL	1	1600	240	.15	90	.06*
WBT	2	3200	1050	.33*	700	.22
WBR	1	1600	10	.01	30	.02
Right Turn Adjustment					NBR	.06*
TOTAL CAPACITY UTILIZATION			.52	.42		

63. Petit & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12*	150	.09
NBT	1	1600	40	.11	60	.19*
NBR	0	0	130		240	
SBL	1	1600	30	.02	30	.02*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	80	.05
EBL	1	1600	100	.06*	100	.06
EBT	2	3200	340	.11	870	.27*
EBR	d	1600	80	.05	250	.16
WBL	1	1600	180	.11	230	.14*
WBT	2	3200	840	.26*	560	.18
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION			.49	.62		

65. Sanjon & Thompson

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	520	.16*
NBT	0	0	0		0	
NBR	1	1600	180	.11	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	460	.23*	650	.29*
EBR	0	0	280		290	
WBL	1	1600	130	.08*	140	.09*
WBT	2	3200	520	.16	750	.23
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.47	.54		

68. Seaward & Thompson

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	130	.08	240	.15*
NBT	2	3200	440	.14*	460	.14
NBR	d	1600	240	.15	170	.11
SBL	1	1600	100	.06*	60	.04
SBT	2	3200	340	.11	340	.11*
SBR	d	1600	50	.03	70	.04
EBL	1	1600	80	.05	80	.05
EBT	2	3200	650	.23*	750	.26*
EBR	0	0	70		90	
WBL	2	3200	200	.06*	290	.09*
WBT	2	3200	420	.13	750	.23
WBR	1	1600	40	.03	70	.04
TOTAL CAPACITY UTILIZATION			.49	.61		

71. Sanjon & Harbor

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	180	.11*	380	.24*
SBT	0	0	0		0	
SBR	1	1600	70	.04	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	260	.16	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	590	.37*
WBR	1	1600	470	.29	250	.16
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.36		.69

75. Ashwood & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	80	.05*
NBR	d	1600	40	.03	70	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	40	.03	60	.04
SBR	1	1600	140	.09	120	.08
EBL	1	1600	80	.05*	150	.09
EBT	2	3200	510	.16	810	.25*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	520	.16*	570	.18
WBR	d	1600	110	.07	90	.06
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.29		.45

77. Day & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	240	.08*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	500	.16	910	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	950	.30*	780	.24
WBR	d	1600	330	.21	260	.16
TOTAL CAPACITY UTILIZATION				.44		.39

85. Victoria & Olivas Park

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21	560	.18*
NBT	3	4800	1870	.39*	1810	.38
NBR	1	1600	560	.35	490	.31
SBL	2	3200	490	.15*	200	.06
SBT	3	4800	1510	.31	1630	.34*
SBR	f		50		90	
EBL	2	3200	130	.04	180	.06
EBT	2	3200	160	.05*	220	.07*
EBR	f		190		950	
WBL	1	1600	140	.09*	380	.24*
WBT	2	3200	40	.01	370	.12
WBR	f		120		210	
TOTAL CAPACITY UTILIZATION				.68		.83

86. Telephone & Olivas Park

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	360	.11*	940	.29*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	160	.10	680	.43
EBL	2	3200	480	.15*	400	.13*
EBT	2	3200	220	.07	290	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	170	.05*	270	.08*
WBR	1	1600	580	.36	720	.45
Right Turn Adjustment			WBR	.23*	Multi	.18*
TOTAL CAPACITY UTILIZATION			.56		.70	

91. Johnson & Ralston

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	150	.09*
NBT	2	3200	440	.14	580	.18
NBR	d	1600	20	.01	100	.06
SBL	1	1600	40	.03	60	.04
SBT	2	3200	520	.16*	770	.24*
SBR	d	1600	80	.05	50	.03
EBL	1	1600	40	.03*	90	.06
EBT	1	1600	120	.08	370	.23*
EBR	d	1600	110	.07	150	.09
WBL	1	1600	160	.10	70	.04*
WBT	1	1600	360	.23*	240	.15
WBR	d	1600	90	.06	40	.03
TOTAL CAPACITY UTILIZATION			.48		.60	

92. Johnson & Bristol

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	60	.04*
NBT	2	3200	380	.12	620	.19
NBR	f		80		730	
SBL	1	1600	30	.02	10	.01
SBT	2	3200	660	.21*	890	.28*
SBR	0	0	20		20	
EBL	1	1600	20	.01*	40	.03
EBT	1	1600	50	.03	270	.17*
EBR	1	1600	150	.09	190	.12
WBL	2	3200	450	.14	240	.08*
WBT	1	1600	290	.18*	150	.09
WBR	d	1600	20	.01	70	.04
Right Turn Adjustment			EBR	.03*		
TOTAL CAPACITY UTILIZATION			.44		.57	

94. Johnson & North Bank

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	60	.04*
NBT	3	4800	140	.03	480	.10
NBR	d	1600	50	.03	370	.23
SBL	1	1600	10	.01	60	.04
SBT	3	4800	680	.19*	940	.23*
SBR	0	0	240		170	
EBL	2.5		240	.08	960	.30
EBT	1.5	6400	450	.14*	1720	.54*
EBR	1	1600	460	.29	280	.18
WBL	1.5		1360	.43*	1200	.38*
WBT	1.5	4800	180	.11	280	.18
WBR	1	1600	20	.01	100	.06
Right Turn Adjustment			EBR	.10*		
TOTAL CAPACITY UTILIZATION			.92		1.19	

95. Bristol & Ramelli

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	40	.03*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	310	.19	180	.11
EBL	1	1600	50	.03*	300	.19*
EBT	2	3200	70	.03	220	.07
EBR	0	0	10		10	
WBL	1	1600	10	.01	10	.01
WBT	2	3200	290	.11*	140	.06*
WBR	0	0	60		60	
Right Turn Adjustment			SBR	.14*		

TOTAL CAPACITY UTILIZATION .32 .29

96. Montgomery & North Bank

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	50	.03*	150	.09*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	220	.14	140	.09
EBL	1	1600	100	.06*	150	.09*
EBT	2	3200	130	.04	400	.13
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	470	.29*	310	.19*
WBR	d	1600	220	.14	80	.05
Right Turn Adjustment			SBR	.04*		

TOTAL CAPACITY UTILIZATION .45 .39

100. Saticoy & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12	150	.09*
NBT	1	1600	200	.13*	140	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	180	.11*	90	.06
SBT	1	1600	110	.07	140	.09*
SBR	1	1600	280	.18	170	.11
EBL	1	1600	130	.08*	200	.13*
EBT	2	3200	220	.07	690	.22
EBR	1	1600	100	.06	200	.13
WBL	1	1600	80	.05	110	.07
WBT	2	3200	380	.16*	500	.18*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .48 .49

101. Saticoy & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	190		80	
NBT	1	1600	70	.19*	60	.11*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	40	.05*
SBR	0	0	60		20	
EBL	1	1600	20	.01	30	.02
EBT	1	1600	190	.17*	410	.34*
EBR	0	0	80		140	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	250	.16	270	.17
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .48 .52

102. Wells & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	250	.16*
NBT	1	1600	130	.08	300	.19
NBR	1	1600	60	.04	250	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	270	.17*	210	.13*
SBR	1	1600	40	.03	20	.01
EBL	1	1600	20	.01	40	.03
EBT	1	1600	40	.16*	190	.25*
EBR	0	0	210		210	
WBL	1	1600	340	.21*	130	.08*
WBT	1	1600	140	.09	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .64 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	840	.18	1420	.30
NBR	f		590		1560	
SBL	0	0	0		0	
SBT	3	4800	2650	.55*	1730	.36*
SBR	f		80		50	
EBL	1	1600	110	.07*	350	.22*
EBT	0	0	0		0	
EBR	1	1600	170	.11	600	.38
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.04*	EBR	.16*

TOTAL CAPACITY UTILIZATION .66 .74

105. Wells & Darling

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1230	.26	2830	.59*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	120	.08	350	.22*
SBT	3	4800	2420	.50*	1820	.38
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	90		40	
WBL	1	1600	70	.04*	300	.19*
WBT	1	1600	30	.06	40	.14
WBR	0	0	60		190	

TOTAL CAPACITY UTILIZATION .69 1.08

106. Wells & Telephone

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	340	.11*	430	.13
NBT	3	4800	1220	.26	2890	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2490	.52*	1920	.40
SBR	1	1600	150	.09	430	.27
EBL	1.5		150	{.05}*	250	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	540	.17	560	.18
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .73 .73

114. California & Thompson

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		30	.02
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	50	.03	90	.06
SBL	1.5		120		170	
SBT	1.5	4800	80	.05*	160	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	830	.31*	910	.32*
EBR	0	0	150		110	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	330	.11	390	.14
WBR	0	0	10		70	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .42 .46

115. Chestnut & Thompson

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	40	.03	80	.05
SBT	1	1600	270	.18*	310	.21*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	560	.18*	650	.20*
EBR	f		390		530	
WBL	1	1600	210	.13*	210	.13*
WBT	2	3200	460	.15	620	.21
WBR	0	0	30		60	

TOTAL CAPACITY UTILIZATION .50 .55

120. Ventura & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	350	.22*	700	.44*
NBR	1	1600	20	.01	30	.02
SBL	1	1600	120	.08*	110	.07*
SBT	1	1600	370	.23	390	.24
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	310	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	90	.06	190	.12*
WBR	1	1600	170	.11	130	.08

TOTAL CAPACITY UTILIZATION .41 .72

132. Ventura & Stanley

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	340	.21*	320	.20*
NBT	1	1600	270	.17	350	.22
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	380	.24*
SBR	1	1600	520	.33	380	.24
EBL	1	1600	390	.24*	680	.43*
EBT	0	0	0		0	
EBR	1	1600	230	.14	160	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .87

136. US 101 SB Ramps & Valentine

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		360	.11*	400	.13*
SBT	0	4800	0		0	
SBR	1.5		90	.06	20	
EBL	1	1600	90	.06*	460	.29*
EBT	2	3200	220	.07	780	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	1010	.32*	400	.13*
WBR	f		810		890	

TOTAL CAPACITY UTILIZATION .49 .55

138. Johnson & US 101 SB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	660	.41*
NBT	1	1600	160	.10	570	.36
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	620	.39*	400	.25*
SBR	f		1840		2050	
EBL	1	1600	160	.10*	340	.21*
EBT	0	0	0		0	
EBR	1	1600	120	.08	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .58 .87

160. Victoria & US 101 NB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	500	.16*	530	.17*
NBT	3	4800	1430	.30	1940	.40
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2710	.42*	2250	.35*
SBR	1	1600	120	.08	380	.24
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	750	.23*	520	.16*
WBT	0	0	0		0	
WBR	3	4800	890	.19	1170	.24

TOTAL CAPACITY UTILIZATION .81 .68

161. Victoria & Valentine

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	200	.06*
NBT	3	4800	1680	.35	2130	.46
NBR	0	0	20		60	
SBL	1	1600	50	.03	50	.03
SBT	2	3200	1670	.52*	1560	.49*
SBR	f		1700		1180	
EBL	2.5		340		750	
EBT	0.5	4800	50	.08*	30	.16*
EBR	1	1600	230	.14	410	.26
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.04*

TOTAL CAPACITY UTILIZATION .70 .78

Note: Assumes E/W Split Phasing

Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	220	.14*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	60	.04
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.06	240	.11*
WBR	0	0	40		120	

TOTAL CAPACITY UTILIZATION .28 .36

163. Santa Clara & Main

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	250	.08	220	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	330	.11*	460	.15*
EBR	0	0	10		10	
WBL	1	1600	150	.09*	160	.10*
WBT	2	3200	360	.12	480	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .29

164. Seaward & Poli

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.21*
NBR	0	0	130		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	360	.23*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	230	.14*	100	.06*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .50

165. Seaward & Harbor

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.13*	310	.12*
NBR	0	0	40		60	
SBL	2	3200	550	.17*	580	.18*
SBT	2	3200	200	.06	320	.10
SBR	1	1600	310	.19	460	.29
EBL	2	3200	400	.13*	360	.11
EBT	2	3200	590	.19	1170	.38*
EBR	0	0	20		50	
WBL	1	1600	20	.01	30	.02*
WBT	2	3200	270	.08*	460	.14
WBR	2	3200	900	.28	1170	.37
Right Turn Adjustment			WBR	.07*		

TOTAL CAPACITY UTILIZATION .58 .70

166. College & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.06*
NBR	0	0	60		80	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	570	.20*	870	.29*
EBR	0	0	60		70	
WBL	1	1600	100	.06*	50	.03*
WBT	2	3200	690	.22	660	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .32 .38

168. Day & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	260	.16
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	460	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	250	.16*	210	.13*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .74 .75

169. Kimball & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	290	.18*	140	.09*
NBT	0	0	0		0	
NBR	1	1600	20	.01	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	200	.26	400	.38*
EBR	0	0	220		200	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	530	.33*	210	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .48

170. Petit & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	110		60	
NBT	1	1600	0	.08*	0	.05*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	130	.12	310	.25*
EBR	0	0	60		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	420	.28*	170	.12
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	50	.04	200	.13*
EBR	1	1600	90	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	50	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .25

173. Victoria & SR 126 WB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1190	.29	2140	.52*
NBR	0	0	200		340	
SBL	0	0	0		0	
SBT	3	4800	2000	.45*	1500	.33
SBR	0	0	180		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	640	.40	420	.26
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	230	.14	180	.11
Right Turn Adjustment		Multi	.42*		Multi	.23*

TOTAL CAPACITY UTILIZATION .87 .75

174. Petit & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	40	.03*
NBT	1	1600	10	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	10	.03*	30	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	280	.09	580	.18
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	530	.33*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .41 .27

175. Ventura & North Bank

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	30		30	
SBT	1	1600	0	.06*	0	.10*
SBR	0	0	70		130	
EBL	1	1600	160	.10*	470	.29
EBT	2	3200	1290	.40	3060	.96*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	490	.31*	480	.30
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .47 1.06

176. Saticoy & Darling

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	170	.11	240	.16*
NBR	1	1600	110	.07	30	.02
SBL	0	0	60		10	{.01}*
SBT	1	1600	250	.19*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		60	
EBT	1	1600	80	.11*	60	.10*
EBR	0	0	40		40	
WBL	0	0	80	{.05}*	50	{.03}*
WBT	1	1600	20	.08	60	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .36 .30

177. Wells & SR 126 WB Ramps

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1380	.43*
NBR	f		400		380	
SBL	0	0	0		0	
SBT	2	3200	1070	.33*	750	.23
SBR	f		430		210	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1660		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	700	.44	860	.54
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	700	.44*	930	.58*
WBR	f		190		170	
Right Turn Adjustment			NBR	.24*	NBR	.19*

TOTAL CAPACITY UTILIZATION .68 .77

179. SR-33 Ramps & Shell

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	730	.53*
WBR	0	0	70		120	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	50	.03
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	820	.26*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	660	.21*	790	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .29 .40

181. Ventura & Ramona

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	370	.24*	650	.42*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	80	.05*
SBT	1	1600	390	.26	480	.32
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .53

182. Olive & Main St

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	590	.37*	470	.29*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	160	.11*	170	.11
WBR	1	1600	190	.12	450	.28

TOTAL CAPACITY UTILIZATION .55 .62

190. Petit Av & North Bank Dr

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	30	.02*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	280	.18	270	.17
EBL	1	1600	90	.06*	320	.20*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	100	.03*
WBR	d	1600	60	.04	40	.03
Right Turn Adjustment			SBR	.11*		
TOTAL CAPACITY UTILIZATION				.22		.28

191. Saticoy Av & North Bank Dr

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01*
NBT	1	1600	30	.03*	20	.02
NBR	0	0	20		10	
SBL	1	1600	20	.01*	50	.03
SBT	1	1600	10	.02	40	.04*
SBR	0	0	20		30	
EBL	1	1600	20	.01	30	.02*
EBT	2	3200	90	.03*	90	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	90	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.04*
TOTAL CAPACITY UTILIZATION				.08		.14

192. Los Angeles Av & North Bank

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1430	.30	3120	.65*
NBR	d	1600	30	.02	70	.04
SBL	1	1600	120	.08	160	.10*
SBT	3	4800	2790	.58*	2240	.47
SBR	d	1600	140	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	20	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*
TOTAL CAPACITY UTILIZATION				.71		.85

193. Saticoy Av & A St

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	260	.16*	150	.09
NBR	1	1600	10	.01	40	.03
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	180	.11*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01
TOTAL CAPACITY UTILIZATION				.18		.12

194. Wells Rd & A St

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	380	.14	850	.32*
NBR	0	0	60		180	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	840	.27*	590	.19
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.05*		

TOTAL CAPACITY UTILIZATION .45 .41

196. Ramelli & Ralston

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01
NBT	1	1600	30	.07	90	.29*
NBR	0	0	80		370	
SBL	1	1600	10	.01	10	.01*
SBT	1	1600	280	.20*	170	.15
SBR	0	0	40		70	
EBL	1	1600	10	.01*	30	.02
EBT	1	1600	120	.09	330	.26*
EBR	0	0	30		90	
WBL	1	1600	70	.04	10	.01*
WBT	1	1600	390	.26*	170	.11
WBR	0	0	20		10	

TOTAL CAPACITY UTILIZATION .48 .57

197. Kimball & Ralston

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01
NBT	3	4800	380	.08	740	.15*
NBR	1	1600	80	.05	100	.06
SBL	1	1600	0	.00	0	.00
SBT	3	4800	690	.14*	480	.10
SBR	1	1600	250	.16	150	.09
EBL	1	1600	10	.01*	280	.18*
EBT	1	1600	50	.03	280	.18
EBR	1	1600	40	.03	80	.05
WBL	1	1600	0	.00	0	.00
WBT	2	3200	280	.09*	70	.02*
WBR	1	1600	10	.01	80	.05
Right Turn Adjustment			SBR	.01*	WBR	.03*

TOTAL CAPACITY UTILIZATION .26 .38

198. Montgomery & Ralston

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	0	.00
NBT	2	3200	120	.06	170	.09*
NBR	0	0	60		120	
SBL	1	1600	0	.00	40	.03*
SBT	2	3200	70	.04*	70	.03
SBR	0	0	150	.09	30	
EBL	1	1600	10	.01*	110	.07
EBT	1	1600	30	.03	100	.08*
EBR	0	0	10		30	
WBL	1	1600	120	.08	60	.04*
WBT	1	1600	110	.14*	40	.04
WBR	0	0	110		20	
Right Turn Adjustment			SBR	.04*		

TOTAL CAPACITY UTILIZATION .25 .24

199. Kimball & North Bank

2025 Scenario 4 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	40	.03*
SBT	0	0	0		0	
SBR	1	1600	680	.43	470	.29
EBL	1	1600	310	.19*	740	.46*
EBT	2	3200	260	.08	780	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	690	.23*	420	.15*
WBR	0	0	40		50	
Right Turn Adjustment			SBR	.26*		
TOTAL CAPACITY UTILIZATION				.71		.64

**NON-COMMITTED
IMPROVEMENTS**

94. Johnson & North Bank

2025 Scenario 4 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	60	.04*
NBT	3	4800	140	.03	480	.10
NBR	d	1600	50	.03	370	.23
SBL	1	1600	10	.01	60	.04
SBT	3	4800	680	.19*	940	.23*
SBR	0	0	240		170	
EBL	2	3200	240	.08	960	.30
EBT	3	4800	450	.09*	1720	.36*
EBR	1	1600	460	.29	280	.18
WBL	3	4800	1360	.28*	1200	.25*
WBT	2	3200	180	.06	280	.12
WBR	0	0	20		100	
Right Turn Adjustment			EBR	.15*		
TOTAL CAPACITY UTILIZATION				.77		.88

105. Wells & Darling

2025 Scenario 4 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1230	.26	2830	.59*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	120	.04	350	.11*
SBT	3	4800	2420	.50*	1820	.38
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	90		40	
WBL	2	3200	70	.02	300	.09
WBT	1	1600	30	.06*	40	.14*
WBR	0	0	60		190	
TOTAL CAPACITY UTILIZATION				.63		.87

175. Ventura & North Bank

2025 Scenario 4 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	30		30	
SBT	1	1600	0	.06*	0	.10*
SBR	0	0	70		130	
EBL	1	1600	160	.10*	470	.29
EBT	3	4800	1290	.27	3060	.64*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	490	.31*	480	.30
WBR	1	1600	50	.03	30	.02
TOTAL CAPACITY UTILIZATION				.47		.74

SCENARIO 5

1. Victoria & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	240	.15*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	190	.12	330	.21
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	300	.19	460	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	450	.14	240	.08*
WBT	1	1600	560	.35*	330	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .49 .53

2. Victoria & Loma Vista

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	260	.16*
NBT	2	3200	270	.08	540	.17
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	530	.17*	280	.09*
SBR	d	1600	100	.06	10	.01
EBL	0	0	70		20	
EBT	1	1600	40	.24*	30	.23*
EBR	0	0	270		320	
WBL	0	0	60	{.04}*	30	{.02}*
WBT	1	1600	40	.10	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .56 .50

3. Victoria & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21*	1150	.36*
NBT	2	3200	540	.17	890	.28
NBR	1	1600	140	.09	210	.13
SBL	1	1600	150	.09	200	.13
SBT	3	4800	720	.15*	540	.11*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	350	{.16}*	710	{.22}*
EBR	1.5		690		780	{.22}
WBL	2	3200	340	.11*	220	.07*
WBT	2	3200	580	.18	340	.11
WBR	d	1600	50	.03	60	.04

TOTAL CAPACITY UTILIZATION .63 .76

4. Victoria & Woodland

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	60	.04
NBT	3	4800	1410	.31	2090	.47*
NBR	0	0	80		150	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1810	.38*	1570	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.10*	10	.04*
EBR	0	0	140		30	
WBL	1.5		260		100	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .70 .56

5. Victoria & SR 126 SB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1380	.22	2630	.42*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2530	.41*	1830	.30
SBR	0	0	70		90	
EBL	1.5		230		160	
EBT	0.5	3200	190	.13*	130	.09*
EBR	1	1600	250	.16	240	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	250	.16	560	.35
Right Turn Adjustment Multi			.05*	WBR	.35*	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .59 .86

6. Victoria & Thille

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1310	.27	2420	.39*
NBR	0	0	450	.28	60	
SBL	1	1600	180	.11	40	.03*
SBT	4	6400	2160	.39*	1830	.32
SBR	0	0	360		230	
EBL	1.5		240		350	
EBT	0.5	3200	30	.08*	10	.11*
EBR	1	1600	120	.08	200	.13
WBL	1	1600	30	.02	110	.07
WBT	1	1600	10	.02*	70	.09*
WBR	0	0	20		80	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .52 .62

7. Victoria & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	320	.10
NBT	4	6400	1300	.25	1580	.27*
NBR	0	0	270		130	
SBL	2	3200	360	.11	350	.11*
SBT	4	6400	1760	.28*	1360	.21
SBR	1	1600	320	.20	360	.23
EBL	2	3200	320	.10*	660	.21*
EBT	3	4800	330	.08	860	.20
EBR	0	0	70		110	
WBL	2	3200	250	.08	310	.10
WBT	3	4800	700	.15*	610	.13*
WBR	1	1600	180	.11	320	.20

TOTAL CAPACITY UTILIZATION .63 .72

8. Victoria & Ralston

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	410	.26*
NBT	4	6400	1460	.24	1880	.33
NBR	0	0	70		220	
SBL	1	1600	100	.06	210	.13
SBT	4	6400	1830	.30*	1810	.30*
SBR	0	0	110		110	
EBL	1	1600	40	.03	130	.08
EBT	1	1600	110	.07*	240	.15*
EBR	1	1600	220	.14	330	.21
WBL	1	1600	220	.14*	130	.08*
WBT	1	1600	230	.14	130	.08
WBR	1	1600	190	.12	120	.08

TOTAL CAPACITY UTILIZATION .67 .79

10. Victoria & Moon

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1840	.30	2160	.39*
NBR	0	0	100		340	
SBL	1	1600	50	.03	120	.08*
SBT	4	6400	1920	.30*	1860	.33
SBR	0	0	20		250	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	170	.11
WBL	1	1600	290	.18*	160	.10*
WBT	1	1600	130	.08	50	.03
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .55 .63

14. Hill & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	100	.10*	60	.14*
NBR	0	0	10		140	
SBL	1	1600	50	.03*	250	.16*
SBT	1	1600	30	.02	70	.04
SBR	1	1600	60	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	490	.11	1200	.29*
EBR	0	0	60		180	
WBL	1	1600	190	.12	30	.02*
WBT	3	4800	1110	.29*	710	.16
WBR	0	0	290		60	

TOTAL CAPACITY UTILIZATION .53 .61

15. Johnson & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	160	.10	230	.14*
NBR	0	0	170	.11	440	.28
SBL	1	1600	30	.02	100	.06*
SBT	2	3200	170	.05*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	200	.06	1040	.31*
EBR	0	0	170	.11	460	
WBL	1	1600	340	.21	350	.22*
WBT	3	4800	1400	.30*	540	.12
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .48 .73

18. Seaward & US 101 NB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	610	.19*
NBT	2	3200	900	.28	920	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	740	.23*	950	.30*
SBR	1	1600	240	.15	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	380	.12*	370	.12*
WBT	0	0	0		0	
WBR	2	3200	350	.11	440	.14

TOTAL CAPACITY UTILIZATION .53 .61

19. Monmouth/US 101 SB & Harbor

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		660		1050	
SBT	0.5	3200	40	.22*	70	.37*
SBR	0		10		50	
EBL	1	1600	120	.08*	160	.10*
EBT	2	3200	400	.13	400	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	580	.36*
WBR	1	1600	310	.19	290	.18

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .86

20. Harbor & Olivas Park

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	140	.09*
NBT	2	3200	950	.30*	1100	.34
NBR	1	1600	380	.24	190	.12
SBL	2	3200	190	.06*	160	.05
SBT	2	3200	740	.23	1210	.38*
SBR	1	1600	130	.08	120	.08
EBL	1	1600	70	.04*	170	.11
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	40	.03	410	.26*
WBT	2	3200	110	.03*	140	.04
WBR	f		50		390	

TOTAL CAPACITY UTILIZATION .43 .80

23. Mills & Loma Vista

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		370	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	70	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	340	.11*	620	.19*
EBR	d	1600	310	.19	520	.33
WBL	1	1600	60	.04*	70	.04*
WBT	2	3200	420	.13	360	.11
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .33 .42

24. Mills & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	150	.09*
NBT	1	1600	400	.25*	240	.15
NBR	1	1600	200	.13	380	.24
SBL	1	1600	60	.04*	130	.08
SBT	2	3200	370	.12	470	.15*
SBR	1	1600	10	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	350	.11*	560	.18*
EBR	1	1600	80	.05	140	.09
WBL	2	3200	270	.08*	220	.07*
WBT	2	3200	400	.15	440	.16
WBR	0	0	70		60	
Right Turn Adjustment					NBR	.03*

TOTAL CAPACITY UTILIZATION .48 .52

25. Mills & Maple

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	970	.33*	820	.29*
NBR	0	0	90		100	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	720	.24	890	.30
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	220		210	
WBT	1	1600	20	.15*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .51 .50

26. Mills & Dean

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	140	.09*
NBT	2	3200	1180	.37*	920	.29
NBR	1	1600	290	.18	360	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	810	.26	930	.30*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	220	.14
WBL	2	3200	410	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.05*

TOTAL CAPACITY UTILIZATION .53 .54

27. Mills & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	80	.07*
NBR	1	1600	350	.22	240	.15
SBL	2.5		1200		1310	
SBT	0.5	4800	80	.28*	90	.30*
SBR	0		40		20	
EBL	2	3200	110	.03*	100	.03*
EBT	4	6400	1050	.16	1110	.17
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	370	.12
WBT	3	4800	1120	.23*	1430	.30*
WBR	2	3200	1410	.44	1370	.43
Right Turn Adjustment			NBR	.08*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .68 .70

28. US 101 NB Ramps & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	590	.18*	320	.10*
SBT	0	0	0		0	
SBR	3	4800	1670	.35	1370	.29
EBL	0	0	0		0	
EBT	3	4800	2260	.47*	2500	.52*
EBR	f		320		170	
WBL	2	3200	410	.13*	530	.17*
WBT	3	4800	1030	.21	1800	.38
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .78 .79

29. SR 126 EB Ramps & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	270	.08	410	.13*
EBT	3	4800	2530	.53*	2690	.56
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1240	.26	2380	.50*
WBR	f		140		320	

TOTAL CAPACITY UTILIZATION .53 .63

30. Callens & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	620	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01*
EBT	4	6400	2220	.35*	2420	.38
EBR	d	1600	310	.19	250	.16
WBL	2	3200	90	.03*	180	.06
WBT	3	4800	1200	.25	2050	.43*
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .46 .66

31. Donlon & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		610	
NBT	0	3200	0	.06*	0	.24*
NBR	0.5		30		170	
SBL	1.5		400		360	
SBT	0.5	3200	140	.17*	90	.14*
SBR	1	1600	180	.11	220	.14
EBL	0	0	0		0	
EBT	4	6400	1920	.30*	2410	.38*
EBR	d	1600	210	.13	200	.13
WBL	2	3200	100	.03*	250	.08*
WBT	3	4800	1060	.22	1570	.33
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .84

32. Telephone & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08	680	.21
NBT	2	3200	250	.08*	1050	.33*
NBR	1	1600	70	.04	290	.18
SBL	1.5		240	.15	470	
SBT	1.5	4800	1000	.31*	690	.24*
SBR	f		730		950	
EBL	2	3200	440	.14	750	.23
EBT	3	4800	1090	.23*	1440	.30*
EBR	f		400		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .62 .87

33. US 101 NB Ramps & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		670		520	
NBT	0.5	3200	30	.22*	80	.19*
NBR	1	1600	260	.16	410	.26
SBL	0.5		40		10	
SBT	0	3200	0	{.11}*	0	{.01}*
SBR	1.5		330		230	
EBL	1	1600	20	.01*	290	.18*
EBT	3	4800	700	.15	1890	.39
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1000	.21*	1370	.29*
WBR	0	0	10		10	
Right Turn Adjustment					NBR	.01*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .55 .68

34. Portola & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	300	.09*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	600	.13	1700	.35*
EBR	d	1600	200	.13	300	.19
WBL	1	1600	20	.01	70	.04*
WBT	3	4800	840	.18*	880	.19
WBR	0	0	20		40	
Right Turn Adjustment					SBR	.05*

TOTAL CAPACITY UTILIZATION .35 .49

35. Saratoga & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	30	.02
NBT	1	1600	10	.08*	60	.15*
NBR	0	0	110		180	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	30	.02	30	.02
SBR	1	1600	30	.02	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	590	.12	1570	.33*
EBR	d	1600	80	.05	160	.10
WBL	1	1600	50	.03	80	.05*
WBT	3	4800	900	.19*	940	.20
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .30 .56

38. Telephone & Market

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	200	.13
NBT	3	4800	550	.11*	870	.18*
NBR	d	1600	100	.06	100	.06
SBL	1	1600	480	.30*	160	.10*
SBT	3	4800	280	.06	690	.14
SBR	d	1600	180	.11	160	.10
EBL	1	1600	50	.03	220	.14*
EBT	1	1600	270	.17*	250	.16
EBR	1	1600	170	.11	280	.18
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	130	.08	380	.24*
WBR	1	1600	120	.08	630	.39
Right Turn Adjustment					WBR	.07*

TOTAL CAPACITY UTILIZATION .61 .73

42. Telephone & McGrath

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	220	.14*
NBT	3	4800	680	.14	930	.19
NBR	d	1600	280	.18	100	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	320	.10*	1050	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	30	.02*
EBR	1	1600	120	.08	340	.21
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.02	90	.06
WBR	1	1600	70	.04	150	.09
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	70	.02*
SBT	1	1600	20	.05	10	.01
SBR	0	0	60		10	
EBL	0.5		20		20	{.01}*
EBT	1.5	3200	790	.26*	780	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	500	.22	790	.29*
WBR	0	0	190		130	
TOTAL CAPACITY UTILIZATION			.38		.34	

46. Seaward & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	190	.12*
NBT	1	1600	150	.09	180	.11
NBR	1	1600	320	.20	270	.17
SBL	1	1600	30	.02	70	.04
SBT	1	1600	150	.09*	90	.06*
SBR	1	1600	180	.11	80	.05
EBL	1	1600	120	.08	80	.05
EBT	2	3200	760	.24*	670	.21*
EBR	1	1600	140	.09	120	.08
WBL	0.5		100		170	
WBT	1.5	3200	520	.20*	730	.30*
WBR	0		30		70	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.56		.69	

47. Main & Loma Vista

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	350	.11*	470	.15*
NBR	f		40		180	
SBL	1	1600	590	.37*	400	.25*
SBT	2	3200	600	.19	640	.21
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	350	.11	470	.15
TOTAL CAPACITY UTILIZATION			.55		.53	

49. Main & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290		620	
NBT	1.5	4800	570	.18*	710	.28*
NBR	f		170		80	
SBL	1.5		190	.12	280	.18
SBT	1.5	4800	480	.16*	700	.23*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	320	.10	430	.13
EBR	f		680		620	
WBL	0	0	0		0	
WBT	1.5	4800	340	.11*	500	.16*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .67

50. Emma & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1040	.33*	1210	.38*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	90	.06*
WBT	3	4800	960	.20	1490	.31
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .46

51. Lemon Grove & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	30	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1060	.33*	1120	.35*
EBR	d	1600	60	.04	80	.05
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	950	.21	1340	.29
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .43

53. Kimball & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	260	.08*	500	.16*
SBT	0	0	0		0	
SBR	2	3200	1230	.38	660	.21
EBL	2	3200	250	.08*	990	.31*
EBT	3	4800	320	.07	990	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	900	.28*	650	.20*
WBR	1	1600	670	.42	360	.23

Right Turn Adjustment Multi .32*

TOTAL CAPACITY UTILIZATION .76 .67

55. Kimball & SR 126 EB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1330	.28	860	.18*
NBR	f		110		430	
SBL	1	1600	30	.02	30	.02*
SBT	3	4800	1490	.31*	870	.18
SBR	0	0	0		0	
EBL	2	3200	120	.04*	400	.13*
EBT	0	0	10		0	
EBR	f		240		530	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .33

56. Kimball & SR 126 WB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18*	250	.08*
NBT	3	4800	800	.17	800	.17
NBR	d	1600	60	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	710	.15*	550	.11*
SBR	d	1600	180	.11	100	.06
EBL	1.5		40		30	
EBT	0.5	3200	10	.02*	10	.01*
EBR	1	1600	630	.39	230	.14
WBL	0	0	180		120	
WBT	1	1600	130	.19*	70	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.23*	EBR	.07*

TOTAL CAPACITY UTILIZATION .77 .39
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	150	.05*	90	.03
NBT	2	3200	90	.03	180	.06*
NBR	1	1600	80	.05	170	.11
SBL	1	1600	30	.02	60	.04*
SBT	2	3200	180	.06*	180	.06
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	30	.02
EBT	2	3200	180	.06	570	.18*
EBR	1	1600	70	.04	220	.14
WBL	2	3200	200	.06	130	.04*
WBT	2	3200	380	.12*	310	.10
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .24 .34

60. Ramelli & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	0	.00	0	.00
NBR	1	1600	170	.11	510	.32
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	340	.08	1460	.32*
EBR	0	0	40		80	
WBL	1	1600	400	.25	200	.13*
WBT	3	4800	1680	.35*	1080	.23
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.20*

TOTAL CAPACITY UTILIZATION .38 .67

61. Montgomery & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	60	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	20	.01	140	.09
SBL	1	1600	20	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	20	.01
EBL	1	1600	10	.01*	50	.03
EBT	2	3200	520	.16	780	.24*
EBR	d	1600	90	.06	120	.08
WBL	1	1600	100	.06	70	.04*
WBT	2	3200	1090	.34*	680	.21
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*	NBR	.01*
TOTAL CAPACITY UTILIZATION				.58		.35

63. Petit & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	160	.10
NBT	1	1600	40	.11	60	.19*
NBR	0	0	130		250	
SBL	1	1600	30	.02	30	.02*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	90	.06*	80	.05
EBT	2	3200	330	.10	760	.24*
EBR	d	1600	90	.06	250	.16
WBL	1	1600	150	.09	210	.13*
WBT	2	3200	770	.24*	520	.16
WBR	d	1600	20	.01	50	.03
TOTAL CAPACITY UTILIZATION				.46		.58

65. Sanjon & Thompson

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	500	.16*	510	.16*
NBT	0	0	0		0	
NBR	1	1600	180	.11	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	490	.24*	700	.32*
EBR	0	0	290		310	
WBL	1	1600	130	.08*	140	.09*
WBT	2	3200	530	.17	780	.24
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.48		.57

68. Seaward & Thompson

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06	200	.13*
NBT	2	3200	470	.15*	470	.15
NBR	d	1600	240	.15	170	.11
SBL	1	1600	90	.06*	50	.03
SBT	2	3200	350	.11	340	.11*
SBR	d	1600	60	.04	90	.06
EBL	1	1600	80	.05	90	.06
EBT	2	3200	670	.23*	790	.28*
EBR	0	0	60		110	
WBL	2	3200	200	.06*	270	.08*
WBT	2	3200	430	.13	750	.23
WBR	1	1600	30	.02	60	.04
TOTAL CAPACITY UTILIZATION				.50		.60

71. Sanjon & Harbor

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	160	.10*	380	.24*
SBT	0	0	0		0	
SBR	1	1600	80	.05	120	.08
EBL	1	1600	60	.04*	110	.07*
EBT	1	1600	290	.18	480	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	590	.37*
WBR	1	1600	470	.29	260	.16
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.35		.68

75. Ashwood & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	90	.06*
NBR	d	1600	40	.03	60	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	40	.03	70	.04
SBR	1	1600	150	.09	120	.08
EBL	1	1600	80	.05*	150	.09
EBT	2	3200	520	.16	820	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	520	.16*	580	.18
WBR	d	1600	110	.07	100	.06
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.29		.47

77. Day & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	350	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	490	.15	900	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	800	.25
WBR	d	1600	330	.21	240	.15
TOTAL CAPACITY UTILIZATION				.42		.39

85. Victoria & Olivas Park

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21	570	.18*
NBT	3	4800	1840	.38*	1780	.37
NBR	1	1600	540	.34	440	.28
SBL	2	3200	490	.15*	210	.07
SBT	3	4800	1490	.31	1600	.33*
SBR	f		50		80	
EBL	2	3200	120	.04	170	.05
EBT	2	3200	170	.05*	230	.07*
EBR	f		190		970	
WBL	1	1600	130	.08*	360	.23*
WBT	2	3200	50	.02	370	.12
WBR	f		120		200	
TOTAL CAPACITY UTILIZATION				.66		.81

86. Telephone & Olivas Park

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	370	.12*	970	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	150	.09	670	.42
EBL	2	3200	480	.15*	390	.12*
EBT	2	3200	210	.07	280	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	180	.06*	270	.08*
WBR	1	1600	570	.36	720	.45
Right Turn Adjustment			WBR	.21*	Multi	.16*
TOTAL CAPACITY UTILIZATION				.56		.68

91. Johnson & Ralston

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	130	.08*
NBT	2	3200	470	.15	810	.25
NBR	d	1600	20	.01	180	.11
SBL	1	1600	40	.03	60	.04
SBT	2	3200	710	.22*	900	.28*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	80	.05
EBT	1	1600	90	.06	240	.15*
EBR	d	1600	110	.07	250	.16
WBL	1	1600	120	.08	60	.04*
WBT	1	1600	230	.14*	100	.06
WBR	d	1600	90	.06	50	.03
TOTAL CAPACITY UTILIZATION				.46		.55

92. Johnson & Bristol

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	520	.16	1030	.32
NBR	f		190		1080	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	950	.30*	1150	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	270	.17*
EBR	1	1600	130	.08	190	.12
WBL	2	3200	1030	.32*	460	.14*
WBT	1	1600	260	.16	160	.10
WBR	d	1600	20	.01	10	.01
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.70		.73

94. Johnson & North Bank

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	60	.04*
NBT	3	4800	170	.04	520	.11
NBR	d	1600	20	.01	180	.11
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1550	.37*	1410	.33*
SBR	0	0	230		170	
EBL	2.5		440	.09*	1780	.37*
EBT	1.5	6400	70	.04	340	.21
EBR	1	1600	420	.26	310	.19
WBL	1.5		150		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.14*		
TOTAL CAPACITY UTILIZATION				.69		.82

95. Bristol & Ramelli

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01*
NBT	1	1600	20	.02*	10	.02
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02
SBT	1	1600	10	.01	40	.03*
SBR	1	1600	280	.18	110	.07
EBL	1	1600	20	.01*	120	.08
EBT	2	3200	200	.07	680	.22*
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01*
WBT	2	3200	900	.30*	390	.13
WBR	0	0	60		30	
Right Turn Adjustment			SBR	.15*		

TOTAL CAPACITY UTILIZATION .49 .27

96. Montgomery & North Bank

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	120	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	380	.24	170	.11
EBL	1	1600	100	.06*	320	.20*
EBT	2	3200	120	.04	400	.13
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	460	.29*	280	.18*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.14*		

TOTAL CAPACITY UTILIZATION .55 .48

100. Saticoy & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	80	.05
SBL	1	1600	190	.12*	100	.06
SBT	1	1600	110	.07	150	.09*
SBR	1	1600	260	.16	160	.10
EBL	1	1600	110	.07*	170	.11*
EBT	2	3200	220	.07	650	.20
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	330	.14*	470	.17*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .46 .46

101. Saticoy & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		80	
NBT	1	1600	70	.18*	60	.11*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	190	.17*	410	.35*
EBR	0	0	80		150	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	270	.17	280	.18
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .47 .52

102. Wells & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	250	.16*
NBT	1	1600	120	.08	290	.18
NBR	1	1600	60	.04	260	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	270	.17*	200	.13*
SBR	1	1600	50	.03	30	.02
EBL	1	1600	20	.01	50	.03
EBT	1	1600	50	.17*	190	.25*
EBR	0	0	220		210	
WBL	1	1600	310	.19*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .63 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	890	.19	1420	.30
NBR	f		590		1580	
SBL	0	0	0		0	
SBT	3	4800	2680	.56*	1730	.36*
SBR	f		80		50	
EBL	1	1600	100	.06*	330	.21*
EBT	0	0	0		0	
EBR	1	1600	170	.11	620	.39
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.18*

TOTAL CAPACITY UTILIZATION .67 .75

105. Wells & Darling

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1280	.27	2840	.59*
NBR	d	1600	70	.04	170	.11
SBL	1	1600	130	.08	350	.22*
SBT	3	4800	2440	.51*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	100		40	
WBL	1	1600	60	.04*	280	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .70 1.07

106. Wells & Telephone

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	420	.13
NBT	3	4800	1260	.26	2910	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2530	.53*	1940	.40
SBR	1	1600	130	.08	410	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	550	.17	540	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .73 .73

114. California & Thompson

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		40	
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	60	.04	70	.04
SBL	1.5		120		180	
SBT	1.5	4800	100	.05*	150	.07*
SBR	0		10		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	900	.33*	990	.34*
EBR	0	0	160		110	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	330	.11	440	.15
WBR	0	0	10		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .44 .48

115. Chestnut & Thompson

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	110	.07
SBT	1	1600	280	.18*	300	.21*
SBR	0	0	10		30	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	600	.19*	700	.22*
EBR	f		400		570	
WBL	1	1600	210	.13*	180	.11*
WBT	2	3200	470	.16	670	.23
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .51 .55

120. Ventura & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	1	1600	330	.21	720	.45*
NBR	1	1600	20	.01	40	.03
SBL	1	1600	90	.06	80	.05*
SBT	1	1600	430	.27*	450	.28
SBR	1	1600	70	.04	40	.03
EBL	1	1600	30	.02	160	.10*
EBT	1	1600	200	.13*	370	.23
EBR	d	1600	40	.03	50	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	100	.06	250	.16*
WBR	1	1600	160	.10	130	.08

TOTAL CAPACITY UTILIZATION .43 .76

132. Ventura & Stanley

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	340	.21*
NBT	1	1600	290	.18	390	.24
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	480	.30*	410	.26*
SBR	1	1600	510	.32	320	.20
EBL	1	1600	350	.22*	580	.36*
EBT	0	0	0		0	
EBR	1	1600	260	.16	160	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .68 .83

136. US 101 SB Ramps & Valentine

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		380	.12*	460	.14*
SBT	0	4800	0		0	
SBR	1.5		100	.06	20	
EBL	1	1600	100	.06*	480	.30*
EBT	2	3200	200	.06	740	.23
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	980	.31*	400	.13*
WBR	f		820		900	

TOTAL CAPACITY UTILIZATION .49 .57

138. Johnson & US 101 SB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	690	.43*
NBT	1	1600	130	.08	490	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	600	.38*	380	.24*
SBR	f		1500		1610	
EBL	1	1600	120	.08*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	120	.08	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .57 .83

160. Victoria & US 101 NB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	530	.17*	540	.17*
NBT	3	4800	1390	.29	1900	.40
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2690	.42*	2220	.35*
SBR	1	1600	130	.08	350	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	710	.22*	490	.15*
WBT	0	0	0		0	
WBR	3	4800	920	.19	1160	.24

TOTAL CAPACITY UTILIZATION .81 .67

161. Victoria & Valentine

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	200	.06*
NBT	3	4800	1640	.35	2090	.45
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1640	.51*	1490	.47*
SBR	f		1670		1180	
EBL	2.5		340		730	
EBT	0.5	4800	40	.08*	20	.16*
EBR	1	1600	250	.16	450	.28
WBL	0	0	10		20	
WBT	1	1600	10	.01*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .68 .78

Note: Assumes E/W Split Phasing
 Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	240	.15*	310	.19*
SBT	0	0	0		0	
SBR	1	1600	40	.03	60	.04
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	230	.11*
WBR	0	0	50		130	

TOTAL CAPACITY UTILIZATION .29 .35

163. Santa Clara & Main

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	230	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	360	.12*	490	.16*
EBR	0	0	10		10	
WBL	1	1600	150	.09*	170	.11*
WBT	2	3200	370	.13	500	.17
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .26 .31

164. Seaward & Poli

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.21*
NBR	0	0	130		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.09*	370	.23*
EBR	d	1600	80	.05	130	.08
WBL	1	1600	230	.14*	100	.06*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .50

165. Seaward & Harbor

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.13*	310	.12*
NBR	0	0	40		60	
SBL	2	3200	570	.18*	600	.19*
SBT	2	3200	190	.06	310	.10
SBR	1	1600	310	.19	430	.27
EBL	2	3200	450	.14*	370	.12
EBT	2	3200	600	.19	1190	.39*
EBR	0	0	20		60	
WBL	1	1600	20	.01	30	.02*
WBT	2	3200	270	.08*	470	.15
WBR	2	3200	920	.29	1170	.37
Right Turn Adjustment			WBR	.07*		

TOTAL CAPACITY UTILIZATION .60 .72

166. College & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.07*	0	.06*
NBR	0	0	70		80	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	580	.20*	890	.30*
EBR	0	0	60		70	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	680	.21	660	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .39

168. Day & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	270	.17
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	250	.16*	220	.14*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .74 .76

169. Kimball & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	290	.18*	110	.07*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	210	.26	390	.36*
EBR	0	0	210		190	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	520	.33*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .44

170. Petit & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	20	.01
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.12	310	.25*
EBR	0	0	50		90	
WBL	0	0	20		20	{.01}*
WBT	1	1600	430	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .30

172. Wells & Foothill

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	130	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	210	.14*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .26

173. Victoria & SR 126 WB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1220	.30	2140	.52*
NBR	0	0	230		360	
SBL	0	0	0		0	
SBT	3	4800	2000	.46*	1520	.34
SBR	0	0	190		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	610	.38	410	.26
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	150	.09
Right Turn Adjustment		Multi	.39*		Multi	.21*

TOTAL CAPACITY UTILIZATION .85 .73

174. Petit & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	600	.19
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	520	.33*	330	.21*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .41 .28

175. Ventura & North Bank

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		40	
SBT	1	1600	0	.10*	0	.11*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	540	.34
EBT	2	3200	910	.28	2490	.78*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	360	.23
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .42 .89

176. Saticoy & Darling

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	150	.10	230	.15*
NBR	1	1600	110	.07	20	.01
SBL	0	0	60		10	{.01}*
SBT	1	1600	240	.19*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	60		60	
EBT	1	1600	70	.11*	60	.10*
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	{.03}*
WBT	1	1600	20	.08	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .35 .29

177. Wells & SR 126 WB Ramps

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	520	.16	1370	.43*
NBR	f		440		380	
SBL	0	0	0		0	
SBT	2	3200	1050	.33*	750	.23
SBR	f		420		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1700		1030	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	630	.39	740	.46
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	350	.22	240	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	570	.36*	780	.49*
WBR	f		210		250	
Right Turn Adjustment			NBR	.28*	NBR	.20*

TOTAL CAPACITY UTILIZATION .64 .69

179. SR-33 Ramps & Shell

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	840		850	
SBT	1	1600	0	.53*	0	.54*
SBR	0	0	10		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	150	.10	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	860	.59*	760	.56*
WBR	0	0	80		140	

TOTAL CAPACITY UTILIZATION 1.13 1.11

180. Estates & Telegraph

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	60	.04
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	810	.25*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	40	.03	90	.06*
WBT	2	3200	640	.20*	810	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .39

181. Ventura & Ramona

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	50	.03
NBT	1	1600	370	.24	660	.43*
NBR	0	0	20		20	
SBL	1	1600	90	.06	70	.04*
SBT	1	1600	440	.29*	520	.35
SBR	0	0	20		40	
EBL	0	0	20		30	
EBT	1	1600	30	.04*	40	.06*
EBR	0	0	10		20	
WBL	0	0	10	{.01}*	10	{.01}*
WBT	1	1600	20	.03	40	.04
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .36 .54

182. Olive & Main St

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	700	.44*	570	.36*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	90	{.06}*	280	
EBT	1	1600	80	.11	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	180	.12*	160	.11
WBR	1	1600	200	.13	520	.33

TOTAL CAPACITY UTILIZATION .63 .69

190. Petit Av & North Bank Dr

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	70	.04*
SBT	0	0	0		0	
SBR	1	1600	260	.16	240	.15
EBL	1	1600	60	.04*	290	.18*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	80	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.10*		

TOTAL CAPACITY UTILIZATION .20 .25

191. Saticoy Av & North Bank Dr

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01*
NBT	1	1600	30	.03	20	.02
NBR	0	0	20		10	
SBL	1	1600	20	.01	50	.03
SBT	1	1600	10	.03*	30	.04*
SBR	0	0	30		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	100	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	80	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.04*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1440	.30	3120	.65*
NBR	d	1600	20	.01	60	.04
SBL	1	1600	120	.08	170	.11*
SBT	3	4800	2820	.59*	2240	.47
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .72 .86

193. Saticoy Av & A St

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	240	.15*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .17 .13

194. Wells Rd & A St

2025 Scenario 5 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	380	.13	860	.32*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	810	.26*	590	.19
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	150	.09*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	40		10	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.43		.41

**NON-COMMITTED
IMPROVEMENTS**

105. Wells & Darling

2025 Scenario 5 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1280	.27	2840	.59*
NBR	d	1600	70	.04	170	.11
SBL	2	3200	130	.04	350	.11*
SBT	3	4800	2440	.51*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	60	.02	280	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .64 .88

179. SR-33 Ramps & Shell

2025 Scenario 5 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	840	.52*	850	.53*
SBT	0	0	0		0	
SBR	1	1600	10	.01	20	.01
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	150	.10	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	860	.27*	760	.24*
WBR	1	1600	80	.05	140	.09

TOTAL CAPACITY UTILIZATION .80 .78

SCENARIO 5
(ALTERNATIVE NETWORK)

1. Victoria & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	240	.15*
NBT	1	1600	20	.01	70	.04
NBR	1	1600	190	.12	320	.20
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	180	.11
EBT	1	1600	290	.18	460	.29*
EBR	1	1600	220	.14	20	.01
WBL	2	3200	450	.14	240	.08*
WBT	1	1600	560	.35*	330	.21
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .49 .53

2. Victoria & Loma Vista

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	260	.16*
NBT	2	3200	270	.08	530	.17
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	530	.17*	280	.09*
SBR	d	1600	110	.07	20	.01
EBL	0	0	70		20	
EBT	1	1600	40	.25*	30	.24*
EBR	0	0	290		330	
WBL	0	0	70	{.04}*	30	{.02}*
WBT	1	1600	40	.11	30	.05
WBR	0	0	60		20	

TOTAL CAPACITY UTILIZATION .57 .51

3. Victoria & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21*	1150	.36*
NBT	2	3200	540	.17	880	.28
NBR	1	1600	140	.09	210	.13
SBL	1	1600	160	.10	210	.13
SBT	3	4800	730	.15*	540	.11*
SBR	d	1600	40	.03	20	.01
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	350	{.16}*	710	{.22}*
EBR	1.5		670		780	{.22}
WBL	2	3200	330	.10*	230	.07*
WBT	2	3200	580	.18	330	.10
WBR	d	1600	50	.03	60	.04

TOTAL CAPACITY UTILIZATION .62 .76

4. Victoria & Woodland

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	60	.04
NBT	3	4800	1400	.31	2090	.46*
NBR	0	0	80		130	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	1800	.38*	1570	.33
SBR	0	0	30		10	
EBL	0	0	10		20	
EBT	1	1600	10	.10*	10	.04*
EBR	0	0	140		30	
WBL	1.5		260		90	
WBT	0.5	3200	10	.09*	10	.04*
WBR	0		20		20	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .70 .55

5. Victoria & SR 126 SB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1360	.22	2570	.41*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2440	.39*	1810	.30
SBR	0	0	70		90	
EBL	1.5		230		160	
EBT	0.5	3200	190	.13*	130	.09*
EBR	1	1600	250	.16	240	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	260	.16	560	.35
Right Turn Adjustment Multi			.06*		WBR	.35*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .58 .85

6. Victoria & Thille

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1300	.27	2360	.38*
NBR	0	0	450	.28	60	
SBL	1	1600	170	.11	40	.03*
SBT	4	6400	2080	.38*	1820	.32
SBR	0	0	350		220	
EBL	1.5		240		340	
EBT	0.5	3200	30	.08*	10	.11*
EBR	1	1600	120	.08	200	.13
WBL	1	1600	30	.02	110	.07
WBT	1	1600	10	.02*	70	.09*
WBR	0	0	20		80	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .51 .61

7. Victoria & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	320	.10
NBT	4	6400	1290	.24	1510	.26*
NBR	0	0	270		160	
SBL	2	3200	360	.11	350	.11*
SBT	4	6400	1680	.26*	1350	.21
SBR	1	1600	310	.19	370	.23
EBL	2	3200	320	.10*	660	.21*
EBT	3	4800	330	.08	860	.20
EBR	0	0	70		110	
WBL	2	3200	230	.07	280	.09
WBT	3	4800	720	.15*	610	.13*
WBR	1	1600	170	.11	320	.20

TOTAL CAPACITY UTILIZATION .61 .71

8. Victoria & Ralston

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	410	.26*
NBT	4	6400	1470	.24	1840	.33
NBR	0	0	70		270	
SBL	1	1600	100	.06	190	.12
SBT	4	6400	1740	.29*	1790	.30*
SBR	0	0	110		110	
EBL	1	1600	40	.03	130	.08
EBT	1	1600	110	.07*	240	.15*
EBR	1	1600	230	.14	320	.20
WBL	1	1600	300	.19*	170	.11*
WBT	1	1600	240	.15	120	.08
WBR	1	1600	170	.11	120	.08

TOTAL CAPACITY UTILIZATION .71 .82

10. Victoria & Moon

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1840	.30	2150	.40*
NBR	0	0	110		410	
SBL	1	1600	40	.03	110	.07*
SBT	4	6400	1930	.30*	1870	.33
SBR	0	0	20		260	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	80	.05*
EBR	1	1600	30	.02	180	.11
WBL	1	1600	320	.20*	150	.09*
WBT	1	1600	110	.07	50	.03
WBR	1	1600	70	.04	50	.03

TOTAL CAPACITY UTILIZATION .57 .61

14. Hill & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		20	
NBT	1	1600	100	.10*	50	.13*
NBR	0	0	10		130	
SBL	1	1600	50	.03*	250	.16*
SBT	1	1600	30	.02	70	.04
SBR	1	1600	60	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	500	.11	1220	.29*
EBR	0	0	50		180	
WBL	1	1600	130	.08	30	.02*
WBT	3	4800	1120	.29*	690	.16
WBR	0	0	290		70	

TOTAL CAPACITY UTILIZATION .53 .60

15. Johnson & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	170	.11	220	.14*
NBR	0	0	230	.14	240	.15
SBL	1	1600	40	.03	100	.06*
SBT	2	3200	170	.05*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03*	30	.02
EBT	3	4800	210	.07	1040	.31*
EBR	0	0	180	.11	470	
WBL	1	1600	170	.11	350	.22*
WBT	3	4800	1360	.30*	520	.12
WBR	0	0	60		50	

TOTAL CAPACITY UTILIZATION .48 .73

18. Seaward & US 101 NB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	580	.18*	590	.18*
NBT	2	3200	890	.28	930	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	740	.23*	940	.29*
SBR	1	1600	220	.14	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	380	.12*	370	.12*
WBT	0	0	0		0	
WBR	2	3200	360	.11	440	.14

TOTAL CAPACITY UTILIZATION .53 .59

19. Monmouth/US 101 SB & Harbor

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		640		1060	
SBT	0.5	3200	30	.21*	70	.37*
SBR	0		10		50	
EBL	1	1600	120	.08*	170	.11*
EBT	2	3200	400	.13	410	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	590	.37*
WBR	1	1600	310	.19	290	.18

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .88

20. Harbor & Olivas Park

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	140	.09*
NBT	2	3200	950	.30*	1100	.34
NBR	1	1600	390	.24	190	.12
SBL	2	3200	190	.06*	160	.05
SBT	2	3200	740	.23	1210	.38*
SBR	1	1600	130	.08	120	.08
EBL	1	1600	70	.04*	170	.11
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	40	.03	410	.26*
WBT	2	3200	110	.03*	140	.04
WBR	f		50		380	

TOTAL CAPACITY UTILIZATION .43 .80

23. Mills & Loma Vista

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		370	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	60	.04
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01*	10	.01
EBT	2	3200	340	.11	630	.20*
EBR	d	1600	310	.19	520	.33
WBL	1	1600	60	.04	70	.04*
WBT	2	3200	440	.14*	370	.12
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .33 .42

24. Mills & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	150	.09*
NBT	1	1600	400	.25*	240	.15
NBR	1	1600	200	.13	370	.23
SBL	1	1600	60	.04*	130	.08
SBT	2	3200	360	.11	460	.14*
SBR	1	1600	10	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	350	.11*	550	.17*
EBR	1	1600	80	.05	140	.09
WBL	2	3200	270	.08*	220	.07*
WBT	2	3200	390	.14	440	.16
WBR	0	0	70		60	
Right Turn Adjustment					NBR	.03*

TOTAL CAPACITY UTILIZATION .48 .50

25. Mills & Maple

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	970	.33*	810	.29*
NBR	0	0	90		110	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	720	.24	880	.29
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	220		210	
WBT	1	1600	20	.15*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .51 .50

26. Mills & Dean

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	150	.09*
NBT	2	3200	1180	.37*	920	.29
NBR	1	1600	290	.18	360	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	810	.26	930	.30*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	230	.14
WBL	2	3200	410	.13*	250	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.05*

TOTAL CAPACITY UTILIZATION .53 .54

27. Mills & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	80	.07*
NBR	1	1600	350	.22	230	.14
SBL	2.5		1200		1310	
SBT	0.5	4800	80	.28*	90	.30*
SBR	0		40		20	
EBL	2	3200	110	.03*	90	.03*
EBT	4	6400	1050	.16	1110	.17
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	360	.11
WBT	3	4800	1120	.23*	1420	.30*
WBR	2	3200	1410	.44	1380	.43
Right Turn Adjustment			NBR	.08*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .68 .70

28. US 101 NB Ramps & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	580	.18*	320	.10*
SBT	0	0	0		0	
SBR	3	4800	1680	.35	1370	.29
EBL	0	0	0		0	
EBT	3	4800	2260	.47*	2510	.52*
EBR	f		320		160	
WBL	2	3200	410	.13*	530	.17*
WBT	3	4800	1020	.21	1780	.37
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .78 .79

29. SR 126 EB Ramps & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	270	.08	420	.13*
EBT	3	4800	2530	.53*	2680	.56
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1240	.26	2370	.49*
WBR	f		130		310	

TOTAL CAPACITY UTILIZATION .53 .62

30. Callens & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	630	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2230	.35*	2410	.38*
EBR	d	1600	290	.18	250	.16
WBL	2	3200	90	.03*	180	.06*
WBT	3	4800	1200	.25	2020	.42
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .46 .66

31. Donlon & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		560	
NBT	0	3200	0	.06*	0	.23*
NBR	0.5		30		170	
SBL	1.5		390		360	
SBT	0.5	3200	140	.17*	90	.14*
SBR	1	1600	180	.11	220	.14
EBL	0	0	0		0	
EBT	4	6400	1920	.30*	2410	.38*
EBR	d	1600	220	.14	200	.13
WBL	2	3200	100	.03*	250	.08*
WBT	3	4800	1060	.22	1580	.33
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .83

32. Telephone & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	700	.22
NBT	2	3200	250	.08*	1050	.33*
NBR	1	1600	70	.04	280	.18
SBL	1.5		240	.15	470	
SBT	1.5	4800	1000	.31*	700	.24*
SBR	f		730		940	
EBL	2	3200	440	.14	750	.23
EBT	3	4800	1090	.23*	1450	.30*
EBR	f		400		460	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .62 .87

33. US 101 NB Ramps & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		680		530	
NBT	0.5	3200	30	.22*	80	.19*
NBR	1	1600	260	.16	410	.26
SBL	0.5		40		10	
SBT	0	3200	0	.12*	0	{.01}*
SBR	1.5		340		230	
EBL	1	1600	20	.01*	290	.18*
EBT	3	4800	700	.15	1890	.39
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	990	.21*	1360	.29*
WBR	0	0	10		10	
Right Turn Adjustment					NBR	.01*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .56 .68

34. Portola & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	290	.09*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	120	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	600	.13	1700	.35*
EBR	d	1600	200	.13	290	.18
WBL	1	1600	20	.01	70	.04*
WBT	3	4800	850	.18*	880	.19
WBR	0	0	20		40	
Right Turn Adjustment					SBR	.05*

TOTAL CAPACITY UTILIZATION .35 .49

35. Saratoga & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	30	.02
NBT	1	1600	10	.08*	60	.14*
NBR	0	0	110		170	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	30	.02	30	.02
SBR	1	1600	30	.02	10	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	590	.12	1560	.33*
EBR	d	1600	80	.05	170	.11
WBL	1	1600	50	.03	90	.06*
WBT	3	4800	910	.19*	940	.20
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .30 .56

38. Telephone & Market

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	170	.11
NBT	3	4800	550	.11*	890	.19*
NBR	d	1600	90	.06	100	.06
SBL	1	1600	480	.30*	160	.10*
SBT	3	4800	280	.06	690	.14
SBR	d	1600	180	.11	160	.10
EBL	1	1600	50	.03	210	.13*
EBT	1	1600	270	.17*	250	.16
EBR	1	1600	170	.11	290	.18
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	130	.08	380	.24*
WBR	1	1600	110	.07	610	.38
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .61 .72

42. Telephone & McGrath

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	230	.14*
NBT	3	4800	680	.14	920	.19
NBR	d	1600	270	.17	100	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	320	.10*	1050	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	70	.04*	30	.02*
EBR	1	1600	120	.08	330	.21
WBL	1	1600	60	.04*	290	.18*
WBT	1	1600	30	.02	90	.06
WBR	1	1600	70	.04	160	.10
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	250	.08*	70	.02*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	780	.26*	770	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	40	.03
WBT	2	3200	530	.22	790	.28*
WBR	0	0	180		120	
TOTAL CAPACITY UTILIZATION			.38		.33	

46. Seaward & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	180	.11*
NBT	1	1600	150	.09	170	.11
NBR	1	1600	320	.20	270	.17
SBL	1	1600	30	.02	70	.04
SBT	1	1600	150	.09*	90	.06*
SBR	1	1600	190	.12	90	.06
EBL	1	1600	110	.07	90	.06
EBT	2	3200	760	.24*	680	.21*
EBR	1	1600	140	.09	110	.07
WBL	0.5		90		160	
WBT	1.5	3200	530	.20*	710	.30*
WBR	0		30		80	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.56		.68	

47. Main & Loma Vista

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	340	.11*	450	.14*
NBR	f		40		180	
SBL	1	1600	600	.38*	400	.25*
SBT	2	3200	610	.19	640	.21
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	120	{.08}*
WBT	1	1600	30	.05	40	.10
WBR	2	3200	370	.12	480	.15
TOTAL CAPACITY UTILIZATION			.56		.52	

49. Main & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290		610	
NBT	1.5	4800	560	.18*	710	.28*
NBR	f		180		80	
SBL	1.5		190	.12	280	.18
SBT	1.5	4800	490	.17*	710	.23*
SBR	0		40		40	
EBL	0	0	0		0	
EBT	2	3200	330	.10	430	.13
EBR	f		670		620	
WBL	0	0	0		0	
WBT	1.5	4800	330	.10*	510	.16*
WBR	1.5		120		190	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .67

50. Emma & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1040	.33*	1210	.38*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	90	.06*
WBT	3	4800	960	.20	1490	.31
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .46

51. Lemon Grove & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	40	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1060	.33*	1120	.35*
EBR	d	1600	60	.04	80	.05
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	940	.21	1330	.29
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .40 .43

53. Kimball & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	80		10	
NBT	0	0	120		1030	
NBR	0	0	10		10	
SBL	2	3200	240	.08*	460	.14*
SBT	0	0	530		100	
SBR	2	3200	870	.27	600	.19
EBL	2	3200	190	.06*	210	.07
EBT	3	4800	320	.07	1060	.23*
EBR	0	0	10		30	
WBL	0	0	220		110	{.07}*
WBT	2	3200	670	.28*	590	.22
WBR	1	1600	620	.39	290	.18

Right Turn Adjustment Multi .24*

TOTAL CAPACITY UTILIZATION .66 .44

55. Kimball & SR 126 EB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1350	.28	930	.19*
NBR	f		110		550	
SBL	1	1600	20	.01	30	.02*
SBT	3	4800	1630	.34*	880	.18
SBR	0	0	0		0	
EBL	2	3200	120	.04*	380	.12*
EBT	0	0	10		0	
EBR	f		240		550	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .38 .33

56. Kimball & SR 126 WB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	600	.19*	260	.08*
NBT	3	4800	810	.17	830	.17
NBR	d	1600	60	.04	220	.14
SBL	1	1600	10	.01	10	.01
SBT	3	4800	730	.15*	560	.12*
SBR	d	1600	170	.11	100	.06
EBL	1.5		40		30	
EBT	0.5	3200	10	.02*	10	.01*
EBR	1	1600	740	.46	230	.14
WBL	0	0	180		120	
WBT	1	1600	130	.19*	70	.12*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.30*	EBR	.07*

TOTAL CAPACITY UTILIZATION .85 .40

Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	150	.05*	90	.03
NBT	2	3200	90	.03	190	.06*
NBR	1	1600	80	.05	190	.12
SBL	1	1600	30	.02	60	.04*
SBT	2	3200	180	.06*	180	.06
SBR	1	1600	30	.02	30	.02
EBL	1	1600	20	.01*	30	.02
EBT	2	3200	180	.06	560	.18*
EBR	1	1600	60	.04	220	.14
WBL	2	3200	200	.06	130	.04*
WBT	2	3200	380	.12*	310	.10
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment					NBR	.03*

TOTAL CAPACITY UTILIZATION .24 .35

60. Ramelli & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	20	.01*
NBT	1	1600	0	.00	0	.00
NBR	1	1600	40	.03	40	.03
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	420	.09	1270	.28*
EBR	0	0	30		70	
WBL	1	1600	110	.07	120	.08*
WBT	3	4800	1470	.31*	1050	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .35 .38

61. Montgomery & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	220	.14*	90	.06*
NBT	1	1600	80	.05	10	.01
NBR	d	1600	10	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	1	1600	40	.03*	10	.01*
SBR	1	1600	110	.07	40	.03
EBL	1	1600	10	.01*	60	.04
EBT	2	3200	590	.18	970	.30*
EBR	d	1600	30	.02	30	.02
WBL	1	1600	50	.03	30	.02*
WBT	2	3200	1130	.35*	690	.22
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.03*		

TOTAL CAPACITY UTILIZATION .56 .39

63. Petit & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	160	.10
NBT	1	1600	40	.11	50	.16*
NBR	0	0	130		210	
SBL	1	1600	40	.03	40	.03*
SBT	1	1600	80	.05*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	90	.06*	90	.06
EBT	2	3200	330	.10	770	.24*
EBR	d	1600	90	.06	240	.15
WBL	1	1600	180	.11	200	.13*
WBT	2	3200	770	.24*	540	.17
WBR	d	1600	20	.01	50	.03

TOTAL CAPACITY UTILIZATION .46 .56

65. Sanjon & Thompson

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	500	.16*	510	.16*
NBT	0	0	0		0	
NBR	1	1600	190	.12	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	510	.25*	700	.32*
EBR	0	0	300		320	
WBL	1	1600	120	.08*	140	.09*
WBT	2	3200	530	.17	790	.25
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .49 .57

68. Seaward & Thompson

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08	200	.13*
NBT	2	3200	480	.15*	480	.15
NBR	d	1600	210	.13	180	.11
SBL	1	1600	80	.05*	50	.03
SBT	2	3200	350	.11	330	.10*
SBR	d	1600	60	.04	100	.06
EBL	1	1600	70	.04	90	.06
EBT	2	3200	690	.23*	780	.27*
EBR	0	0	40		90	
WBL	2	3200	190	.06*	280	.09*
WBT	2	3200	430	.13	760	.24
WBR	1	1600	30	.02	60	.04

TOTAL CAPACITY UTILIZATION .49 .59

71. Sanjon & Harbor

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	160	.10*	400	.25*
SBT	0	0	0		0	
SBR	1	1600	80	.05	120	.08
EBL	1	1600	60	.04*	110	.07*
EBT	1	1600	290	.18	480	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	600	.38*
WBR	1	1600	470	.29	260	.16
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.35		.70

75. Ashwood & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	50	.03*	90	.06*
NBR	d	1600	50	.03	60	.04
SBL	1	1600	70	.04*	170	.11*
SBT	1	1600	50	.03	70	.04
SBR	1	1600	140	.09	120	.08
EBL	1	1600	80	.05*	160	.10
EBT	2	3200	510	.16	830	.26*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	60	.04*
WBT	2	3200	510	.16*	580	.18
WBR	d	1600	110	.07	100	.06
Right Turn Adjustment			SBR	.01*		
TOTAL CAPACITY UTILIZATION				.29		.47

77. Day & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	230	.07*	340	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	50	.03
EBT	2	3200	490	.15	900	.28*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	930	.29*	800	.25
WBR	d	1600	330	.21	240	.15
TOTAL CAPACITY UTILIZATION				.42		.39

85. Victoria & Olivas Park

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21	560	.18*
NBT	3	4800	1840	.38*	1790	.37
NBR	1	1600	540	.34	450	.28
SBL	2	3200	490	.15*	210	.07
SBT	3	4800	1490	.31	1600	.33*
SBR	f		50		80	
EBL	2	3200	120	.04	170	.05
EBT	2	3200	170	.05*	230	.07*
EBR	f		190		970	
WBL	1	1600	130	.08*	360	.23*
WBT	2	3200	50	.02	370	.12
WBR	f		120		200	
TOTAL CAPACITY UTILIZATION				.66		.81

86. Telephone & Olivas Park

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	370	.12*	970	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	150	.09	670	.42
EBL	2	3200	490	.15*	390	.12*
EBT	2	3200	210	.07	280	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	180	.06*	270	.08*
WBR	1	1600	570	.36	720	.45
Right Turn Adjustment			WBR	.21*	Multi	.16*
TOTAL CAPACITY UTILIZATION			.56		.68	

91. Johnson & Ralston

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	140	.09*
NBT	2	3200	520	.16	620	.19
NBR	d	1600	10	.01	250	.16
SBL	1	1600	30	.02	60	.04
SBT	2	3200	570	.18*	910	.28*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	50	.03*	80	.05
EBT	1	1600	60	.04	300	.19*
EBR	d	1600	110	.07	240	.15
WBL	1	1600	220	.14	70	.04*
WBT	1	1600	350	.22*	140	.09
WBR	d	1600	100	.06	30	.02
TOTAL CAPACITY UTILIZATION			.49		.60	

92. Johnson & Bristol

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	70	.04*
NBT	2	3200	520	.16	820	.26
NBR	f		190		1330	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	840	.27*	1150	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	10	.01*	220	.14*
EBR	1	1600	130	.08	200	.13
WBL	2	3200	1180	.37*	450	.14*
WBT	1	1600	230	.14	130	.08
WBR	d	1600	10	.01	20	.01
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION			.72		.69	

94. Johnson & North Bank

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	60	.04*
NBT	3	4800	160	.03	520	.11
NBR	d	1600	20	.01	180	.11
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1580	.38*	1400	.33*
SBR	0	0	230		170	
EBL	2.5		450	.09*	1790	.37*
EBT	1.5	6400	70	.04	340	.21
EBR	1	1600	420	.26	310	.19
WBL	1.5		150		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.14*		
TOTAL CAPACITY UTILIZATION			.70		.82	

95. Bristol & Ramelli

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	10	.01	10	.01
NBR	0	0	10		10	
SBL	1	1600	10	.01	20	.01
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	220	.14	120	.08
EBL	1	1600	30	.02*	90	.06
EBT	2	3200	160	.05	850	.27*
EBR	0	0	10		10	
WBL	1	1600	30	.02	30	.02*
WBT	2	3200	1050	.34*	340	.12
WBR	0	0	30		30	
Right Turn Adjustment			SBR	.11*		

TOTAL CAPACITY UTILIZATION .49 .31

96. Montgomery & North Bank

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	140	.09*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	220	.14	100	.06
EBL	1	1600	60	.04*	90	.06*
EBT	2	3200	110	.03	320	.10
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	480	.30*	240	.15*
WBR	d	1600	180	.11	70	.04
Right Turn Adjustment			SBR	.06*		

TOTAL CAPACITY UTILIZATION .46 .32

100. Saticoy & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	190	.12	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	190	.12*	90	.06
SBT	1	1600	110	.07	150	.09*
SBR	1	1600	260	.16	160	.10
EBL	1	1600	110	.07*	160	.10*
EBT	2	3200	230	.07	650	.20
EBR	1	1600	100	.06	190	.12
WBL	1	1600	80	.05	110	.07
WBT	2	3200	340	.15*	490	.17*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .47 .45

101. Saticoy & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	170		80	
NBT	1	1600	70	.18*	50	.10*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	30	.04*
SBR	0	0	60		20	
EBL	1	1600	20	.01	30	.02
EBT	1	1600	200	.18*	420	.36*
EBR	0	0	80		150	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	270	.17	280	.18
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .48 .52

102. Wells & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	250	.16*
NBT	1	1600	120	.08	290	.18
NBR	1	1600	60	.04	260	.16
SBL	1	1600	10	.01	10	.01
SBT	1	1600	270	.17*	200	.13*
SBR	1	1600	50	.03	30	.02
EBL	1	1600	20	.01	50	.03
EBT	1	1600	50	.17*	190	.25*
EBR	0	0	220		210	
WBL	1	1600	320	.20*	130	.08*
WBT	1	1600	150	.10	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .65 .62

104. Wells & SR 126 EB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	880	.18	1400	.29
NBR	f		590		1550	
SBL	0	0	0		0	
SBT	3	4800	2640	.55*	1730	.36*
SBR	f		80		50	
EBL	1	1600	100	.06*	330	.21*
EBT	0	0	0		0	
EBR	1	1600	170	.11	640	.40
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.19*

TOTAL CAPACITY UTILIZATION .66 .76

105. Wells & Darling

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2790	.58*
NBR	d	1600	70	.04	160	.10
SBL	1	1600	120	.08	370	.23*
SBT	3	4800	2400	.50*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	100		40	
WBL	1	1600	70	.04*	280	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .69 1.07

106. Wells & Telephone

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	450	.14
NBT	3	4800	1250	.26	2860	.61*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2490	.52*	1940	.40
SBR	1	1600	140	.09	410	.26
EBL	1.5		160	{.05}*	220	{.07}*
EBT	0.5	3200	0	.05	0	.07
EBR	2	3200	560	.18	550	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.04*		

TOTAL CAPACITY UTILIZATION .73 .71

114. California & Thompson

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		30		40	.03
NBT	0.5	3200	20	.02*	40	.03*
NBR	1	1600	60	.04	70	.04
SBL	1.5		180		170	
SBT	1.5	4800	110	.06*	200	.08*
SBR	0		10		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	850	.31*	980	.35*
EBR	0	0	150		130	
WBL	1	1600	70	.04*	80	.05*
WBT	2	3200	320	.10	430	.15
WBR	0	0	10		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .43 .51

115. Chestnut & Thompson

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	40	.03	100	.06
SBT	1	1600	310	.20*	370	.25*
SBR	0	0	10		30	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	640	.20*	710	.22*
EBR	f		390		540	
WBL	1	1600	210	.13*	170	.11*
WBT	2	3200	460	.15	650	.23
WBR	0	0	30		80	

TOTAL CAPACITY UTILIZATION .54 .59

120. Ventura & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	60	.04
NBT	1	1600	280	.18	620	.39*
NBR	1	1600	20	.01	40	.03
SBL	1	1600	90	.06	100	.06*
SBT	1	1600	360	.23*	430	.27
SBR	1	1600	110	.07	40	.03
EBL	1	1600	30	.02	160	.10*
EBT	1	1600	200	.13*	340	.21
EBR	d	1600	40	.03	50	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	110	.07	250	.16*
WBR	1	1600	150	.09	170	.11

TOTAL CAPACITY UTILIZATION .39 .71

132. Ventura & Stanley

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	50	.03*
NBT	1	1600	310	.19	470	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	500	.31*	430	.27*
SBR	1	1600	460	.29	280	.18
EBL	1	1600	330	.21*	510	.32*
EBT	0	0	0		0	
EBR	1	1600	200	.13	120	.08
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .61 .62

136. US 101 SB Ramps & Valentine

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		370	.12*	450	.14*
SBT	0	4800	0		0	
SBR	1.5		100	.06	20	
EBL	1	1600	90	.06*	480	.30*
EBT	2	3200	210	.07	740	.23
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	980	.31*	390	.12*
WBR	f		810		900	

TOTAL CAPACITY UTILIZATION .49 .56

138. Johnson & US 101 SB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	690	.43*
NBT	1	1600	130	.08	490	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	600	.38*	380	.24*
SBR	f		1520		1600	
EBL	1	1600	120	.08*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	120	.08	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .57 .83

160. Victoria & US 101 NB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	520	.16*	510	.16*
NBT	3	4800	1390	.29	1940	.40
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2690	.42*	2220	.35*
SBR	1	1600	130	.08	350	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	710	.22*	490	.15*
WBT	0	0	0		0	
WBR	3	4800	920	.19	1150	.24
Right Turn Adjustment					WBR	.01*

TOTAL CAPACITY UTILIZATION .80 .67

161. Victoria & Valentine

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	200	.06*
NBT	3	4800	1640	.35	2100	.45
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1640	.51*	1500	.47*
SBR	f		1670		1180	
EBL	2.5		340		730	
EBT	0.5	4800	40	.08*	20	.16*
EBR	1	1600	240	.15	450	.28
WBL	0	0	10		20	
WBT	1	1600	10	.01*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .68 .78

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	240	.15*	390	.24*
SBT	0	0	0		0	
SBR	1	1600	40	.03	50	.03
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	260	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	240	.12*
WBR	0	0	50		140	

TOTAL CAPACITY UTILIZATION .29 .41

163. Santa Clara & Main

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	230	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	360	.12*	470	.15*
EBR	0	0	10		10	
WBL	1	1600	150	.09*	170	.11*
WBT	2	3200	390	.13	510	.17
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .26 .30

164. Seaward & Poli

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		170	
NBT	1	1600	0	.18*	0	.21*
NBR	0	0	130		160	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	370	.23*
EBR	d	1600	80	.05	130	.08
WBL	1	1600	230	.14*	100	.06*
WBT	1	1600	170	.11	300	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .41 .50

165. Seaward & Harbor

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.13*	310	.12*
NBR	0	0	40		60	
SBL	2	3200	560	.18*	590	.18*
SBT	2	3200	190	.06	310	.10
SBR	1	1600	310	.19	430	.27
EBL	2	3200	430	.13*	380	.12
EBT	2	3200	600	.19	1200	.39*
EBR	0	0	20		60	
WBL	1	1600	20	.01	30	.02*
WBT	2	3200	270	.08*	480	.15
WBR	2	3200	920	.29	1150	.36
Right Turn Adjustment			WBR	.07*		

TOTAL CAPACITY UTILIZATION .59 .71

166. College & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.07*
NBR	0	0	60		90	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	570	.20*	890	.30*
EBR	0	0	60		70	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	670	.21	670	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .40

168. Day & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	220	.14*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	270	.17
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	450	.41*	480	.44*
EBR	0	0	200		220	
WBL	1	1600	240	.15*	220	.14*
WBT	1	1600	410	.31	430	.30
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .73 .76

169. Kimball & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	290	.18*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	20	.01	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	210	.26	390	.36*
EBR	0	0	210		190	
WBL	1	1600	70	.04	20	.01*
WBT	1	1600	520	.33*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .51 .45

170. Petit & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.10	230	.14*
EBR	1	1600	40	.03	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	480	.31*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .34 .18

171. Saticoy & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	100		50	
NBT	1	1600	0	.08*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	140	.12	310	.26*
EBR	0	0	50		100	
WBL	0	0	20		20	{.01}*
WBT	1	1600	420	.28*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .31

172. Wells & Foothill

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	200	.13*
EBR	1	1600	100	.06	120	.08
WBL	0	0	70		30	{.02}*
WBT	1	1600	300	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .25

173. Victoria & SR 126 WB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1210	.30	2110	.51*
NBR	0	0	230		360	
SBL	0	0	0		0	
SBT	3	4800	1980	.45*	1510	.33
SBR	0	0	190		90	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	530	.33	410	.26
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	210	.13	160	.10
Right Turn Adjustment		Multi		.35*	Multi	.22*

TOTAL CAPACITY UTILIZATION .80 .73

174. Petit & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	20	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	270	.08	600	.19
EBR	1	1600	50	.03	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	520	.33*	330	.21*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .41 .28

175. Ventura & North Bank

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		40	
SBT	1	1600	0	.10*	0	.11*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	540	.34
EBT	2	3200	910	.28	2500	.78*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	360	.23
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .42 .89

176. Saticoy & Darling

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	140	.09	220	.14*
NBR	1	1600	110	.07	20	.01
SBL	0	0	60		10	{.01}*
SBT	1	1600	240	.19*	190	.13
SBR	1	1600	80	.05	90	.06
EBL	0	0	70		60	{.04}*
EBT	1	1600	70	.11*	60	.10
EBR	0	0	40		40	
WBL	0	0	70	{.04}*	50	
WBT	1	1600	20	.08	70	.09*
WBR	0	0	30		20	

TOTAL CAPACITY UTILIZATION .35 .28

177. Wells & SR 126 WB Ramps

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	530	.17	1360	.43*
NBR	f		420		360	
SBL	0	0	0		0	
SBT	2	3200	1060	.33*	750	.23
SBR	f		420		200	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1670		1030	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	180	.11	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .49

178. SR-33 Ramps & Stanley

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	590	.37	650	.41
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	340	.21	240	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	510	.32*	640	.40*
WBR	f		200		260	
Right Turn Adjustment			NBR	.29*	NBR	.22*

TOTAL CAPACITY UTILIZATION .61 .62

179. SR-33 Ramps & Shell

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	830		830	
SBT	1	1600	0	.52*	0	.53*
SBR	0	0	10		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	150	.10	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	860	.59*	750	.56*
WBR	0	0	80		150	

TOTAL CAPACITY UTILIZATION 1.12 1.10

180. Estates & Telegraph

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	60	.04
NBT	1	1600	10	.05	10	.07*
NBR	0	0	70		100	
SBL	0	0	10		10	{.01}*
SBT	1	1600	10	.02*	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	540	.17	810	.25*
EBR	d	1600	70	.04	60	.04
WBL	1	1600	40	.03	90	.06*
WBT	2	3200	640	.20*	810	.25
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .39

181. Ventura & Ramona

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	50	.03*
NBT	1	1600	250	.16	470	.31
NBR	0	0	10		20	
SBL	1	1600	10	.01	10	.01
SBT	1	1600	380	.24*	470	.30*
SBR	0	0	10		10	
EBL	0	0	10		10	
EBT	1	1600	10	.04*	10	.05*
EBR	0	0	40		60	
WBL	0	0	10	{.01}*	10	{.01}*
WBT	1	1600	10	.02	10	.02
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .33 .39

182. Olive & Main St

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	670	.42*	540	.34*
SBT	1	1600	20	.06	30	.08
SBR	0	0	70		100	
EBL	0	0	70	{.04}*	280	
EBT	1	1600	80	.09	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	220	.14*	170	.11
WBR	1	1600	210	.13	450	.28

TOTAL CAPACITY UTILIZATION .61 .67

190. Petit Av & North Bank Dr

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	70	.04*
SBT	0	0	0		0	
SBR	1	1600	270	.17	190	.12
EBL	1	1600	60	.04*	240	.15*
EBT	2	3200	60	.02	120	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	100	.03*	90	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.11*		

TOTAL CAPACITY UTILIZATION .21 .22

191. Saticoy Av & North Bank Dr

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01*
NBT	1	1600	30	.03*	20	.02
NBR	0	0	20		10	
SBL	1	1600	20	.01*	50	.03
SBT	1	1600	10	.02	40	.04*
SBR	0	0	20		30	
EBL	1	1600	20	.01	30	.02*
EBT	2	3200	100	.03*	70	.02
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	90	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.04*

TOTAL CAPACITY UTILIZATION .08 .14

192. Los Angeles Av & North Bank

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	200	.13
NBT	3	4800	1430	.30	3100	.65*
NBR	d	1600	20	.01	60	.04
SBL	1	1600	120	.08	170	.11*
SBT	3	4800	2800	.58*	2250	.47
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	10	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .71 .86

193. Saticoy Av & A St

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	240	.15*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	210	.13	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .17 .13

194. Wells Rd & A St

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	140	.09
NBT	2	3200	390	.14	850	.32*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	820	.26*	590	.19
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	160	.10*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	30		10	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.44		.41

196. Ramelli & Ralston

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01
NBT	1	1600	20	.04	50	.11*
NBR	0	0	50		120	
SBL	1	1600	0	.00	0	.00
SBT	1	1600	110	.11*	30	.03
SBR	0	0	70		20	
EBL	1	1600	20	.01*	10	.01
EBT	1	1600	40	.03	500	.33*
EBR	0	0	10		20	
WBL	1	1600	140	.09	60	.04*
WBT	1	1600	410	.26*	100	.07
WBR	0	0	10		10	
TOTAL CAPACITY UTILIZATION				.39		.48

197. Kimball & Ralston

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	10	.01
NBT	3	4800	60	.01	560	.12*
NBR	1	1600	0	.00	20	.01
SBL	1	1600	0	.00	0	.00
SBT	3	4800	340	.07*	70	.01
SBR	1	1600	440	.28	130	.08
EBL	1	1600	70	.04*	490	.31*
EBT	1	1600	10	.01	120	.08
EBR	1	1600	10	.01	10	.01
WBL	1	1600	10	.01	0	.00
WBT	2	3200	70	.02*	30	.01*
WBR	1	1600	20	.01	0	.00
Right Turn Adjustment			SBR	.18*		
TOTAL CAPACITY UTILIZATION				.32		.44

198. Montgomery & Ralston

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	0	.00
NBT	2	3200	210	.08*	70	.04*
NBR	0	0	60		110	.07
SBL	1	1600	10	.01*	40	.03*
SBT	2	3200	130	.04	200	.06
SBR	0	0	10		0	
EBL	1	1600	0	.00	20	.01
EBT	1	1600	10	.01	70	.06*
EBR	0	0	0		20	
WBL	1	1600	140	.09	60	.04*
WBT	1	1600	90	.13*	30	.08
WBR	0	0	120		90	
TOTAL CAPACITY UTILIZATION				.22		.17

199. Kimball & North Bank

2025 Scenario 5 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	10	.01*	10	.01*
SBT	0	0	0		0	
SBR	1	1600	330	.21	60	.04
EBL	1	1600	10	.01*	550	.34*
EBT	2	3200	180	.06	420	.13
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	670	.23*	350	.12*
WBR	0	0	50		20	
Right Turn Adjustment			SBR	.19*		
TOTAL CAPACITY UTILIZATION				.44		.47

**NON-COMMITTED
IMPROVEMENTS**

105. Wells & Darling

2025 Scenario 5 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2790	.58*
NBR	d	1600	70	.04	160	.10
SBL	2	3200	120	.04	370	.12*
SBT	3	4800	2400	.50*	1840	.38
SBR	d	1600	10	.01	20	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	100		40	
WBL	2	3200	70	.02	280	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .63 .88

179. SR-33 Ramps & Shell

2025 Scenario 5 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	830	.52*	830	.52*
SBT	0	0	0		0	
SBR	1	1600	10	.01	20	.01
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	150	.10	100	.07
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	860	.27*	750	.23*
WBR	1	1600	80	.05	150	.09

TOTAL CAPACITY UTILIZATION .80 .76

SCENARIO 6

1. Victoria & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	270	.17*
NBT	1	1600	20	.01	80	.05
NBR	1	1600	370	.23	520	.33
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01	180	.11
EBT	1	1600	330	.21*	500	.31*
EBR	1	1600	230	.14	20	.01
WBL	2	3200	600	.19*	510	.16*
WBT	1	1600	610	.38	360	.23
WBR	d	1600	10	.01	20	.01
Right Turn Adjustment					NBR	.03*
TOTAL CAPACITY UTILIZATION			.53		.69	

2. Victoria & Loma Vista

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	240	.15*	280	.18*
NBT	2	3200	420	.13	750	.23
NBR	d	1600	20	.01	40	.03
SBL	1	1600	20	.01	20	.01
SBT	2	3200	690	.22*	500	.16*
SBR	d	1600	80	.05	40	.03
EBL	0	0	90		40	
EBT	1	1600	50	.27*	30	.25*
EBR	0	0	290		330	
WBL	0	0	70	{.04}*	30	{.02}*
WBT	1	1600	40	.10	40	.06
WBR	0	0	50		20	
TOTAL CAPACITY UTILIZATION			.68		.61	

3. Victoria & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	570	.18	1070	.33*
NBT	2	3200	710	.22*	1050	.33
NBR	1	1600	400	.25	470	.29
SBL	1	1600	270	.17*	220	.14
SBT	3	4800	780	.16	760	.16*
SBR	d	1600	40	.03	40	.03
EBL	1	1600	70	.04	40	.03
EBT	1.5	4800	430	{.17}*	740	{.26}*
EBR	1.5		670		880	
WBL	2	3200	580	.18*	370	.12*
WBT	2	3200	660	.21	470	.15
WBR	d	1600	100	.06	140	.09
TOTAL CAPACITY UTILIZATION			.74		.87	

4. Victoria & Woodland

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	230	.14*	50	.03
NBT	3	4800	1750	.41	2400	.59*
NBR	0	0	210		440	
SBL	1	1600	10	.01	50	.03*
SBT	3	4800	2130	.45*	2000	.42
SBR	0	0	20		10	
EBL	0	0	10		30	
EBT	1	1600	10	.10*	10	.04*
EBR	0	0	140		30	
WBL	1.5		400		320	
WBT	0.5	3200	10	.13*	10	.11*
WBR	0		20		20	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.82		.77	

5. Victoria & SR 126 SB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1600	.26	2850	.45*
NBR	0	0	50		40	
SBL	0	0	0		0	
SBT	4	6400	2810	.45*	2180	.37
SBR	0	0	90		190	
EBL	1.5		320		300	
EBT	0.5	3200	200	.16*	130	.13*
EBR	1	1600	200	.13	170	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	270	.17	570	.36
Right Turn Adjustment			WBR	.03*	WBR	.36*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .64 .94

6. Victoria & Thille

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	60	.04
NBT	4	6400	1520	.31	2630	.42*
NBR	0	0	460		50	
SBL	1	1600	190	.12	40	.03*
SBT	4	6400	2350	.43*	2110	.37
SBR	0	0	390		230	
EBL	1.5		260		370	
EBT	0.5	3200	30	.09*	10	.12*
EBR	1	1600	110	.07	200	.13
WBL	1	1600	30	.02	90	.06
WBT	1	1600	10	.02*	90	.11*
WBR	0	0	20		80	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .57 .68

7. Victoria & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	260	.08*	320	.10
NBT	4	6400	1490	.27	1730	.29*
NBR	0	0	260		150	
SBL	2	3200	360	.11	340	.11*
SBT	4	6400	1930	.30*	1530	.24
SBR	1	1600	340	.21	450	.28
EBL	2	3200	340	.11*	700	.22*
EBT	3	4800	350	.08	860	.20
EBR	0	0	40		110	
WBL	2	3200	210	.07	300	.09
WBT	3	4800	710	.15*	660	.14*
WBR	1	1600	170	.11	330	.21

TOTAL CAPACITY UTILIZATION .64 .76

8. Victoria & Ralston

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	400	.25*
NBT	4	6400	1570	.25	2020	.35
NBR	0	0	50		230	
SBL	1	1600	100	.06	200	.13
SBT	4	6400	1940	.32*	1970	.33*
SBR	0	0	110		120	
EBL	1	1600	40	.03	140	.09
EBT	1	1600	110	.07*	240	.15*
EBR	1	1600	230	.14	320	.20
WBL	1	1600	290	.18*	130	.08*
WBT	1	1600	230	.14	120	.08
WBR	1	1600	190	.12	120	.08

TOTAL CAPACITY UTILIZATION .73 .81

10. Victoria & Moon

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03*	190	.12
NBT	4	6400	1940	.32	2280	.41*
NBR	0	0	110		350	
SBL	1	1600	40	.03	120	.08*
SBT	4	6400	2090	.33*	1980	.35
SBR	0	0	30		270	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	30	.02	170	.11
WBL	1	1600	320	.20*	160	.10*
WBT	1	1600	110	.07	50	.03
WBR	1	1600	60	.04	50	.03

TOTAL CAPACITY UTILIZATION .60 .65

14. Hill & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		30	
NBT	1	1600	90	.09*	60	.16*
NBR	0	0	10		170	
SBL	1	1600	60	.04*	240	.15*
SBT	1	1600	30	.02	70	.04
SBR	1	1600	70	.04	240	.15
EBL	1	1600	170	.11*	100	.06
EBT	3	4800	500	.12	1160	.28*
EBR	0	0	70		200	
WBL	1	1600	190	.12	30	.02*
WBT	3	4800	1090	.29*	730	.16
WBR	0	0	280		60	

TOTAL CAPACITY UTILIZATION .53 .61

15. Johnson & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	330	.10*	190	.06
NBT	2	3200	160	.10	240	.15*
NBR	0	0	180	.11	430	.27
SBL	1	1600	30	.02	100	.06*
SBT	2	3200	170	.05*	200	.06
SBR	d	1600	40	.03	40	.03
EBL	1	1600	50	.03	30	.02
EBT	3	4800	210	.07*	1070	.31*
EBR	0	0	170	.11	400	
WBL	1	1600	440	.28*	420	.26*
WBT	3	4800	1370	.30	560	.13
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .50 .78

18. Seaward & US 101 NB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	550	.17*	600	.19*
NBT	2	3200	860	.27	910	.28
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	720	.23*	980	.31*
SBR	1	1600	240	.15	240	.15
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	380	.12*	390	.12*
WBT	0	0	0		0	
WBR	2	3200	400	.13	460	.14

TOTAL CAPACITY UTILIZATION .52 .62

19. Monmouth/US 101 SB & Harbor

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		630		1000	
SBT	0.5	3200	40	.21*	70	.35*
SBR	0		10		50	
EBL	1	1600	130	.08*	150	.09*
EBT	2	3200	370	.12	400	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	570	.36*
WBR	1	1600	300	.19	320	.20

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .83

20. Harbor & Olivas Park

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	140	.09*
NBT	2	3200	930	.29*	1100	.34
NBR	1	1600	390	.24	200	.13
SBL	2	3200	170	.05*	170	.05
SBT	2	3200	730	.23	1200	.38*
SBR	1	1600	150	.09	110	.07
EBL	1	1600	70	.04*	170	.11
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	50	.03	420	.26*
WBT	2	3200	100	.03*	140	.04
WBR	f		50		390	

TOTAL CAPACITY UTILIZATION .41 .80

23. Mills & Loma Vista

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		370	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	90	.06
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01	10	.01
EBT	2	3200	360	.11*	610	.19*
EBR	d	1600	310	.19	520	.33
WBL	1	1600	90	.06*	80	.05*
WBT	2	3200	460	.14	390	.12
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .35 .43

24. Mills & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	150	.09
NBT	1	1600	420	.26*	270	.17*
NBR	1	1600	250	.16	380	.24
SBL	1	1600	60	.04*	150	.09*
SBT	2	3200	390	.12	480	.15
SBR	1	1600	20	.01	20	.01
EBL	1	1600	30	.02	20	.01
EBT	2	3200	360	.11*	580	.18*
EBR	1	1600	80	.05	130	.08
WBL	2	3200	250	.08*	220	.07*
WBT	2	3200	440	.16	460	.16
WBR	0	0	60		60	
Right Turn Adjustment					NBR	.02*

TOTAL CAPACITY UTILIZATION .49 .53

25. Mills & Maple

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	1040	.36*	840	.30*
NBR	0	0	110		120	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	720	.24	910	.30
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	210		210	
WBT	1	1600	20	.14*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .53 .51

26. Mills & Dean

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	100	.06*
NBT	2	3200	1260	.39*	970	.30
NBR	1	1600	280	.18	370	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	810	.26	950	.31*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	200	.13
WBL	2	3200	410	.13*	260	.08*
WBT	1	1600	50	.05	50	.06
WBR	0	0	30		40	
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .55 .53

27. Mills & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	90	.08*
NBR	1	1600	330	.21	230	.14
SBL	2.5		1210		1310	
SBT	0.5	4800	70	.28*	90	.30*
SBR	0		40		30	
EBL	2	3200	100	.03*	90	.03*
EBT	4	6400	1030	.16	1140	.18
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	360	.11
WBT	3	4800	1110	.23*	1420	.30*
WBR	2	3200	1470	.46	1390	.43
Right Turn Adjustment			Multi	.09*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .69 .71

28. US 101 NB Ramps & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	650	.20*	360	.11*
SBT	0	0	0		0	
SBR	3	4800	1730	.36	1350	.28
EBL	0	0	0		0	
EBT	3	4800	2250	.47*	2540	.53*
EBR	f		320		160	
WBL	2	3200	390	.12*	520	.16*
WBT	3	4800	1040	.22	1810	.38
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .79 .80

29. SR 126 EB Ramps & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	270	.08	460	.14*
EBT	3	4800	2590	.54*	2710	.56
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1240	.26	2380	.50*
WBR	f		130		360	

TOTAL CAPACITY UTILIZATION .54 .64

30. Callens & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	630	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01*
EBT	4	6400	2250	.35*	2430	.38
EBR	d	1600	320	.20	250	.16
WBL	2	3200	80	.03*	170	.05
WBT	3	4800	1190	.25	2090	.44*
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .46 .67

31. Donlon & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		620	
NBT	0	3200	0	.06*	0	.25*
NBR	0.5		30		170	
SBL	1.5		380		360	
SBT	0.5	3200	140	.16*	80	.14*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1940	.30*	2390	.37*
EBR	d	1600	230	.14	230	.14
WBL	2	3200	100	.03*	250	.08*
WBT	3	4800	1040	.22	1580	.33
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .84

32. Telephone & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	680	.21
NBT	2	3200	260	.08*	1090	.34*
NBR	1	1600	80	.05	280	.18
SBL	1.5		270	.17	550	
SBT	1.5	4800	1000	.31*	730	.27*
SBR	f		720		960	
EBL	2	3200	450	.14	760	.24
EBT	3	4800	1080	.23*	1410	.29*
EBR	f		410		450	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .62 .90

33. US 101 NB Ramps & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		660		520	
NBT	0.5	3200	30	.22*	80	.19*
NBR	1	1600	320	.20	390	.24
SBL	0.5		40		10	.01*
SBT	0	3200	0	.12*	0	
SBR	1.5		350		230	{.00}
EBL	1	1600	20	.01*	300	.19*
EBT	3	4800	730	.15	1950	.41
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1010	.21*	1500	.31*
WBR	0	0	10		10	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .70

34. Portola & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	300	.09*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	20	.01	30	.02
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	70	.04
EBL	1	1600	40	.03*	170	.11
EBT	3	4800	650	.14	1760	.37*
EBR	d	1600	230	.14	310	.19
WBL	1	1600	20	.01	80	.05*
WBT	3	4800	870	.19*	1030	.22
WBR	0	0	20		40	
Right Turn Adjustment			SBR	.05*		

TOTAL CAPACITY UTILIZATION .36 .52

35. Saratoga & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	30	.02
NBT	1	1600	10	.08*	70	.15*
NBR	0	0	110		170	
SBL	1	1600	30	.02*	40	.03*
SBT	1	1600	40	.03	40	.03
SBR	1	1600	50	.03	20	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	670	.14	1620	.34*
EBR	d	1600	50	.03	170	.11
WBL	1	1600	60	.04	90	.06*
WBT	3	4800	900	.19*	1090	.23
WBR	0	0	20		30	

TOTAL CAPACITY UTILIZATION .30 .58

38. Telephone & Market

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09	220	.14*
NBT	3	4800	540	.11*	880	.18
NBR	d	1600	90	.06	100	.06
SBL	1	1600	520	.33*	160	.10
SBT	3	4800	280	.06	700	.15*
SBR	d	1600	180	.11	160	.10
EBL	1	1600	60	.04	220	.14*
EBT	1	1600	280	.18*	240	.15
EBR	1	1600	160	.10	290	.18
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	120	.08	380	.24*
WBR	1	1600	120	.08	610	.38
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .65 .73

42. Telephone & McGrath

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	230	.14*
NBT	3	4800	670	.14	950	.20
NBR	d	1600	280	.18	100	.06
SBL	1	1600	70	.04	70	.04
SBT	2	3200	310	.10*	1060	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	60	.04*	30	.02*
EBR	1	1600	130	.08	330	.21
WBL	1	1600	70	.04*	280	.18*
WBT	1	1600	30	.02	100	.06
WBR	1	1600	60	.04	160	.10
Right Turn Adjustment					EBR	.08*
TOTAL CAPACITY UTILIZATION			.29		.75	

45. Catalina & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	40	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	80	.03*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	770	.25*	770	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	50	.03
WBT	2	3200	500	.21	760	.28*
WBR	0	0	160		130	
TOTAL CAPACITY UTILIZATION			.37		.34	

46. Seaward & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03	190	.12*
NBT	1	1600	160	.10*	190	.12
NBR	1	1600	310	.19	270	.17
SBL	1	1600	40	.03*	80	.05
SBT	1	1600	150	.09	100	.06*
SBR	1	1600	200	.13	80	.05
EBL	1	1600	120	.08	90	.06
EBT	2	3200	730	.23*	680	.21*
EBR	1	1600	160	.10	110	.07
WBL	0.5		100		190	
WBT	1.5	3200	500	.19*	700	.30*
WBR	0		20		70	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.55		.69	

47. Main & Loma Vista

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	310	.10*	470	.15*
NBR	f		40		170	
SBL	1	1600	620	.39*	430	.27*
SBT	2	3200	560	.18	630	.20
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	130	{.08}*
WBT	1	1600	30	.05	40	.11
WBR	2	3200	370	.12	480	.15
TOTAL CAPACITY UTILIZATION			.56		.55	

49. Main & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290	.18	620	
NBT	1.5	4800	580	.18*	700	.28*
NBR	f		160		80	
SBL	1.5		190	.12	250	.16
SBT	1.5	4800	480	.16*	750	.25*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	330	.10	450	.14
EBR	f		660		600	
WBL	0	0	0		0	
WBT	1.5	4800	360	.11*	490	.15*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .68

50. Emma & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1020	.32*	1220	.38*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	80	.05*
WBT	3	4800	960	.20	1480	.31
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .45

51. Lemon Grove & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	30	
SBL	1.5		30		70	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1030	.32*	1130	.35*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	930	.20	1290	.28
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .39 .43

53. Kimball & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	270	.08*	540	.17*
SBT	0	0	0		0	
SBR	2	3200	1370	.43	840	.26
EBL	2	3200	320	.10*	1090	.34*
EBT	3	4800	310	.06	960	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	870	.27*	630	.20*
WBR	1	1600	720	.45	390	.24

Right Turn Adjustment Multi .39*

TOTAL CAPACITY UTILIZATION .84 .71

55. Kimball & SR 126 EB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1470	.31	1010	.21*
NBR	f		120		430	
SBL	1	1600	20	.01	60	.04*
SBT	3	4800	1660	.35*	970	.20
SBR	0	0	0		0	
EBL	2	3200	120	.04*	400	.13*
EBT	0	0	10		0	
EBR	f		250		690	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .39 .38

56. Kimball & SR 126 WB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	670	.21*	270	.08*
NBT	3	4800	860	.18	930	.19
NBR	d	1600	60	.04	210	.13
SBL	1	1600	10	.01	10	.01
SBT	3	4800	860	.18*	660	.14*
SBR	d	1600	230	.14	150	.09
EBL	1.5		90		60	
EBT	0.5	3200	10	.03*	10	.02*
EBR	1	1600	650	.41	250	.16
WBL	0	0	170		110	
WBT	1	1600	130	.19*	70	.11*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			EBR	.22*	EBR	.08*

TOTAL CAPACITY UTILIZATION .83 .43

Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	180	.06*	160	.05*
NBT	2	3200	160	.05	290	.09
NBR	1	1600	90	.06	170	.11
SBL	1	1600	30	.02	60	.04
SBT	2	3200	280	.09*	300	.09*
SBR	1	1600	30	.02	40	.03
EBL	1	1600	30	.02*	50	.03
EBT	2	3200	230	.07	630	.20*
EBR	1	1600	70	.04	240	.15
WBL	2	3200	230	.07	160	.05*
WBT	2	3200	410	.13*	320	.10
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .30 .39

60. Ramelli & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01*	20	.01*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	210	.13	560	.35
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	3	4800	350	.08	1490	.33*
EBR	0	0	40		80	
WBL	1	1600	450	.28	250	.16*
WBT	3	4800	1740	.36*	1180	.25
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.21*

TOTAL CAPACITY UTILIZATION .39 .72

61. Montgomery & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	280	.18*	70	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	20	.01	130	.08
SBL	1	1600	20	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	20	.01
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	510	.16	780	.24*
EBR	d	1600	80	.05	130	.08
WBL	1	1600	90	.06	70	.04*
WBT	2	3200	1120	.35*	690	.22
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*		

TOTAL CAPACITY UTILIZATION .59 .34

63. Petit & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	150	.09
NBT	1	1600	40	.10	60	.19*
NBR	0	0	120		250	
SBL	1	1600	40	.03	30	.02*
SBT	1	1600	70	.04*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	80	.05*	90	.06
EBT	2	3200	320	.10	760	.24*
EBR	d	1600	90	.06	250	.16
WBL	1	1600	150	.09	210	.13*
WBT	2	3200	760	.24*	540	.17
WBR	d	1600	20	.01	50	.03

TOTAL CAPACITY UTILIZATION .44 .58

65. Sanjon & Thompson

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	510	.16*
NBT	0	0	0		0	
NBR	1	1600	180	.11	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	480	.24*	690	.31*
EBR	0	0	280		290	
WBL	1	1600	140	.09*	140	.09*
WBT	2	3200	530	.17	770	.24
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .49 .56

68. Seaward & Thompson

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	130	.08	220	.14*
NBT	2	3200	470	.15*	490	.15
NBR	d	1600	220	.14	170	.11
SBL	1	1600	100	.06*	60	.04
SBT	2	3200	350	.11	370	.12*
SBR	d	1600	60	.04	90	.06
EBL	1	1600	80	.05	90	.06
EBT	2	3200	660	.23*	780	.28*
EBR	0	0	70		110	
WBL	2	3200	200	.06*	260	.08*
WBT	2	3200	430	.13	760	.24
WBR	1	1600	40	.03	60	.04

TOTAL CAPACITY UTILIZATION .50 .62

71. Sanjon & Harbor

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	180	.11*	380	.24*
SBT	0	0	0		0	
SBR	1	1600	80	.05	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	260	.16	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	570	.36*
WBR	1	1600	470	.29	250	.16
Right Turn Adjustment			WBR	.05*		
TOTAL CAPACITY UTILIZATION				.36		.68

75. Ashwood & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03	40	.03
NBT	1	1600	60	.04*	90	.06*
NBR	d	1600	60	.04	70	.04
SBL	1	1600	80	.05*	160	.10*
SBT	1	1600	40	.03	60	.04
SBR	1	1600	130	.08	140	.09
EBL	1	1600	80	.05*	180	.11
EBT	2	3200	550	.17	890	.28*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	70	.04*
WBT	2	3200	550	.17*	610	.19
WBR	d	1600	110	.07	100	.06
TOTAL CAPACITY UTILIZATION				.31		.48

77. Day & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	270	.08*	350	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	60	.04
EBT	2	3200	530	.17	960	.30*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	810	.25
WBR	d	1600	320	.20	290	.18
TOTAL CAPACITY UTILIZATION				.43		.41

85. Victoria & Olivas Park

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21	580	.18*
NBT	3	4800	1910	.40*	1800	.38
NBR	1	1600	540	.34	450	.28
SBL	2	3200	490	.15*	230	.07
SBT	3	4800	1510	.31	1640	.34*
SBR	f		40		90	
EBL	2	3200	130	.04	170	.05
EBT	2	3200	160	.05*	230	.07*
EBR	f		200		960	
WBL	1	1600	130	.08*	360	.23*
WBT	2	3200	50	.02	380	.12
WBR	f		120		220	
TOTAL CAPACITY UTILIZATION				.68		.82

86. Telephone & Olivas Park

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	380	.12*	950	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	150	.09	680	.43
EBL	2	3200	480	.15*	400	.13*
EBT	2	3200	210	.07	280	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	170	.05*	270	.08*
WBR	1	1600	570	.36	740	.46
Right Turn Adjustment			WBR	.22*	Multi	.17*
TOTAL CAPACITY UTILIZATION				.56		.70

91. Johnson & Ralston

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	110	.07*	130	.08*
NBT	2	3200	480	.15	810	.25
NBR	d	1600	40	.03	170	.11
SBL	1	1600	50	.03	60	.04
SBT	2	3200	810	.25*	910	.28*
SBR	d	1600	90	.06	50	.03
EBL	1	1600	40	.03*	80	.05
EBT	1	1600	110	.07	240	.15*
EBR	d	1600	100	.06	270	.17
WBL	1	1600	130	.08	60	.04*
WBT	1	1600	280	.18*	90	.06
WBR	d	1600	90	.06	50	.03
TOTAL CAPACITY UTILIZATION				.53		.55

92. Johnson & Bristol

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	520	.16	1010	.32
NBR	f		190		1120	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	1060	.33*	1170	.37*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	30	.02*	290	.18*
EBR	1	1600	130	.08	200	.13
WBL	2	3200	990	.31*	510	.16*
WBT	1	1600	260	.16	160	.10
WBR	d	1600	30	.02	10	.01
Right Turn Adjustment			EBR	.04*		
TOTAL CAPACITY UTILIZATION				.72		.76

94. Johnson & North Bank

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	70	.04*
NBT	3	4800	170	.04	520	.11
NBR	d	1600	20	.01	180	.11
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1590	.38*	1450	.34*
SBR	0	0	230		170	
EBL	2.5		450	.09*	1790	.37*
EBT	1.5	6400	70	.04	350	.22
EBR	1	1600	440	.28	320	.20
WBL	1.5		150		240	
WBT	1.5	4800	80	.05*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.16*		
TOTAL CAPACITY UTILIZATION				.72		.83

95. Bristol & Ramelli

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01*
NBT	1	1600	30	.03*	10	.02
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02
SBT	1	1600	20	.01	40	.03*
SBR	1	1600	270	.17	150	.09
EBL	1	1600	10	.01*	170	.11*
EBT	2	3200	200	.07	670	.21
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01
WBT	2	3200	880	.29*	390	.13*
WBR	0	0	60		30	
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .47 .28

96. Montgomery & North Bank

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	130	.08*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	370	.23	180	.11
EBL	1	1600	100	.06*	320	.20*
EBT	2	3200	110	.03	390	.12
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	460	.29*	270	.17*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.13*		

TOTAL CAPACITY UTILIZATION .54 .47

100. Saticoy & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	130	.08*
NBT	1	1600	210	.13*	150	.09
NBR	1	1600	120	.08	90	.06
SBL	1	1600	200	.13*	100	.06
SBT	1	1600	120	.08	140	.09*
SBR	1	1600	250	.16	160	.10
EBL	1	1600	110	.07*	190	.12*
EBT	2	3200	210	.07	640	.20
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07
WBT	2	3200	330	.14*	450	.16*
WBR	0	0	130		60	

TOTAL CAPACITY UTILIZATION .47 .45

101. Saticoy & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	180		80	
NBT	1	1600	90	.20*	60	.11*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.09*	50	.06*
SBR	0	0	60		20	
EBL	1	1600	20	.01	20	.01
EBT	1	1600	210	.19*	450	.37*
EBR	0	0	100		140	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	290	.18	290	.18
WBR	1	1600	10	.01	10	.01

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .51 .56

102. Wells & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	280	.18*
NBT	1	1600	170	.11	340	.21
NBR	1	1600	60	.04	240	.15
SBL	1	1600	10	.01	10	.01
SBT	1	1600	320	.20*	230	.14*
SBR	1	1600	50	.03	30	.02
EBL	1	1600	20	.01	50	.03
EBT	1	1600	50	.17*	210	.29*
EBR	0	0	220		250	
WBL	1	1600	320	.20*	130	.08*
WBT	1	1600	170	.11	110	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .68 .69

104. Wells & SR 126 EB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	920	.19	1460	.30
NBR	f		590		1590	
SBL	0	0	0		0	
SBT	3	4800	2670	.56*	1770	.37*
SBR	f		90		50	
EBL	1	1600	100	.06*	340	.21*
EBT	0	0	0		0	
EBR	1	1600	170	.11	630	.39
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.18*

TOTAL CAPACITY UTILIZATION .67 .76

105. Wells & Darling

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1290	.27	2880	.60*
NBR	d	1600	60	.04	170	.11
SBL	1	1600	130	.08	350	.22*
SBT	3	4800	2430	.51*	1900	.40
SBR	d	1600	10	.01	10	.01
EBL	0	0	80		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	90		40	
WBL	1	1600	60	.04*	280	.18*
WBT	1	1600	30	.06	40	.15
WBR	0	0	70		200	

TOTAL CAPACITY UTILIZATION .70 1.08

106. Wells & Telephone

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	410	.13
NBT	3	4800	1270	.27	2940	.63*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2500	.52*	1980	.41
SBR	1	1600	140	.09	420	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	560	.18	540	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.04*		

TOTAL CAPACITY UTILIZATION .73 .74

114. California & Thompson

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		40	
NBT	0.5	3200	10	.02*	30	.02*
NBR	1	1600	50	.03	70	.04
SBL	1.5		130		170	
SBT	1.5	4800	70	.05*	170	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	830	.31*	940	.33*
EBR	0	0	150		100	
WBL	1	1600	60	.04*	80	.05*
WBT	2	3200	320	.10	390	.14
WBR	0	0	10		60	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .42 .47

115. Chestnut & Thompson

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	80	.05
SBT	1	1600	260	.17*	320	.22*
SBR	0	0	10		30	
EBL	1	1600	20	.01	20	.01
EBT	2	3200	560	.18*	680	.21*
EBR	f		390		520	
WBL	1	1600	210	.13*	210	.13*
WBT	2	3200	460	.15	630	.22
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .49 .57

120. Ventura & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	350	.22*	690	.43*
NBR	1	1600	20	.01	40	.03
SBL	1	1600	120	.08*	110	.07*
SBT	1	1600	370	.23	390	.24
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	310	.19
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	100	.06	190	.12*
WBR	1	1600	160	.10	130	.08

TOTAL CAPACITY UTILIZATION .41 .71

132. Ventura & Stanley

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	300	.19*
NBT	1	1600	270	.17	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	380	.24*
SBR	1	1600	510	.32	370	.23
EBL	1	1600	380	.24*	660	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .84

136. US 101 SB Ramps & Valentine

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		360	.11*	420	.13*
SBT	0	4800	0		0	
SBR	1.5		90	.06	20	
EBL	1	1600	40	.03*	440	.28*
EBT	2	3200	260	.08	780	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	980	.31*	390	.12*
WBR	f		930		930	

TOTAL CAPACITY UTILIZATION .45 .53

138. Johnson & US 101 SB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	700	.44*
NBT	1	1600	130	.08	500	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	620	.39*	410	.26*
SBR	f		1540		1640	
EBL	1	1600	110	.07*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	120	.08	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .56 .86

160. Victoria & US 101 NB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	550	.17*	520	.16*
NBT	3	4800	1420	.30	1960	.41
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2860	.45*	2340	.37*
SBR	1	1600	130	.08	360	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	690	.22*	500	.16*
WBT	0	0	0		0	
WBR	3	4800	980	.20	1230	.26
Right Turn Adjustment					WBR	.01*

TOTAL CAPACITY UTILIZATION .84 .70

161. Victoria & Valentine

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08*	200	.06*
NBT	3	4800	1720	.36	2130	.45
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1660	.52*	1600	.50*
SBR	f		1790		1210	
EBL	2.5		380		770	
EBT	0.5	4800	50	.09*	20	.16*
EBR	1	1600	230	.14	410	.26
WBL	0	0	20		20	
WBT	1	1600	10	.02*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.04*

TOTAL CAPACITY UTILIZATION .71 .79

Note: Assumes E/W Split Phasing
 Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	210	.13*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	60	.04
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	230	.11*
WBR	0	0	50		120	

TOTAL CAPACITY UTILIZATION .27 .36

163. Santa Clara & Main

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	220	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	340	.11*	470	.15*
EBR	0	0	10		10	
WBL	1	1600	150	.09*	160	.10*
WBT	2	3200	360	.12	480	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .29

164. Seaward & Poli

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		160	
NBT	1	1600	0	.19*	0	.21*
NBR	0	0	140		180	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	360	.23*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	250	.16*	110	.07*
WBT	1	1600	160	.10	310	.19
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .44 .51

165. Seaward & Harbor

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.12*	310	.12*
NBR	0	0	30		60	
SBL	2	3200	560	.18*	600	.19*
SBT	2	3200	190	.06	320	.10
SBR	1	1600	300	.19	470	.29
EBL	2	3200	400	.13*	350	.11
EBT	2	3200	590	.19	1170	.38*
EBR	0	0	20		50	
WBL	1	1600	10	.01	30	.02*
WBT	2	3200	270	.08*	450	.14
WBR	2	3200	910	.28	1180	.37
Right Turn Adjustment			WBR	.06*		

TOTAL CAPACITY UTILIZATION .57 .71

166. College & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.08*
NBR	0	0	50		100	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	630	.22*	960	.32*
EBR	0	0	70		70	
WBL	1	1600	120	.08*	50	.03*
WBT	2	3200	700	.22	710	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .36 .43

168. Day & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	210	.13*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	320	.20
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	490	.44*	470	.45*
EBR	0	0	210		250	
WBL	1	1600	300	.19*	250	.16*
WBT	1	1600	410	.31	440	.31
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .80 .78

169. Kimball & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	360	.23*	250	.16*
NBT	0	0	0		0	
NBR	1	1600	30	.02	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	210	.37*	420	.48*
EBR	0	0	380		340	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	580	.36	230	.14
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .63 .66

170. Petit & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		10	
NBT	1	1600	0	.04*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	180	.11	250	.16*
EBR	1	1600	30	.02	20	.01
WBL	0	0	10		10	{.01}*
WBT	1	1600	520	.33*	220	.14
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .37 .20

171. Saticoy & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	130		50	
NBT	1	1600	0	.09*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.13	340	.28*
EBR	0	0	50		100	
WBL	0	0	20		20	{.01}*
WBT	1	1600	440	.29*	220	.15
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .38 .33

172. Wells & Foothill

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09*	170	.11*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	50	.04	200	.13*
EBR	1	1600	120	.08	140	.09
WBL	0	0	80		30	{.02}*
WBT	1	1600	290	.24*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .36 .28

173. Victoria & SR 126 WB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1550	.36	2660	.62*
NBR	0	0	200		320	
SBL	0	0	0		0	
SBT	3	4800	2320	.54*	2000	.45
SBR	0	0	260		170	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	590	.37	450	.28
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	290	.18	160	.10
Right Turn Adjustment		Multi	.41*	Multi	.25*	

TOTAL CAPACITY UTILIZATION .95 .87

174. Petit & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	40	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	10	.01
SBL	1	1600	20	.01	20	.01
SBT	1	1600	10	.03*	20	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	310	.10	630	.20
EBR	1	1600	60	.04	90	.06
WBL	1	1600	10	.01	10	.01
WBT	1	1600	560	.35*	340	.21*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .44 .28

175. Ventura & North Bank

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	80		50	
SBT	1	1600	0	.10*	0	.11*
SBR	0	0	80		130	
EBL	1	1600	180	.11*	550	.34
EBT	2	3200	930	.29	2500	.78*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21*	370	.23
WBR	1	1600	50	.03	30	.02

TOTAL CAPACITY UTILIZATION .42 .89

176. Saticoy & Darling

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	160	.11	250	.16*
NBR	1	1600	110	.07	20	.01
SBL	0	0	60		10	{.01}*
SBT	1	1600	260	.20*	200	.13
SBR	1	1600	80	.05	80	.05
EBL	0	0	70		50	
EBT	1	1600	80	.12*	60	.09*
EBR	0	0	40		40	
WBL	0	0	60	{.04}*	40	{.02}*
WBT	1	1600	20	.07	70	.08
WBR	0	0	30		20	

TOTAL CAPACITY UTILIZATION .37 .28

177. Wells & SR 126 WB Ramps

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	560	.18	1390	.43*
NBR	f		430		400	
SBL	0	0	0		0	
SBT	2	3200	1070	.33*	780	.24
SBR	f		460		210	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1690		1040	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	190	.12	110	.07
Right Turn Adjustment			WBR	.01*	WBR	.07*

TOTAL CAPACITY UTILIZATION .34 .50

178. SR-33 Ramps & Stanley

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	690	.43	830	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	690	.43*	900	.56*
WBR	f		180		180	
Right Turn Adjustment			NBR	.24*	NBR	.18*

TOTAL CAPACITY UTILIZATION .67 .74

179. SR-33 Ramps & Shell

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	740	.53*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	50	.03
NBT	1	1600	10	.05*	10	.06*
NBR	0	0	70		80	
SBL	0	0	10	{.01}*	10	{.01}*
SBT	1	1600	10	.02	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	560	.18	900	.28*
EBR	d	1600	50	.03	60	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	650	.20*	830	.26
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .27 .41

181. Ventura & Ramona

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	360	.24*	630	.41*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	80	.05*
SBT	1	1600	390	.26	470	.31
SBR	0	0	20		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .52

182. Olive & Main St

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	580	.36*	460	.29*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	80	{.05}*	280	
EBT	1	1600	80	.10	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	170	.11*	170	.11
WBR	1	1600	200	.13	450	.28

TOTAL CAPACITY UTILIZATION .53 .62

190. Petit Av & North Bank Dr

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	30	.02*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	250	.16	240	.15
EBL	1	1600	60	.04*	300	.19*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	110	.03*	80	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.11*		

TOTAL CAPACITY UTILIZATION .20 .27

191. Saticoy Av & North Bank Dr

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01*	10	.01
NBT	1	1600	30	.03	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01	60	.04*
SBT	1	1600	10	.03*	40	.04
SBR	0	0	30		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	90	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	80	.03*
WBR	d	1600	60	.04	150	.09
Right Turn Adjustment			WBR	.01*	WBR	.03*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1450	.30	3130	.65*
NBR	d	1600	20	.01	70	.04
SBL	1	1600	110	.07	170	.11*
SBT	3	4800	2810	.59*	2280	.48
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	120	.08*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	140	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	20	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .72 .87

193. Saticoy Av & A St

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	270	.17*	140	.09
NBR	1	1600	10	.01	30	.02
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	230	.14	190	.12*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .19 .13

194. Wells Rd & A St

2025 Scenario 6 w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	130	.08
NBT	2	3200	430	.15	900	.33*
NBR	0	0	50		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	870	.28*	650	.21
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	120	.08	60	.04
WBL	1	1600	150	.09*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	40		0	
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION				.45	.42	

**NON-COMMITTED
IMPROVEMENTS**

105. Wells & Darling

2025 Scenario 6 w/Non-Committed Lanes						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1290	.27	2880	.60*
NBR	d	1600	60	.04	170	.11
SBL	2	3200	130	.04	350	.11*
SBT	3	4800	2430	.51*	1900	.40
SBR	d	1600	10	.01	10	.01
EBL	1	1600	80	.05*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	90		40	
WBL	2	3200	60	.02	280	.09
WBT	1	1600	30	.06*	40	.15*
WBR	0	0	70		200	
TOTAL CAPACITY UTILIZATION				.64	.89	

SCENARIO 6
(ALTERNATIVE NETWORK)

1. Victoria & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	250	.16*
NBT	1	1600	20	.01	60	.04
NBR	1	1600	110	.07	60	.04
SBL	1	1600	10	.01	10	.01
SBT	1	1600	60	.04*	20	.01*
SBR	1	1600	40	.03	10	.01
EBL	1	1600	10	.01*	190	.12
EBT	1	1600	360	.23	540	.34*
EBR	1	1600	250	.16	30	.02
WBL	2	3200	140	.04	170	.05*
WBT	1	1600	630	.39*	390	.24
WBR	d	1600	10	.01	20	.01

TOTAL CAPACITY UTILIZATION .53 .56

2. Victoria & Loma Vista

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	240	.15*
NBT	2	3200	210	.07	360	.11
NBR	d	1600	30	.02	50	.03
SBL	1	1600	40	.03	20	.01
SBT	2	3200	380	.12*	200	.06*
SBR	d	1600	50	.03	10	.01
EBL	0	0	80		20	
EBT	1	1600	90	.29*	220	.29*
EBR	0	0	300		220	
WBL	0	0	70	{.04}*	110	{.07}*
WBT	1	1600	190	.20	210	.22
WBR	0	0	60		30	

TOTAL CAPACITY UTILIZATION .56 .57

3. Victoria & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	590	.18	1020	.32*
NBT	2	3200	490	.15*	710	.22
NBR	1	1600	210	.13	230	.14
SBL	1	1600	260	.16*	140	.09
SBT	3	4800	480	.10	480	.10*
SBR	d	1600	50	.03	30	.02
EBL	1	1600	60	.04	40	.03
EBT	1.5	4800	480	{.17}*	780	{.25}*
EBR	1.5		590		810	
WBL	2	3200	270	.08*	240	.08*
WBT	2	3200	650	.20	520	.16
WBR	d	1600	70	.04	80	.05

TOTAL CAPACITY UTILIZATION .56 .75

4. Victoria & Woodland

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	50	.03
NBT	3	4800	1340	.31	1800	.39*
NBR	0	0	150		90	
SBL	1	1600	10	.01	30	.02*
SBT	3	4800	1380	.29*	1540	.32
SBR	0	0	30		10	
EBL	0	0	20		20	
EBT	1	1600	20	.10*	20	.04*
EBR	0	0	120		20	
WBL	1.5		370		130	
WBT	0.5	3200	20	.13*	20	.06*
WBR	0		30		30	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .65 .51

5. Victoria & SR 126 SB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	4	6400	1250	.20	2210	.36*
NBR	0	0	50		70	
SBL	0	0	0		0	
SBT	4	6400	1900	.32*	1500	.26
SBR	0	0	130		180	
EBL	1.5		300		240	
EBT	0.5	3200	170	.15*	100	.11*
EBR	1	1600	240	.15	220	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	160	.10	360	.23
Right Turn Adjustment			WBR	.01*	WBR	.23*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .48 .70

6. Victoria & Thille

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	60	.04
NBT	4	6400	1170	.24*	2040	.33*
NBR	0	0	450	.28	50	
SBL	1	1600	170	.11*	40	.03*
SBT	4	6400	1570	.29	1540	.27
SBR	0	0	310		180	
EBL	1.5		240		320	
EBT	0.5	3200	30	.08*	10	.10*
EBR	1	1600	130	.08	190	.12
WBL	1	1600	30	.02	90	.06
WBT	1	1600	10	.02*	100	.11*
WBR	0	0	20		80	
Right Turn Adjustment			NBR	.02*		

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .47 .57

7. Victoria & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	300	.09*	320	.10
NBT	4	6400	1210	.23	1350	.27*
NBR	0	0	280		390	
SBL	2	3200	200	.06	200	.06*
SBT	4	6400	1380	.22*	1140	.18
SBR	1	1600	250	.16	400	.25
EBL	2	3200	330	.10*	520	.16
EBT	3	4800	390	.09	1170	.27*
EBR	0	0	60		110	
WBL	2	3200	570	.18	560	.18*
WBT	3	4800	950	.20*	770	.16
WBR	1	1600	120	.08	290	.18

TOTAL CAPACITY UTILIZATION .61 .78

8. Victoria & Ralston

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	250	.16*	400	.25*
NBT	4	6400	1410	.24	1850	.35
NBR	0	0	100		360	
SBL	1	1600	100	.06	190	.12
SBT	4	6400	1760	.29*	1850	.31*
SBR	0	0	120		120	
EBL	1	1600	40	.03	170	.11
EBT	1	1600	110	.07*	230	.14*
EBR	1	1600	210	.13	310	.19
WBL	1	1600	360	.23*	160	.10*
WBT	1	1600	210	.13	110	.07
WBR	1	1600	120	.08	120	.08

TOTAL CAPACITY UTILIZATION .75 .80

10. Victoria & Moon

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	190	.12
NBT	4	6400	1840	.31	2230	.40*
NBR	0	0	130		340	
SBL	1	1600	30	.02	100	.06*
SBT	4	6400	2020	.32*	1960	.34
SBR	0	0	10		220	
EBL	1	1600	30	.02	70	.04
EBT	1	1600	70	.04*	90	.06*
EBR	1	1600	20	.01	150	.09
WBL	1	1600	290	.18*	150	.09*
WBT	1	1600	120	.08	60	.04
WBR	1	1600	50	.03	50	.03

TOTAL CAPACITY UTILIZATION .56 .61

14. Hill & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	50		40	
NBT	1	1600	150	.13*	160	.21*
NBR	0	0	10		130	
SBL	1	1600	60	.04*	90	.06*
SBT	1	1600	30	.02	120	.08
SBR	1	1600	480	.30	500	.31
EBL	1	1600	280	.18*	370	.23*
EBT	3	4800	390	.09	1370	.30
EBR	0	0	40		60	
WBL	1	1600	260	.16	30	.02
WBT	3	4800	1280	.32*	730	.16*
WBR	0	0	240		30	
Right Turn Adjustment			SBR	.02*		

TOTAL CAPACITY UTILIZATION .69 .66

15. Johnson & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	300	.09*	140	.04
NBT	2	3200	680	.22	1200	.38*
NBR	0	0	20		10	
SBL	1	1600	30	.02	130	.08*
SBT	2	3200	970	.30*	960	.30
SBR	d	1600	380	.24	150	.09
EBL	1	1600	80	.05*	340	.21*
EBT	3	4800	180	.06	940	.25
EBR	0	0	110	.07	250	
WBL	1	1600	10	.01	80	.05
WBT	3	4800	1310	.29*	550	.12*
WBR	0	0	70		40	

TOTAL CAPACITY UTILIZATION .73 .79

18. Seaward & US 101 NB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	550	.17*	590	.18*
NBT	2	3200	870	.27	910	.28
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	720	.23*	950	.30*
SBR	1	1600	240	.15	250	.16
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	380	.12*	400	.13*
WBT	0	0	0		0	
WBR	2	3200	380	.12	450	.14

TOTAL CAPACITY UTILIZATION .52 .61

19. Monmouth/US 101 SB & Harbor

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		20		30	
NBT	1.5	3200	30	.03*	40	.03*
NBR	0		40		40	
SBL	1.5		630		990	
SBT	0.5	3200	40	.21*	70	.34*
SBR	0		10		40	
EBL	1	1600	120	.08*	140	.09*
EBT	2	3200	370	.12	410	.14
EBR	0	0	20		40	
WBL	1	1600	20	.01	30	.02
WBT	1	1600	370	.23*	560	.35*
WBR	1	1600	300	.19	300	.19

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .55 .81

20. Harbor & Olivas Park

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	140	.09*
NBT	2	3200	930	.29*	1090	.34
NBR	1	1600	390	.24	200	.13
SBL	2	3200	170	.05*	170	.05
SBT	2	3200	720	.23	1190	.37*
SBR	1	1600	140	.09	110	.07
EBL	1	1600	70	.04*	160	.10
EBT	2	3200	140	.04	210	.07*
EBR	d	1600	70	.04	130	.08
WBL	1	1600	50	.03	420	.26*
WBT	2	3200	110	.03*	140	.04
WBR	f		50		380	

TOTAL CAPACITY UTILIZATION .41 .79

23. Mills & Loma Vista

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		370	{.14}*	280	{.09}*
NBT	0.5	3200	70	.14	20	.09
NBR	1	1600	40	.03	80	.05
SBL	1	1600	40	.03	20	.01
SBT	1	1600	40	.04*	20	.03*
SBR	0	0	20		20	
EBL	1	1600	20	.01*	10	.01
EBT	2	3200	350	.11	620	.19*
EBR	d	1600	310	.19	520	.33
WBL	1	1600	80	.05	80	.05*
WBT	2	3200	470	.15*	400	.13
WBR	d	1600	60	.04	20	.01
Right Turn Adjustment					EBR	.07*

TOTAL CAPACITY UTILIZATION .34 .43

24. Mills & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	200	.13	140	.09
NBT	1	1600	420	.26*	250	.16*
NBR	1	1600	190	.12	350	.22
SBL	1	1600	60	.04*	150	.09*
SBT	2	3200	370	.12	460	.14
SBR	1	1600	20	.01	20	.01
EBL	1	1600	30	.02	30	.02
EBT	2	3200	360	.11*	590	.18*
EBR	1	1600	80	.05	140	.09
WBL	2	3200	250	.08*	210	.07*
WBT	2	3200	440	.15	460	.16
WBR	0	0	50		60	
Right Turn Adjustment					NBR	.01*

TOTAL CAPACITY UTILIZATION .49 .51

25. Mills & Maple

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	80	.05
NBT	2	3200	980	.34*	780	.27*
NBR	0	0	100		90	
SBL	1	1600	50	.03*	110	.07*
SBT	2	3200	700	.23	880	.29
SBR	0	0	50		60	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	200		200	
WBT	1	1600	20	.14*	20	.14*
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .51 .48

26. Mills & Dean

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	160	.10*
NBT	2	3200	1200	.38*	880	.28
NBR	1	1600	260	.16	370	.23
SBL	1	1600	30	.02*	40	.03
SBT	2	3200	780	.25	920	.30*
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03
EBT	1	1600	20	.01*	30	.02*
EBR	1	1600	20	.01	250	.16
WBL	2	3200	380	.12*	250	.08*
WBT	1	1600	50	.05	50	.05
WBR	0	0	30		30	
Right Turn Adjustment					EBR	.06*

TOTAL CAPACITY UTILIZATION .53 .56

27. Mills & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	30		30	
NBT	1	1600	70	.06*	90	.08*
NBR	1	1600	330	.21	230	.14
SBL	2.5		1150		1310	
SBT	0.5	4800	70	.26*	90	.30*
SBR	0		40		30	
EBL	2	3200	100	.03*	90	.03*
EBT	4	6400	1030	.16	1050	.16
EBR	1	1600	20	.01	30	.02
WBL	2	3200	170	.05	350	.11
WBT	3	4800	1110	.23*	1350	.28*
WBR	2	3200	1400	.44	1350	.42
Right Turn Adjustment			Multi	.08*		
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .66 .69

28. US 101 NB Ramps & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	560	.18*	340	.11*
SBT	0	0	0		0	
SBR	3	4800	1700	.35	1370	.29
EBL	0	0	0		0	
EBT	3	4800	2190	.46*	2450	.51*
EBR	f		320		160	
WBL	2	3200	380	.12*	510	.16*
WBT	3	4800	980	.20	1690	.35
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .76 .78

29. SR 126 EB Ramps & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	250	.08	450	.14*
EBT	3	4800	2450	.51*	2610	.54
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1160	.24	2250	.47*
WBR	f		130		300	

TOTAL CAPACITY UTILIZATION .51 .61

30. Callens & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		180	{.06}*	630	{.20}*
NBT	0.5	3200	10	.06	10	.20
NBR	1	1600	40	.03	120	.08
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	1	1600	10	.01	20	.01
EBT	4	6400	2140	.33*	2320	.36*
EBR	d	1600	300	.19	260	.16
WBL	2	3200	90	.03*	170	.05*
WBT	3	4800	1120	.24	1890	.40
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .44 .63

31. Donlon & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		160		590	
NBT	0	3200	0	.06*	0	.24*
NBR	0.5		30		170	
SBL	1.5		350		350	
SBT	0.5	3200	170	.16*	80	.13*
SBR	1	1600	180	.11	210	.13
EBL	0	0	0		0	
EBT	4	6400	1870	.29*	2290	.36*
EBR	d	1600	190	.12	210	.13
WBL	2	3200	90	.03*	250	.08*
WBT	3	4800	970	.20	1400	.29
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .54 .81

32. Telephone & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	250	.08	580	.18
NBT	2	3200	260	.08*	1170	.37*
NBR	1	1600	80	.05	290	.18
SBL	1.5		250	.16	570	
SBT	1.5	4800	1080	.34*	740	.27*
SBR	f		670		900	
EBL	2	3200	440	.14	710	.22
EBT	3	4800	1070	.22*	1370	.29*
EBR	f		350		450	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .64 .93

33. US 101 NB Ramps & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		650		530	
NBT	0.5	3200	30	.21*	80	.19*
NBR	1	1600	290	.18	400	.25
SBL	0.5		40		10	.01*
SBT	0	3200	0	.12*	0	
SBR	1.5		340		220	{.00}
EBL	1	1600	20	.01*	300	.19*
EBT	3	4800	720	.15	1980	.41
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1030	.22*	1470	.31*
WBR	0	0	10		20	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .56 .70

34. Portola & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	220	.07*	280	.09*
NBT	1	1600	10	.01	40	.03
NBR	1	1600	10	.01	70	.04
SBL	1	1600	30	.02	40	.03
SBT	1	1600	10	.01*	20	.01*
SBR	1	1600	130	.08	80	.05
EBL	1	1600	40	.03*	180	.11
EBT	3	4800	610	.13	1790	.37*
EBR	d	1600	220	.14	320	.20
WBL	1	1600	20	.01	80	.05*
WBT	3	4800	920	.20*	1010	.22
WBR	0	0	20		40	
Right Turn Adjustment			SBR	.05*		

TOTAL CAPACITY UTILIZATION .36 .52

35. Saratoga & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04	20	.01
NBT	1	1600	10	.08*	60	.13*
NBR	0	0	110		150	
SBL	1	1600	40	.03*	40	.03*
SBT	1	1600	40	.03	30	.02
SBR	1	1600	10	.01	10	.01
EBL	1	1600	20	.01*	10	.01
EBT	3	4800	660	.14	1680	.35*
EBR	d	1600	40	.03	150	.09
WBL	1	1600	60	.04	90	.06*
WBT	3	4800	1000	.21*	1100	.24
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .33 .57

38. Telephone & Market

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	140	.09	180	.11
NBT	3	4800	540	.11*	900	.19*
NBR	d	1600	90	.06	90	.06
SBL	1	1600	510	.32*	160	.10*
SBT	3	4800	290	.06	690	.14
SBR	d	1600	180	.11	160	.10
EBL	1	1600	50	.03	220	.14*
EBT	1	1600	270	.17*	240	.15
EBR	1	1600	140	.09	300	.19
WBL	1	1600	50	.03*	170	.11
WBT	1	1600	120	.08	400	.25*
WBR	1	1600	120	.08	620	.39
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .63 .74

42. Telephone & McGrath

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	220	.14*
NBT	3	4800	670	.14	910	.19
NBR	d	1600	280	.18	100	.06
SBL	1	1600	80	.05	70	.04
SBT	2	3200	300	.09*	1060	.33*
SBR	1	1600	60	.04	50	.03
EBL	1	1600	20	.01	70	.04
EBT	1	1600	60	.04*	30	.02*
EBR	1	1600	120	.08	320	.20
WBL	1	1600	70	.04*	280	.18*
WBT	1	1600	30	.02	90	.06
WBR	1	1600	60	.04	170	.11
Right Turn Adjustment					EBR	.07*
TOTAL CAPACITY UTILIZATION			.28		.74	

45. Catalina & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	20	.01
NBT	1	1600	30	.03*	10	.02*
NBR	0	0	10		20	
SBL	2	3200	240	.08*	70	.02*
SBT	1	1600	20	.04	10	.01
SBR	0	0	50		10	
EBL	0.5		30		20	{.01}*
EBT	1.5	3200	760	.25*	760	.25
EBR	0		10		10	
WBL	1	1600	10	.01*	50	.03
WBT	2	3200	500	.21	760	.28*
WBR	0	0	170		130	
TOTAL CAPACITY UTILIZATION			.37		.33	

46. Seaward & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03	200	.13*
NBT	1	1600	170	.11*	180	.11
NBR	1	1600	300	.19	280	.18
SBL	1	1600	30	.02*	80	.05
SBT	1	1600	140	.09	90	.06*
SBR	1	1600	190	.12	80	.05
EBL	1	1600	120	.08	90	.06
EBT	2	3200	730	.23*	670	.21*
EBR	1	1600	150	.09	110	.07
WBL	0.5		100		190	
WBT	1.5	3200	520	.20*	700	.30*
WBR	0		20		70	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.56		.70	

47. Main & Loma Vista

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	320	.10*	480	.15*
NBR	f		40		180	
SBL	1	1600	600	.38*	440	.28*
SBT	2	3200	560	.18	620	.20
SBR	0	0	10		20	
EBL	0	0	10		20	
EBT	1	1600	60	.04*	60	.05*
EBR	1	1600	10	.01	40	.03
WBL	0	0	50	{.03}*	130	{.08}*
WBT	1	1600	30	.05	40	.11
WBR	2	3200	380	.12	480	.15
TOTAL CAPACITY UTILIZATION			.55		.56	

49. Main & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		290	.18	630	
NBT	1.5	4800	590	.18*	680	.27*
NBR	f		150		80	
SBL	1.5		180	.11	260	.16
SBT	1.5	4800	470	.16*	700	.23*
SBR	0		40		50	
EBL	0	0	0		0	
EBT	2	3200	330	.10	440	.14
EBR	f		660		600	
WBL	0	0	0		0	
WBT	1.5	4800	360	.11*	480	.15*
WBR	1.5		120		210	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .45 .65

50. Emma & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	30	.02*
NBT	0	0	0		0	
NBR	1	1600	80	.05	40	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	1020	.32*	1180	.37*
EBR	1	1600	60	.04	70	.04
WBL	1	1600	60	.04*	80	.05*
WBT	3	4800	950	.20	1480	.31
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .40 .44

51. Lemon Grove & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0.5		30		50	
NBT	1.5	3200	20	.03*	20	.03*
NBR	0		100	.06	40	
SBL	1.5		30		80	
SBT	0.5	3200	10	.01*	10	.03*
SBR	1	1600	70	.04	70	.04
EBL	1	1600	40	.03	60	.04
EBT	2	3200	1030	.32*	1090	.34*
EBR	d	1600	60	.04	70	.04
WBL	1	1600	30	.02*	30	.02*
WBT	3	4800	930	.20	1270	.27
WBR	0	0	50		50	

Right Turn Adjustment NBR .01*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .39 .42

53. Kimball & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	270	.08*	560	.18*
SBT	0	0	0		0	
SBR	2	3200	840	.26	440	.14
EBL	2	3200	120	.04*	450	.14*
EBT	3	4800	300	.06	960	.20
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	870	.27*	660	.21*
WBR	1	1600	720	.45	370	.23

Right Turn Adjustment Multi .27*

TOTAL CAPACITY UTILIZATION .66 .53

55. Kimball & SR 126 EB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1260	.26*	480	.10*
NBR	f		110		340	
SBL	1	1600	20	.01*	100	.06*
SBT	3	4800	1090	.23	590	.12
SBR	0	0	0		0	
EBL	2	3200	120	.04*	250	.08*
EBT	0	0	10		0	
EBR	f		250		670	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .31 .24

56. Kimball & SR 126 WB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	680	.21*	280	.09*
NBT	3	4800	650	.14	330	.07
NBR	d	1600	40	.03	130	.08
SBL	1	1600	10	.01	10	.01
SBT	3	4800	290	.06*	360	.08*
SBR	d	1600	180	.11	100	.06
EBL	1.5		110		70	
EBT	0.5	3200	10	.04*	10	.03*
EBR	1	1600	710	.44	230	.14
WBL	0	0	110		100	
WBT	1	1600	120	.14*	70	.11*
WBR	1	1600	10	.01	40	.03
Right Turn Adjustment			Multi	.26*	EBR	.04*

TOTAL CAPACITY UTILIZATION .71 .35
Note: Assumes E/W Split Phasing

58. Kimball & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	130	.04	90	.03*
NBT	2	3200	100	.03*	70	.02
NBR	1	1600	40	.03	60	.04
SBL	1	1600	60	.04*	100	.06
SBT	2	3200	60	.02	150	.05*
SBR	1	1600	40	.03	40	.03
EBL	1	1600	30	.02*	70	.04
EBT	2	3200	210	.07	760	.24*
EBR	1	1600	60	.04	210	.13
WBL	2	3200	60	.02	80	.03*
WBT	2	3200	550	.17*	330	.10
WBR	1	1600	40	.03	80	.05

TOTAL CAPACITY UTILIZATION .26 .35

60. Ramelli & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	20	.01*
NBT	1	1600	0	.00	10	.01
NBR	1	1600	200	.13	490	.31
SBL	1	1600	0	.00	0	.00
SBT	1	1600	0	.01*	10	.01*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	3	4800	170	.04*	910	.21*
EBR	0	0	40		100	
WBL	1	1600	410	.26*	280	.18*
WBT	3	4800	1250	.26	780	.16
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.15*

TOTAL CAPACITY UTILIZATION .33 .56

61. Montgomery & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	270	.17*	70	.04*
NBT	1	1600	80	.05	20	.01
NBR	d	1600	30	.02	110	.07
SBL	1	1600	20	.01	10	.01
SBT	1	1600	60	.04*	30	.02*
SBR	1	1600	90	.06	30	.02
EBL	1	1600	10	.01*	40	.03
EBT	2	3200	510	.16	790	.25*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	90	.06	60	.04*
WBT	2	3200	1120	.35*	700	.22
WBR	1	1600	10	.01	20	.01
Right Turn Adjustment			SBR	.01*		

TOTAL CAPACITY UTILIZATION .58 .35

63. Petit & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11*	160	.10
NBT	1	1600	40	.11	50	.19*
NBR	0	0	130		250	
SBL	1	1600	40	.03	30	.02*
SBT	1	1600	70	.04*	50	.03
SBR	1	1600	120	.08	70	.04
EBL	1	1600	80	.05*	90	.06
EBT	2	3200	310	.10	760	.24*
EBR	d	1600	100	.06	220	.14
WBL	1	1600	150	.09	220	.14*
WBT	2	3200	760	.24*	540	.17
WBR	d	1600	20	.01	50	.03

TOTAL CAPACITY UTILIZATION .44 .59

65. Sanjon & Thompson

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	510	.16*	510	.16*
NBT	0	0	0		0	
NBR	1	1600	180	.11	210	.13
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	470	.23*	680	.30*
EBR	0	0	280		280	
WBL	1	1600	130	.08*	140	.09*
WBT	2	3200	520	.16	770	.24
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .47 .55

68. Seaward & Thompson

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	130	.08	190	.12*
NBT	2	3200	460	.14*	490	.15
NBR	d	1600	230	.14	170	.11
SBL	1	1600	90	.06*	60	.04
SBT	2	3200	340	.11	370	.12*
SBR	d	1600	60	.04	100	.06
EBL	1	1600	70	.04	90	.06
EBT	2	3200	660	.23*	780	.28*
EBR	0	0	70		100	
WBL	2	3200	190	.06*	260	.08*
WBT	2	3200	430	.13	760	.24
WBR	1	1600	40	.03	60	.04

TOTAL CAPACITY UTILIZATION .49 .60

71. Sanjon & Harbor

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	170	.11*	370	.23*
SBT	0	0	0		0	
SBR	1	1600	80	.05	120	.08
EBL	1	1600	60	.04*	120	.08*
EBT	1	1600	260	.16	470	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	250	.16*	570	.36*
WBR	1	1600	470	.29	250	.16
Right Turn Adjustment			WBR	.05*		

TOTAL CAPACITY UTILIZATION .36 .67

75. Ashwood & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	40	.03
NBT	1	1600	60	.04*	90	.06*
NBR	d	1600	60	.04	60	.04
SBL	1	1600	80	.05*	160	.10*
SBT	1	1600	50	.03	60	.04
SBR	1	1600	130	.08	150	.09
EBL	1	1600	90	.06*	160	.10
EBT	2	3200	510	.16	880	.28*
EBR	d	1600	20	.01	60	.04
WBL	1	1600	40	.03	70	.04*
WBT	2	3200	540	.17*	600	.19
WBR	d	1600	110	.07	100	.06

TOTAL CAPACITY UTILIZATION .32 .48

77. Day & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	260	.08*	360	.11*
SBT	0	0	0		0	
SBR	1	1600	80	.05	100	.06
EBL	1	1600	100	.06*	60	.04
EBT	2	3200	540	.17	960	.30*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	940	.29*	830	.26
WBR	d	1600	330	.21	290	.18

TOTAL CAPACITY UTILIZATION .43 .41

85. Victoria & Olivas Park

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	660	.21	530	.17*
NBT	3	4800	1900	.40*	1840	.38
NBR	1	1600	540	.34	450	.28
SBL	2	3200	530	.17*	210	.07
SBT	3	4800	1540	.32	1620	.34*
SBR	f		50		90	
EBL	2	3200	130	.04	170	.05
EBT	2	3200	150	.05*	230	.07*
EBR	f		190		960	
WBL	1	1600	130	.08*	370	.23*
WBT	2	3200	40	.01	370	.12
WBR	f		110		210	

TOTAL CAPACITY UTILIZATION .70 .81

86. Telephone & Olivas Park

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10		10	
NBT	1	1600	10	.02*	10	.02*
NBR	0	0	10		10	
SBL	2	3200	360	.11*	950	.30*
SBT	1	1600	10	.01	10	.01
SBR	d	1600	150	.09	670	.42
EBL	2	3200	480	.15*	400	.13*
EBT	2	3200	200	.06	280	.09
EBR	d	1600	10	.01	10	.01
WBL	1	1600	10	.01	10	.01
WBT	2	3200	170	.05*	270	.08*
WBR	1	1600	570	.36	680	.43
Right Turn Adjustment			WBR	.23*	Multi	.13*
TOTAL CAPACITY UTILIZATION			.56		.66	

91. Johnson & Ralston

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	110	.07*
NBT	2	3200	760	.24	1180	.37
NBR	d	1600	20	.01	30	.02
SBL	1	1600	50	.03	50	.03
SBT	2	3200	1050	.33*	1140	.36*
SBR	d	1600	110	.07	90	.06
EBL	1	1600	40	.03*	140	.09
EBT	1	1600	90	.06	270	.17*
EBR	d	1600	70	.04	180	.11
WBL	1	1600	60	.04	50	.03*
WBT	1	1600	210	.13*	100	.06
WBR	d	1600	110	.07	70	.04
TOTAL CAPACITY UTILIZATION			.54		.63	

92. Johnson & Bristol

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	80	.05*
NBT	2	3200	720	.23	1240	.39
NBR	f		240		1130	
SBL	1	1600	10	.01	10	.01
SBT	2	3200	1190	.38*	1290	.41*
SBR	0	0	10		20	
EBL	1	1600	10	.01	30	.02
EBT	1	1600	20	.01*	280	.18*
EBR	1	1600	130	.08	200	.13
WBL	2	3200	1050	.33*	560	.18*
WBT	1	1600	270	.17	160	.10
WBR	d	1600	10	.01	10	.01
Right Turn Adjustment			EBR	.05*		
TOTAL CAPACITY UTILIZATION			.79		.82	

94. Johnson & North Bank

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	50	.03*	60	.04*
NBT	3	4800	180	.04	550	.11
NBR	d	1600	20	.01	160	.10
SBL	1	1600	10	.01	70	.04
SBT	3	4800	1760	.42*	1560	.36*
SBR	0	0	240		180	
EBL	2.5		660	.14*	1990	.41*
EBT	1.5	6400	70	.04	350	.22
EBR	1	1600	380	.24	320	.20
WBL	1.5		150	.05	240	
WBT	1.5	4800	70	.04*	140	.08*
WBR	1	1600	20	.01	80	.05
Right Turn Adjustment			EBR	.09*		
TOTAL CAPACITY UTILIZATION			.72		.89	

95. Bristol & Ramelli

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	20	.01	20	.01*
NBT	1	1600	30	.03*	10	.02
NBR	0	0	10		20	
SBL	1	1600	10	.01*	30	.02
SBT	1	1600	20	.01	40	.03*
SBR	1	1600	350	.22	210	.13
EBL	1	1600	60	.04*	220	.14*
EBT	2	3200	210	.07	620	.20
EBR	0	0	10		10	
WBL	1	1600	20	.01	10	.01
WBT	2	3200	860	.29*	370	.13*
WBR	0	0	70		30	
Right Turn Adjustment			SBR	.16*		
TOTAL CAPACITY UTILIZATION				.53		.31

96. Montgomery & North Bank

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	10		10	
SBL	1	1600	40	.03*	140	.09*
SBT	1	1600	10	.01	30	.02
SBR	1	1600	370	.23	170	.11
EBL	1	1600	110	.07*	300	.19*
EBT	2	3200	110	.03	360	.11
EBR	1	1600	10	.01	20	.01
WBL	1	1600	10	.01	10	.01
WBT	1	1600	440	.28*	270	.17*
WBR	d	1600	210	.13	80	.05
Right Turn Adjustment			SBR	.13*		
TOTAL CAPACITY UTILIZATION				.54		.47

100. Saticoy & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	180	.11	140	.09*
NBT	1	1600	200	.13*	150	.09
NBR	1	1600	120	.08	80	.05
SBL	1	1600	180	.11*	90	.06
SBT	1	1600	110	.07	140	.09*
SBR	1	1600	240	.15	150	.09
EBL	1	1600	110	.07*	160	.10
EBT	2	3200	220	.07	660	.21*
EBR	1	1600	100	.06	180	.11
WBL	1	1600	80	.05	110	.07*
WBT	2	3200	320	.14*	490	.17
WBR	0	0	130		50	
TOTAL CAPACITY UTILIZATION				.45		.46

101. Saticoy & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	180		80	
NBT	1	1600	80	.19*	40	.09*
NBR	0	0	50		30	
SBL	0	0	10		20	
SBT	1	1600	70	.08*	50	.06*
SBR	0	0	50		20	
EBL	1	1600	20	.01	50	.03
EBT	1	1600	210	.18*	420	.34*
EBR	0	0	70		130	
WBL	1	1600	50	.03*	30	.02*
WBT	1	1600	300	.19	270	.17
WBR	1	1600	10	.01	10	.01
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.48		.51

102. Wells & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	240	.15*
NBT	1	1600	150	.09	270	.17
NBR	1	1600	60	.04	290	.18
SBL	1	1600	10	.01	10	.01
SBT	1	1600	260	.16*	210	.13*
SBR	1	1600	60	.04	30	.02
EBL	1	1600	20	.01	50	.03
EBT	1	1600	50	.17*	170	.24*
EBR	0	0	220		210	
WBL	1	1600	320	.20*	130	.08*
WBT	1	1600	140	.09	100	.08
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .63 .60

104. Wells & SR 126 EB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	920	.19	1450	.30
NBR	f		590		1560	
SBL	0	0	0		0	
SBT	3	4800	2650	.55*	1710	.36*
SBR	f		90		60	
EBL	1	1600	90	.06*	260	.16*
EBT	0	0	0		0	
EBR	1	1600	190	.12	670	.42
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.06*	EBR	.26*

TOTAL CAPACITY UTILIZATION .67 .78

105. Wells & Darling

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2840	.59*
NBR	d	1600	60	.04	170	.11
SBL	1	1600	130	.08	360	.23*
SBT	3	4800	2430	.51*	1870	.39
SBR	d	1600	10	.01	10	.01
EBL	0	0	90		40	
EBT	1	1600	30	.13*	40	.08*
EBR	0	0	90		40	
WBL	1	1600	50	.03*	280	.18*
WBT	1	1600	30	.07	40	.16
WBR	0	0	80		210	

TOTAL CAPACITY UTILIZATION .69 1.08

106. Wells & Telephone

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	320	.10*	440	.14
NBT	3	4800	1240	.26	2900	.62*
NBR	0	0	10		70	
SBL	1	1600	10	.01	20	.01*
SBT	3	4800	2510	.52*	1950	.41
SBR	1	1600	130	.08	420	.26
EBL	1.5		160	{.05}*	240	{.08}*
EBT	0.5	3200	0	.05	0	.08
EBR	2	3200	530	.17	540	.17
WBL	0	0	10		10	
WBT	1	1600	10	.02*	10	.02*
WBR	0	0	10		10	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .72 .73

114. California & Thompson

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		40		40	
NBT	0.5	3200	10	.02*	20	.02*
NBR	1	1600	50	.03	80	.05
SBL	1.5		120		180	
SBT	1.5	4800	80	.05*	140	.07*
SBR	0		20		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	820	.30*	920	.33*
EBR	0	0	150		120	
WBL	1	1600	60	.04*	90	.06*
WBT	2	3200	320	.10	390	.14
WBR	0	0	10		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .41 .48

115. Chestnut & Thompson

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.02	10	.02
NBR	0	0	10		10	
SBL	1	1600	30	.02	80	.05
SBT	1	1600	250	.16*	320	.22*
SBR	0	0	10		30	
EBL	1	1600	10	.01	20	.01
EBT	2	3200	550	.17*	680	.21*
EBR	f		400		520	
WBL	1	1600	200	.13*	210	.13*
WBT	2	3200	460	.15	630	.22
WBR	0	0	30		70	

TOTAL CAPACITY UTILIZATION .47 .57

120. Ventura & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	50	.03
NBT	1	1600	340	.21*	680	.43*
NBR	1	1600	20	.01	40	.03
SBL	1	1600	120	.08*	120	.08*
SBT	1	1600	370	.23	390	.24
SBR	1	1600	60	.04	50	.03
EBL	1	1600	30	.02	150	.09*
EBT	1	1600	160	.10*	290	.18
EBR	d	1600	30	.02	40	.03
WBL	1	1600	10	.01*	20	.01
WBT	1	1600	100	.06	190	.12*
WBR	1	1600	160	.10	130	.08

TOTAL CAPACITY UTILIZATION .40 .72

132. Ventura & Stanley

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	330	.21*	300	.19*
NBT	1	1600	270	.17	360	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	470	.29*	390	.24*
SBR	1	1600	510	.32	370	.23
EBL	1	1600	380	.24*	660	.41*
EBT	0	0	0		0	
EBR	1	1600	230	.14	140	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .74 .84

136. US 101 SB Ramps & Valentine

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1.5		350	.11*	410	.13*
SBT	0	4800	0		0	
SBR	1.5		90	.06	20	
EBL	1	1600	80	.05*	440	.28*
EBT	2	3200	230	.07	780	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	990	.31*	390	.12*
WBR	f		800		890	

TOTAL CAPACITY UTILIZATION .47 .53

138. Johnson & US 101 SB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	160	.10*	690	.43*
NBT	1	1600	140	.09	520	.33
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	580	.36*	410	.26*
SBR	f		1670		1740	
EBL	1	1600	100	.06*	240	.15*
EBT	0	0	0		0	
EBR	1	1600	120	.08	90	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .52 .84

160. Victoria & US 101 NB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	500	.16*	470	.15*
NBT	3	4800	1450	.30	2040	.43
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2760	.43*	2280	.36*
SBR	1	1600	130	.08	350	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	740	.23*	490	.15*
WBT	0	0	0		0	
WBR	3	4800	870	.18	1130	.24
Right Turn Adjustment					WBR	.03*

TOTAL CAPACITY UTILIZATION .82 .69

161. Victoria & Valentine

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3200	240	.08*	200	.06*
NBT	3	4800	1690	.36	2170	.46
NBR	0	0	20		50	
SBL	1	1600	40	.03	50	.03
SBT	2	3200	1740	.54*	1570	.49*
SBR	f		1670		1170	
EBL	2.5		340		760	
EBT	0.5	4800	50	.08*	20	.16*
EBR	1	1600	230	.14	410	.26
WBL	0	0	10		20	
WBT	1	1600	10	.01*	30	.03*
WBR	1	1600	80	.05	100	.06
Right Turn Adjustment					EBR	.04*

TOTAL CAPACITY UTILIZATION .71 .78

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for WBR EBR

162. California & Harbor

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	220	.14*	320	.20*
SBT	0	0	0		0	
SBR	1	1600	40	.03	60	.04
EBL	1	1600	20	.01	80	.05*
EBT	1	1600	230	.14*	250	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	160	.07	230	.11*
WBR	0	0	50		110	

TOTAL CAPACITY UTILIZATION .28 .36

163. Santa Clara & Main

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	{.01}*
NBT	1	1600	10	.01	10	.01
NBR	2	3200	260	.08	220	.07
SBL	0	0	50		30	
SBT	1	1600	10	.04*	10	.03*
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	2	3200	340	.11*	470	.15*
EBR	0	0	10		10	
WBL	1	1600	140	.09*	160	.10*
WBT	2	3200	370	.13	490	.16
WBR	0	0	30		30	

TOTAL CAPACITY UTILIZATION .25 .29

164. Seaward & Poli

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	160		160	
NBT	1	1600	0	.19*	0	.21*
NBR	0	0	150		180	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	150	.09*	350	.22*
EBR	d	1600	80	.05	140	.09
WBL	1	1600	230	.14*	100	.06*
WBT	1	1600	170	.11	330	.21
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .49

165. Seaward & Harbor

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	40	.03	70	.04
NBT	2	3200	360	.12*	310	.12*
NBR	0	0	30		60	
SBL	2	3200	550	.17*	600	.19*
SBT	2	3200	190	.06	320	.10
SBR	1	1600	300	.19	450	.28
EBL	2	3200	410	.13*	350	.11
EBT	2	3200	580	.19	1170	.38*
EBR	0	0	20		50	
WBL	1	1600	10	.01	30	.02*
WBT	2	3200	270	.08*	450	.14
WBR	2	3200	900	.28	1170	.37
Right Turn Adjustment			WBR	.07*		

TOTAL CAPACITY UTILIZATION .57 .71

166. College & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		20	
NBT	1	1600	0	.06*	0	.08*
NBR	0	0	60		100	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	580	.20*	940	.32*
EBR	0	0	60		70	
WBL	1	1600	110	.07*	50	.03*
WBT	2	3200	690	.22	710	.22
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .33 .43

168. Day & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	210	.13*	200	.13*
NBT	1	1600	30	.02	30	.02
NBR	1	1600	170	.11	280	.18
SBL	0	0	50		50	
SBT	1	1600	20	.04*	20	.04*
SBR	1	1600	30	.02	50	.03
EBL	1	1600	110	.07	80	.05
EBT	1	1600	530	.44*	550	.48*
EBR	0	0	180		210	
WBL	1	1600	300	.19*	220	.14*
WBT	1	1600	430	.33	490	.34
WBR	0	0	90		50	

TOTAL CAPACITY UTILIZATION .80 .79

169. Kimball & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	270	.17*	50	.03*
NBT	0	0	0		0	
NBR	1	1600	20	.01	30	.02
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	220	.21	470	.38*
EBR	0	0	110		130	
WBL	1	1600	70	.04	30	.02*
WBT	1	1600	610	.38*	200	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .55 .43

170. Petit & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40		10	
NBT	1	1600	0	.03*	0	.03*
NBR	0	0	10		30	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	180	.11	280	.18*
EBR	1	1600	30	.02	30	.02
WBL	0	0	10		10	{.01}*
WBT	1	1600	570	.36*	190	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .39 .22

171. Saticoy & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	120		50	
NBT	1	1600	0	.09*	0	.04*
NBR	0	0	20		20	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	160	.13	380	.30*
EBR	0	0	50		100	
WBL	0	0	20		20	{.01}*
WBT	1	1600	500	.33*	180	.13
WBR	0	0	0		0	

TOTAL CAPACITY UTILIZATION .42 .35

172. Wells & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	120	.08*	120	.08*
NBT	0	0	10		10	
NBR	1	1600	40	.03	80	.05
SBL	0	0	10		10	
SBT	1	1600	10	.02*	10	.02*
SBR	0	0	10		10	
EBL	0	0	10	{.01}*	10	
EBT	1	1600	60	.04	230	.15*
EBR	1	1600	120	.08	140	.09
WBL	0	0	60		30	{.02}*
WBT	1	1600	340	.26*	60	.06
WBR	0	0	10		10	

TOTAL CAPACITY UTILIZATION .37 .27

173. Victoria & SR 126 WB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1120	.28	1760	.44*
NBR	0	0	210		350	
SBL	0	0	0		0	
SBT	3	4800	1510	.37*	1350	.32
SBR	0	0	270		180	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	490	.31	390	.24
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	300	.19	170	.11
Right Turn Adjustment		Multi		.43*	Multi	.26*

TOTAL CAPACITY UTILIZATION .80 .70

174. Petit & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	100	.06*	50	.03*
NBT	1	1600	20	.01	10	.01
NBR	1	1600	10	.01	10	.01
SBL	1	1600	30	.02	20	.01
SBT	1	1600	20	.03*	30	.03*
SBR	0	0	30		20	
EBL	1	1600	10	.01*	10	.01*
EBT	2	3200	280	.09	610	.19
EBR	1	1600	60	.04	130	.08
WBL	1	1600	10	.01	10	.01
WBT	1	1600	570	.36*	320	.20*
WBR	1	1600	10	.01	30	.02

TOTAL CAPACITY UTILIZATION .46 .27

175. Ventura & North Bank

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	70		40	
SBT	1	1600	0	.09*	0	.11*
SBR	0	0	80		130	
EBL	1	1600	160	.10	560	.35
EBT	2	3200	1090	.34*	2690	.84*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	340	.21	360	.23
WBR	1	1600	40	.03	30	.02

TOTAL CAPACITY UTILIZATION .43 .95

176. Saticoy & Darling

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	10	{.01}*	10	
NBT	1	1600	140	.09	210	.14*
NBR	1	1600	110	.07	30	.02
SBL	0	0	60		10	{.01}*
SBT	1	1600	220	.18*	180	.12
SBR	1	1600	80	.05	80	.05
EBL	0	0	60		50	
EBT	1	1600	80	.11*	60	.09*
EBR	0	0	40		40	
WBL	0	0	60	{.04}*	40	{.02}*
WBT	1	1600	20	.07	70	.08
WBR	0	0	30		10	

TOTAL CAPACITY UTILIZATION .34 .26

177. Wells & SR 126 WB Ramps

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	2	3200	520	.16	1310	.41*
NBR	f		460		390	
SBL	0	0	0		0	
SBT	2	3200	1050	.33*	710	.22
SBR	f		360		190	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		1690		1050	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	1	1600	190	.12	100	.06
Right Turn Adjustment					WBR	.06*

TOTAL CAPACITY UTILIZATION .33 .47

178. SR-33 Ramps & Stanley

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1600	690	.43	830	.52
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	280	.18	180	.11
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	690	.43*	900	.56*
WBR	f		180		180	
Right Turn Adjustment			NBR	.24*	NBR	.18*

TOTAL CAPACITY UTILIZATION .67 .74

179. SR-33 Ramps & Shell

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0	0	700		680	
SBT	1	1600	0	.46*	0	.44*
SBR	0	0	30		20	
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	140	.09	110	.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1600	720	.49*	740	.53*
WBR	0	0	70		110	

TOTAL CAPACITY UTILIZATION .96 .98

180. Estates & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	70	.04	50	.03
NBT	1	1600	10	.05*	10	.06*
NBR	0	0	70		90	
SBL	0	0	10	{.01}*	10	{.01}*
SBT	1	1600	10	.02	10	.02
SBR	0	0	10		10	
EBL	1	1600	10	.01*	10	.01
EBT	2	3200	570	.18	890	.28*
EBR	d	1600	60	.04	60	.04
WBL	1	1600	30	.02	90	.06*
WBT	2	3200	660	.21*	840	.26
WBR	d	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .28 .41

181. Ventura & Ramona

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02	40	.03
NBT	1	1600	360	.24*	620	.40*
NBR	0	0	20		20	
SBL	1	1600	80	.05*	70	.04*
SBT	1	1600	400	.26	470	.31
SBR	0	0	10		30	
EBL	0	0	20	{.01}*	30	{.02}*
EBT	1	1600	10	.03	20	.04
EBR	0	0	10		20	
WBL	0	0	10		20	
WBT	1	1600	20	.03*	30	.04*
WBR	0	0	10		20	

TOTAL CAPACITY UTILIZATION .33 .50

182. Olive & Main St

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	10	.01*	10	.01*
NBR	0	0	10		10	
SBL	1	1600	580	.36*	450	.28*
SBT	1	1600	20	.06	30	.08
SBR	0	0	80		90	
EBL	0	0	80	{.05}*	280	
EBT	1	1600	80	.10	220	.31*
EBR	1	1600	10	.01	40	.03
WBL	0	0	10		10	{.01}*
WBT	1	1600	170	.11*	160	.11
WBR	1	1600	210	.13	450	.28

TOTAL CAPACITY UTILIZATION .53 .61

190. Petit Av & North Bank Dr

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	40	.03*	80	.05*
SBT	0	0	0		0	
SBR	1	1600	240	.15	230	.14
EBL	1	1600	50	.03*	280	.18*
EBT	2	3200	60	.02	140	.04
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	100	.03*	90	.03*
WBR	d	1600	70	.04	40	.03
Right Turn Adjustment			SBR	.10*		

TOTAL CAPACITY UTILIZATION .19 .26

191. Saticoy Av & North Bank Dr

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	10	.01	10	.01
NBT	1	1600	30	.03*	20	.02*
NBR	0	0	20		10	
SBL	1	1600	20	.01*	60	.04*
SBT	1	1600	10	.02	40	.04
SBR	0	0	20		30	
EBL	1	1600	20	.01	40	.03*
EBT	2	3200	100	.03*	80	.03
EBR	d	1600	0	.00	10	.01
WBL	1	1600	0	.00	10	.01
WBT	2	3200	40	.01	90	.03*
WBR	d	1600	60	.04	140	.09
Right Turn Adjustment			WBR	.01*	WBR	.03*

TOTAL CAPACITY UTILIZATION .08 .15

192. Los Angeles Av & North Bank

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	90	.06*	190	.12
NBT	3	4800	1420	.30	3120	.65*
NBR	d	1600	20	.01	70	.04
SBL	1	1600	110	.07	170	.11*
SBT	3	4800	2800	.58*	2250	.47
SBR	d	1600	150	.09	80	.05
EBL	1	1600	50	.03*	110	.07*
EBT	1	1600	10	.01	20	.01
EBR	1	1600	150	.09	160	.10
WBL	1	1600	50	.03	60	.04
WBT	1	1600	20	.01*	20	.01*
WBR	1	1600	100	.06	170	.11
Right Turn Adjustment			EBR	.03*	WBR	.02*

TOTAL CAPACITY UTILIZATION .71 .86

193. Saticoy Av & A St

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	250	.16*	130	.08
NBR	1	1600	10	.01	20	.01
SBL	1	1600	10	.01*	20	.01
SBT	1	1600	190	.12	170	.11*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.01*	10	.01*
WBT	0	0	0		0	
WBR	1	1600	20	.01	10	.01

TOTAL CAPACITY UTILIZATION .18 .12

194. Wells Rd & A St

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	100	.06
NBT	2	3200	390	.14	850	.32*
NBR	0	0	60		170	
SBL	1	1600	10	.01	40	.03*
SBT	2	3200	800	.25*	570	.18
SBR	0	0	10		10	
EBL	1	1600	10	.01	10	.01
EBT	1	1600	10	.01*	10	.01*
EBR	1	1600	90	.06	60	.04
WBL	1	1600	140	.09*	80	.05*
WBT	1	1600	10	.03	10	.01
WBR	0	0	40		0	
Right Turn Adjustment			EBR	.03*		

TOTAL CAPACITY UTILIZATION .40 .41

205. Johnson & Woodland

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	150	.09*	260	.16
NBT	2	3200	660	.23	1710	.59*
NBR	0	0	90		180	
SBL	1	1600	0	.00	10	.01*
SBT	2	3200	1490	.47*	950	.30
SBR	0	0	0		0	
EBL	1	1600	0	.00	0	.00
EBT	1	1600	10	.01*	20	.01*
EBR	1	1600	160	.10	260	.16
WBL	1	1600	110	.07*	130	.08*
WBT	1	1600	30	.03	10	.01
WBR	0	0	10		0	
Right Turn Adjustment			EBR	.02*		

TOTAL CAPACITY UTILIZATION .66 .69

206. Johnson & Telegraph

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	170	.11*	270	.17*
NBT	2	3200	350	.11	690	.22
NBR	1	1600	180	.11	720	.45
SBL	1	1600	10	.01	20	.01
SBT	2	3200	600	.19*	380	.12*
SBR	1	1600	100	.06	90	.06
EBL	1	1600	20	.01	40	.03
EBT	2	3200	250	.08*	560	.18*
EBR	1	1600	320	.20	320	.20
WBL	1	1600	570	.36*	250	.16*
WBT	2	3200	330	.10	340	.11
WBR	1	1600	70	.04	30	.02
Right Turn Adjustment			EBR	.04*	NBR	.05*

TOTAL CAPACITY UTILIZATION .78 .68

207. Johnson & Loma Vista

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	60	.04*	120	.08
NBT	1	1600	100	.06	360	.23*
NBR	1	1600	130	.08	250	.16
SBL	1	1600	0	.00	0	.00
SBT	2	3200	350	.11*	140	.04
SBR	1	1600	30	.02	10	.01
EBL	1	1600	0	.00	10	.01
EBT	1	1600	60	.04*	210	.13*
EBR	1	1600	130	.08	140	.09
WBL	1	1600	190	.12*	200	.13*
WBT	1	1600	170	.11	180	.11
WBR	1	1600	10	.01	10	.01
Right Turn Adjustment			EBR	.01*		

TOTAL CAPACITY UTILIZATION .32 .49

208. Johnson & Foothill

2025 Scenario 6 (Alt. Net.) w/Baseline						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	0	.00	20	.01*
NBT	0	0	0		0	
NBR	1	1600	100	.06	370	.23
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	350	.22	610	.38*
EBR	1	1600	130	.08	20	.01
WBL	1	1600	250	.16	140	.09*
WBT	1	1600	840	.52*	240	.15
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.15*
TOTAL CAPACITY UTILIZATION				.52		.63

**NON-COMMITTED
IMPROVEMENTS**

105. Wells & Darling

2025 Scenario 6 (Alt. Net.) w/Non-Committed Lan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	30	.02*	40	.03
NBT	3	4800	1270	.26	2840	.59*
NBR	d	1600	60	.04	170	.11
SBL	2	3200	130	.04	360	.11*
SBT	3	4800	2430	.51*	1870	.39
SBR	d	1600	10	.01	10	.01
EBL	1	1600	90	.06*	40	.03*
EBT	1	1600	30	.08	40	.05
EBR	0	0	90		40	
WBL	2	3200	50	.02	280	.09
WBT	1	1600	30	.07*	40	.16*
WBR	0	0	80		210	
TOTAL CAPACITY UTILIZATION			.66		.89	

Appendix B

CIRCULATION ELEMENT – COMMUNITY INPUT

This appendix summarizes input received from community outreach programs, most notably the Ventura Vision and the Comprehensive Plan Advisory Committee work. It is intended to acknowledge comments received from those work efforts and to document their role in formulating the Circulation Element recommendations.

VENTURA VISION

In 1999 and 2000 a comprehensive outreach program was carried out guided by a broad based Citizens Outreach Committee. That effort culminated in the “Ventura Vision, Seize the Future” document of March 2000. This vision document articulated a shared vision to guide the community in the future, including guiding principles, vision statements, and strategies for pursuing those visions. With respect to circulation, the following statement of high-priority strategies was noted:

***Our Accessible Community.** Develop a balanced transportation system by encouraging land use modifications and “transportation systems management” to reduce traffic congestion; upgrading road maintenance, improving and diversifying local transit systems; promoting a regional rail strategy; enhancing parking through better use of existing structures and new structures at strategic locations; facilitating bicycle and pedestrian access through an interconnected system of bike and walking paths; and exploring ways to improve the community’s access to air transportation.*

As embodied in this statement and as outlined in the section entitled “Our Accessible Community,” the vision identified its central goal as seeking an integrated multi-modal transportation system in which bus, rail, bicycle and pedestrian modes can reduce dependency on the automobile for transportation. The overall goal of the Circulation Element articulates this vision as do specific objectives such as listed in the transit, bicycle and pedestrian components of the Element. In addition, implementing strategies from the Vision document have been directly or indirectly incorporated into the Element in the form of specific programs.

COMPREHENSIVE PLAN ADVISORY COMMITTEE (CPAC)

A special Comprehensive Plan Advisory Committee (CPAC) met over a number of months in early 2002 to provide input to the Comprehensive Plan update process. This committee provided a forum to address Comprehensive Plan issues and to thereby supplement the results of the major community outreach program described above.

The meeting in which Circulation was the main topic was held on March 13, 2002, and numerous comments were received from CPAC members and from public attendees at that meeting. The comments were grouped into four topics, 1) arterial street, 2) public transit, 3) bikeways and 4) pedestrians. The first three of these are addressed here, and the fourth is discussed under separate cover. For each subject area, the comments are listed and the actions taken with respect to those comments noted. In some cases the comments pertain to a specific traffic issue that would not be within the purview of the General Plan, but is nevertheless an important concern with respect to circulation. These have been compiled so that the information can be forwarded to the appropriate department within the City. Most comments provided valuable input to the Circulation Element preparation process and were an important consideration in the development of the Circulation Element. The following sections discuss the three topic areas.

ARTERIAL STREETS

The CPAC and public comments on arterial streets are summarized in Table B-1. Discussion on specific subject areas follows.

Customized Street Classification (Comments S1.1, S1.4, S1.6, S1.12, S1.13, S1.15, S2.6, S2.7, S2.8)

The potential for customizing street classifications in the Circulation Element was presented at the March 13 meeting. The comments received indicate a general interest in adopting this approach and the arterial street component of Circulation Element has been prepared accordingly. The previous chapter of this report discussed design classifications and functional classifications, the latter addressing the customizing of the classification system for arterial streets.

Table B-1
 ARTERIAL STREETS
 CPAC and Public Comments – March 13, 2002

COMMENT	ACTION*
S1 – CPAC COMMENTS	
S1.1 Do not widen Ventura Avenue, custom approach needed	CE
S1.2 Connect Cameron	CE(D)
S1.3 Need traffic signals on the Avenue	N&F
S1.4 Custom approach needed to extend Olive north of Stanley to Sycamore Village	CE
S1.5 Solve the north/south traffic for future development	CE(D)
S1.6 Apply “custom approach” citywide	CE
S1.7 Hwy 101 / Harbor; Northbound Hwy 101 off-ramp / road to Channel Drive/ Borchard	CE
S1.8 Roundabout at Main and Mills	CE(D)
S1.9 Extend Mills south along Arundell Barranca to Harbor Blvd.	CE(D)
S1.10 State Route 126 westbound to Hwy 101 southbound	N&F
S1.11 Poli, from North Pacific to North Victoria, should be 1) reconstruct to 2 lanes 2) Remove side parking 3) slow to 30 mph 4) install bike / pedestrian side lanes 5) calm traffic 6) move traffic to Loma Vista	CE(D)
S1.12 Need custom approach along Main and Thompson	CE
S1.13 Needs to be pedestrian friendly along Main and Thompson and where Main and Thompson meet Telegraph	CE
S1.14 Extend Arundell to Schooner Drive	CE(D)
S1.15 Special treatment to Foothill Road	CE(D)
S1.16 Extend Johnson Drive north to Foothill Road	CE(D)
S1.17 Extend Kimball south across Santa Clara River to Oxnard	CE(D)
S1.18 Extend south Johnson Drive eastbound along Santa Clara River and then north to Bristol Road	CE(D)
S1.19 Provide roadway from Bristol across Santa Clara River into Oxnard	CE(D)
S1.20 Extend Loma Vista at Petit all the way to Amador	CE(D)
S1.21 Extend Balboa at Newport all the way to Wells	CE(D)
S1.22 Extend North Bank Drive northeast to Bristol Road	
S2 – PUBLIC COMMENTS	
S2.1 Stanley to 33 onramp needs to be improved – very dangerous	N&F
S2.2 Extend Olive north to connect with Ventura Avenue north of Stanley.	CE
S2.3 Need traffic calming on Olive esp. near the Boys & Girls Club.	CE
S2.4 Connect the 2 parts of Cameron.	CE(D)

Table B-1 (cont)
 ARTERIAL STREETS
 CPAC and Public Comments – March 13, 2002

COMMENT	ACTION*
S2 – PUBLIC COMMENTS (cont)	
S2.5 Need additional traffic signals on Ventura Avenue especially south of Stanley.	N&F
S2.6 Customize Main though Midtown – similar to Downtown – with wide sidewalks and pedestrian amenities	CE(D)
S2.7 Customize 5 points as Midtown entry	CE(D)
S2.8 As stated in plan, retain “county” character of Foothill Road. Retain 2 lanes, enhance with bike path, and lower speed limit. No additional traffic can be accommodated.	CE(D)
S2.9 Recognize that Foothill carries substantial traffic, which will increase – 4 lanes needed.	CE(D)
S2.10 Foothill Road cannot take additional traffic from Hall Canyon, Barlow Canyon, and Sexton Canyon as proposed by Lloyd Corp. and Mariano Rancho.	CE(D)
S2.11 Traffic calming speed bumps or more stop signs on through streets between Foothill and Loma Vista, esp. Sexton Hall, Dorothy, and Agnus.	CE
S2.12 Callens onto East Main – takes much time to get out driveway onto Main traffic.	N&F
S2.13 Poli Street and Foothill Road cannot be widened. It is an old route to Santa Paula – It can’t take much more traffic	CE
S2.14 Is there a road planned for access to the Lloyd Properties on the other side of the hills, north side, and running east to west?	N&F
S2.15 Anticipate potential future development of agricultural parcels north of Highway 126 – identify future extension of Johnson Drive across freeway north through agricultural parcels.	CE
S2.16 Anticipate potential future development of agricultural parcels in inner city greenbelt – easterly extension of Balboa Street and Loma Vista Road.	CE
S2.17 Anticipate potential future development of inner city greenbelt parcels by identifying future extension of roadways through agricultural properties such as Kimball, Ralston, and any other streets. Identify need for specific plan to establish possible road design standards, location of roads, etc. City needs to investigate economic feasibility of extending Kimball south to Oxnard – identify whether this will occur in general plan time frame.	CE
S2.18 Mills Road should be put through to Foothill	CE
S2.19 Safer intersections downtown	N&F
* Actions taken are as follows:	
N&F	Comment not directly applicable to the Circulation Element but has been noted and forwarded to the appropriate City Department
CE	Comment is being addressed in the Circulation Element Update
CE(D)	Comment is being addressed in the Circulation Element Update and is discussed here in the text

New Roadways (Comments S1.2, S1.9, S1.14, S1.16, S1.17, S1.18, S1.19, S1.20, S1.21, S1.22, S2.15, S2.16, S2.18)

There are a number of new roadways on the current Circulation Element and these are being evaluated as part of preparing the Circulation Element update. Those being indicated in the comments as potentially desirable are as follows:

Southward extension of Mills across US-101

Extension of Arundell to Schooner Drive

Extension of Johnson Drive north to Foothill Road

Extension of Johnson Drive eastward along the Santa Clara River to connect to Bristol

Extension of Loma Vista at Petit to Armador

Extension of Balboa at Newport to Wells

An additional comment (S2.4) suggested connecting the two parts of Cameron. At the present time, Cameron is not on the Circulation Element and hence unless it was to be added to the Element such an extension would be a local subdivision issue rather than a Comp Plan issue. While an extension could help provide north/south capacity parallel to Ventura Avenue, there are issues involved such as bisecting an existing park and residential neighborhood. Without an assessment of feasibility, it is not recommended at this time that Cameron be added to the Circulation Element.

Additional Crossing(s) of the Santa Clara River (Comments S1.19, S2.17)

The question of an additional crossing of the Santa Clara River east of US-101 is currently being addressed in a joint study by the County of Ventura, the City of Ventura and the City of Oxnard. Since the location and sizing of one or more bridges affects all three entities, that cooperative study will evaluate a number of alternatives and the potential impacts/benefits to the communities involved. It is anticipated that this Comprehensive Plan process will have the benefits of the results of that study and thereby be able to incorporate recommendations into the Circulation Element update.

Foothill Road (Comments S2.8, S2.9, S2.10, S2.13)

While one of the public comments (S2.9) appears to contradict the others by suggesting a four-lane road should be built, the general consensus is that Foothill Road has a special character and should

remain at two lanes (as articulated in the Vision Plan). One of the purposes of devising customized functional classifications is to address this special roadway and its needs and limitations. Special functional classifications are aimed at preserving or attaining a desirable character while providing adequate carrying capacity for the forecast traffic volumes. Discussions on this can be found in the traffic forecasting results (Chapter 3.0) and in the development of functional classifications (Chapter 4.0).

Roundabouts (Comment S1.8)

The comment suggests a roundabout at Main and Mills, presumably to address the high traffic volume at this location. Unfortunately, a roundabout to accommodate this volume would require considerable right-of-way and not necessarily be more effective than a signalized intersection. At the same time, the comment introduces the concept of roundabouts as a traffic control device for deployment in the City. Roundabouts have been used in various locations in the United States, including some locations with relatively high traffic volumes. The greater use, however, has been as traffic calming devices and as a means of creating a more local character to a street (compared to traffic signal control at an intersection). The suggestion here is that roundabout intersections be considered as part of the toolbox for the traffic calming measures and if found desirable, could be deployed accordingly.

PUBLIC TRANSIT

The CPAC and public comments on Transit are summarized in Table B-2. The following discussion addresses specific subject areas.

Train Depot/Transit Centers (Comments T1.3, T1.4, T1.5, T1.9, T2.6, T2.10)

These comments reflect an awareness of the role that transit stations/centers can have in promoting transit use. Policies and programs plus the associated discussion in the Circulation Element respond to these, and emphasize its importance. Since the City has a greater degree of control over providing such amenities (compared to train and bus routing and scheduling) it represents an appropriate directive to pursue such facilities through a variety of actions, both public and private.

Table B-2
PUBLIC TRANSIT
CPAC and Public Comments – March 13, 2002

COMMENT	ACTION*
T1 – CPAC COMMENTS	
T1.1 Public transit should focus on transit dependent areas	N&F
T1.2 Smaller buses could be used during off peak hours	N&F
T1.3 The depot should be in the Front Street area between Kalorama and Laurel.	CE(D)
T1.4 The depot should be located at Front Street at Figueroa	CE(D)
T1.5 Put a transit center at Pacific View mall on Telegraph	CE(D)
T1.6 Seniors need a way to get to the center of the mall.	CE(D)
T1.7 Pedestrian access to transit is problematic at Victoria and Telephone	N&F
T1.8 Improve public transit, bus stops, facilities in the Westside	CE
T1.9 Metrolink Station at Los Angeles Avenue and Azahar.	CE(D)
T1.10 Kneeling busses need to be routed to senior apartments and complexes and large senior housing areas	CE
T1.11 Priority should not be given to ADA over seniors.	--
T1.12 Subsidize seniors' taxicab CHITS	N&F
T2 – PUBLIC COMMENTS	
T2.1 Use smaller buses which use non-polluting fuel	N&F
T2.2 North-south connections to SCAT east-west routes	N&F
T2.3 More public transit in small buses that neighborhoods	N&F
T2.4 Slow traffic, narrow roads, use transit	--
T2.5 Mass transit with bike, surfboards, skateboard storage	N&F
T2.6 Bus stops need to be upgraded. Middle class people with transit options don't want to sit on dirty benches in the sun or rain. Bike racks on buses are very good. We need a multi-modal transit center downtown.	CE(D)
T2.7 Trolley transit route from downtown through midtown to mall to Harbor back by beach to downtown runs every 30 minutes.	--
T2.8 Publicly subsidized mass transit	--
T2.9 School only through 6 th	--
T2.10 Transportation (bus service) should be available to the train station	N&F
* Actions taken are as follows:	
N&F	Comment not directly applicable to the Circulation Element but has been noted and forwarded to the appropriate City Department
CE	Comment is being addressed in the Circulation Element Update
CE(D)	Comment is being addressed in the Circulation Element Update and is discussed here in the text

BIKEWAYS

The CPAC and public comments on bikeways are summarized in Table B`-3. Discussion on specific areas of interest or concern follows:

Additions or Modifications to Bikeway System (Comments B1.1, B1.2, B1.3, B1.6, B1.7, B1.8, B2.4, B2.5, B2.6, B2.7, B2.12)

The comments include a number of suggestions for modifying and/or expanding the General Bikeway Plan. Such suggestions need to be considered in the next update process for that plan and included if appropriate.

One of the key roles of the Circulation Element is to ensure compatibility between the bikeway plan and the Functional Classifications of the roadways used by the designated bike routes or trails. All functional classifications have the ability to provide a Class II bike lane provided the right-of-way is in accordance with the design classification. In some cases, the functional classification supports the potential inclusion of a Class I bike path in the standard cross-section (e.g., the Two-Lane Boulevard). The intent is to provide as much flexibility as possible in enhancing and expanding the Citywide bikeway system.

Table B-3
GENERAL BIKEWAY PLAN
CPAC and Public Comments – March 13, 2002

COMMENT	ACTION*
B1 – CPAC COMMENTS	
B1.1 Connection from Vista Del Mar to Thompson	CE(D)
B1.2 Close road (Brakey Road) to traffic and make it pedestrian and bike only	CE(D)
B1.3 Bike path along Olive (Westside)	CE(D)
B1.4 Improved bike and pedestrian path to get from Mills (the mall) to lower Main Street	CE
B1.5 Improved access to existing bike trail along Ventura River from residential areas along Olive and north of Stanley (i.e., Sycamore Village)	CE
B1.6 Bikeway extension from Cedar to Dakota.	CE(D)
B1.7 Harbor to Ondulondo/Clearpoint – pedestrian / bikeway barrancas	CE(D)
B1.8 Extend bike path from Barranca from Bristol to Park	CE(D)
B1.9 Extend bike path in traffic lane all the way through the curve (on Johnson)	N&F
B1.10 More segregated trails	CE
B1.11 Slow down traffic along Foothill so that cars and bikes may coexist.	CE
B1.12 More police funding. Do you want a bike path along your backyard? Just a thought. We need police on all new bike paths. Policing needed for increased crime	--
B1.13 Create and facilitate cross-city bike routes for specific transportation objectives as in Santa Barbara.	CE
B1.14 Make Foothill 2 lanes with bike path adjacent to road on south side (slow Foothill traffic to 30 mph)	CE
B1.15 Policy: All upgrades to arterials shall include a bikeway	CE
B1.16 Coordinate with county and other cities/communities to hire a bike consultant with input on all road projects (someone like Wilson Hubbell)	--
B1.17 Need through traffic bike lanes at intersections – this is a problem throughout the City of Ventura.	N&F
B1.18 Right turn and west from Harbor to Seaward needs improvement from danger of traffic turning on to freeway (similar problems in other areas in town).	N&F
B2 – PUBLIC COMMENTS	
B2.1 Class II bike trail along Ventura Avenue	CE
B2.2 Better access to bike path from the community located north of Stanley and east of Ventura Avenue (i.e. Sycamore Village)	CE
B2.3 Need safer and easier connection between Ventura River Trail and Omer Rains path	CE
B2.4 Seaward should eliminate parking and have bike lanes instead	CE(D)
B2.5 Bikeway extension off Cedar Street (north to Dakota?)	CE(D)
B2.6 Eliminate parking on Poli in favor of bike lanes	CE(D)

Table B-3 (cont)
 GENERAL BIKEWAY PLAN
 CPAC and Public Comments – March 13, 2002

COMMENT ACTION*

B2 – PUBLIC COMMENTS (cont)

B2.7	Need a bike and/or pedestrian link from Marina Park to the Harbor	CE(D)
B2.8	Connections	CE
B2.9	Policy suggestion – All arterials should provide for a bike path whenever a road is re-striped or re-paved.	CE
B2.10	Biketrails on Foothill Road	CE
B2.11	Real bike lanes on Victoria; slow traffic get rid of sidewalk bike lane	CE
B2.12	Bike trails or pedestrian trails along Barrancas	CE(D)
B2.13	More bikeways to get across town not just recreational trails – use bike as transportation mode.	CE
B2.14	We need education to change perception of bicycling – share the road concept – bicycling is viable transportation mode	CE
B2.15	Foothill Road should not be made 4 lanes. It should remain 2 lanes with bike and pedestrian paths and left hand turn bays.	CE
B2.16	Consider bikeways to connect communities where there are no streets – i.e. bikeways out of closed off developments	CE

* Actions taken are as follows:

N&F	Comment not directly applicable to the Circulation Element but has been noted and forwarded to the appropriate City Department
CE	Comment is being addressed in the Circulation Element Update
CE(D)	Comment is being addressed in the Circulation Element Update and is discussed here in the text

Appendix F

2004 Biennial Water Supply Report

2004 Biennial Water Supply Report

I. Executive Summary

This report is submitted in compliance with the City Council adopted 1994 Comprehensive Water Resources Management Plan (CWRMP). The CWRMP consists of a compilation of water supply policy statements to provide guidance related to the City's future water supply and demand. The intent of the plan is to ensure the City's ability to provide its customers with adequate water that meets regulatory water quality standards.

A water supply monitoring requirement is included in the CWRMP. This requirement calls for an annual review of critical water supply conditions and a biennial report to the Council for certification in the Fall of even numbered years. The purpose of the Biennial Water Supply Report is to certify that the City's existing water supply and planned improvements are sufficient to satisfy our needs for at least the next ten years and provide advance warning if a supplemental water supply is needed. The ten-year planning horizon represents the time needed to develop a supplemental water supply.

This 2004 Biennial Water Supply Report finds that the City's future water supply and planned improvements are sufficient to satisfy the City's water needs beyond this 10-year planning horizon.

The report includes projections of the City's future water supply and demands. The current and projected water supplies used in the report include: (1) production from the Ventura River, (2) supply from Lake Casitas, (3) production from the Mound Groundwater Basin, (4) pumping allocations in the Oxnard Plain Groundwater Basin, (5) pumping allocations in the Santa Paula Groundwater Basin and (6) future Saticoy County Yard Well. The water demand figures used were determined from historical water consumption figures, anticipated water consumption trends and the estimated population growth for the water service area.

The report also summarizes the capital improvement projects planned for the next five years. These planned improvements increase the City's ability to utilize existing water resources. The planned projects will improve the quantity and quality of the City's existing supplies and provide the system flexibility necessary for the City to support demands during a drought period when the need arises.

In addition to a biennial water supply report, staff annually reviews the health of the City's water supplies. Potential impacts to the water supply, which include the condition of our facilities, agreements with other agencies and weather conditions, are tracked. By tracking these effects potential impacts can be identified before they occur. At this time the City's water supplies are healthy. It is concluded that with planned capital improvements there is sufficient water supply to satisfy the City's water demands for at least the next ten years. In two years when the next Biennial Water Supply Report is prepared, conditions will be reassessed and water supply and demand projections updated.

II. Current and Projected Water Supply

There are presently five water sources that provide water to the City water system:

1. Ventura River surface and subsurface water intakes and four shallow wells (Foster Park)
2. Casitas Municipal Water District (Casitas)
3. Mound Groundwater Basin
4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)
5. Santa Paula Groundwater Basin

The City has acquired a sixth source, a well located on the Santa Clara River east of Highway 118 (Wells Road). This location is not within either the Santa Paula Groundwater Basin or the Fox Canyon Aquifer. The well is complete and has been tested for production capacity and water quality. Capacity tests indicate the production from this well will be at least 2,500 gallons per minute (gpm). Pumping and control systems will be complete by mid-year 2005 and connecting pipelines to the Saticoy Conditioning Facility will be complete near the beginning of 2006.

The City also holds a State Water Project (SWP) entitlement of 10,000 acre-feet per year (AFY). To date, the City has not received delivery of its allotment, and it is not certain if or when facilities will be constructed to transport SWP water to the City. In 1998 the City became a signatory to the SWP Monterey Amendment. The amendment would allow the City, with other contractors, to sell surplus water back to the state, however litigation has prevented the terms of the amendment from being fully acted upon.

The City manages its water resources conjunctively. Conjunctive use is the practice of first utilizing surface supplies (which are lost to the ocean if not used when they are available), before groundwater supplies (which can be stored for use when the surface supplies are not plentiful). Groundwater is used to provide for seasonal demands and as a source during drought periods. Therefore, the City will generally utilize its water supplies in the following order: Ventura River, Lake Casitas, and groundwater basins.

In addition, the City provides reclaimed water from the Ventura Wastewater Reclamation Facility to two municipal golf courses, the Ventura Marina area and private customers for landscape irrigation.

1. Ventura River

Surface water from the Ventura River is diverted through the City's Foster Park Facilities. The surface diversion, subsurface intake, and four shallow wells within the Ventura River collect water. Production from this source is a function of several factors including production capacity, local hydrology, environmental impacts, and the storage capacity of the Ventura River alluvium and upstream diversions. Currently, our surface diversion is unused due to the natural migration of the active river channel. Foster Park improvements, now in design, will replace production from our surface diversion with

additional wells. Even without production from the surface diversion, the City produced 6,722 AF from Foster Park in 2003, a year of below average rainfall.

The production from the Ventura River in 1992 was 9,874 AF, the highest annual water volume ever produced. The lowest production was 1,463 AF in the 1951 drought year. The Ventura River water source is highly variable and very dependent upon local hydrology. The CWRMP states the yearly yield is between 700 and 11,000 AF per year. For this report the average long-term water production of 6,700 AFY will be used, and is based on the Evaluation of Long Term Alternative Water Sources, James M. Montgomery, June 1993.

2. Casitas Municipal Water District (Casitas)

The western portion of the City is within the Casitas service area. Approximately 32 percent of the City's water accounts are located within the Casitas service area. Use of Casitas water is restricted to the volume of water used within its boundaries. The "safe yield" of Lake Casitas is defined to be the amount of water that can be removed from the lake each year without excessive risk that the lake will become dry. The safe yield of Lake Casitas is currently estimated to be 21,920 AFY, based on the critical historical dry period from 1944 to 1965. Studies by Casitas' engineering department have shown that this period represents the most critical dry spell for the Lake's watershed of all the years for which historical data is available.

To maintain future operation of Lake Casitas at safe yield, Casitas established an allocation program for its customers in 1992. The City's allocation can be as high as the in-district demand for Stage 1 (wet or average year), or reduced to 7,090 AFY for Stage 2 (dry conditions) and further incrementally reduced (Stages 3 and 4) to 4,960 AFY for Stage 5 (extremely dry conditions). Stage 2 is initiated when Lake Casitas storage drops below 95,000 AF and Stage 5 is initiated when levels drop below 65,000 AF. The lower allocation remains in effect until the storage is recovered to 90,000 AF. Total lake storage is approximately 254,000 AF. Lake Casitas storage as of August 2004 was 168,397 AF.

In July 1995 the City signed an agreement with Casitas, which established the City's minimum purchase at 6,000 AFY. The terms of the agreement are subject to the allocation program described above during drought periods. For this report the projected water supply available from Casitas is anticipated to average 8,000 AFY, the projected in-district demand.

3. Mound Basin

Two wells supply water from the Mound Groundwater Basin (Victoria Well No. 2 and Mound Well No. 1). Construction of Mound Well No. 1 was completed in 2003.

In March 1996 the City completed a project that included: 1) constructing Mound Basin

monitoring wells at Camino Real Park and Marina Park; 2) developing a database from historical records, and 3) identifying potential surpluses within the basin. This work was performed in conjunction with the United Water Conservation District. The report compiled as part of that project indicated that historical data supports a basin yield of at least 8,000 AFY during drought conditions as long as pumpage is reduced during wet years to allow water levels to recover. It is anticipated that the basin will be able to sustain a higher yield (at least 10,000 AF during drought periods), provided that future wells are located so as not to adversely impact the existing Mound Basin Wells. Future annual reports will further assess the operational yield of the basin.

For this report the future water supply from the Mound Basin is assumed to be 4,200 AFY based on 75 percent of the current pumping capacity of 5,600 AFY.

4. Oxnard Plain Groundwater Basin

Wells near the Buenaventura Golf Course have drawn from the Oxnard Plain Groundwater Basin since 1961. Additional wells have been constructed over the years with the most recent being completed in 1991. Currently, three wells produce potable water for the City's system. These wells pump from the Fox Canyon aquifer of the Oxnard Plain Groundwater Basin. Average annual yield from the Golf Course Wells over the past 15 years has been about 3,200 AFY.

The Fox Canyon Groundwater Management Agency (GMA) was created by state legislation in 1982 to manage local groundwater resources in a manner to reduce overdraft of the Oxnard Plain and stop seawater intrusion. A major goal of the GMA is to regulate and reduce future extractions of groundwater from the Oxnard aquifers, in order to operate the basin at a safe yield. In August 1990, the GMA passed Ordinance No. 5, which requires existing municipal groundwater users to reduce their extractions by five percent every five years until a 25 percent reduction is reached by the year 2010.

The City's baseline allocation was set by the GMA at 5,459 AFY, which was the average extraction from the Golf Course Wells for the period of 1985 to 1989. Beginning in 1992, baseline extractions set by the GMA were reduced by 5% to 5,186 AFY, in 1995 it was reduced to 4,913 AFY, and further in 2000 to its current allocation of 4,640. This allocation will further be reduced as follows:

<u>Years</u>	<u>Amount (AFY)</u>
2006	4,367
2010	4,094

Following wet weather conditions, water levels in the City's groundwater basins rise significantly. Conjunctive use strategies and customer water conservation have allowed the City to store 33,193 AF in the GMA bank as of the end of calendar year 2003. This storage bank makes it possible for the City to implement operational procedures that will allow the use of its groundwater supplies up to safe yield levels, and to use its

banked groundwater as an additional supply during future drought conditions. If the City were to use its banked water, it is estimated that the City could extract as much as 5,500 AFY based on 75% of the current pumping capacity of 7,300 AFY. However for this report, future supply is conservatively based on GMA restricted extraction limits listed in the preceding paragraph.

5. Santa Paula Groundwater Basin

The Saticoy Water System acquired by the City in 1968 included Saticoy Well No. 1, which draws water from the Santa Paula Basin. Due to casing failure, the well was destroyed and replaced in 1991 with a new well designated as Saticoy Well No. 2 in the same general location. Pumping capacity within the Santa Paula Basin is currently only 2,200 AFY based on 75% of the current pumping capacity of 2,900 AFY. With the addition of Saticoy Well 3 (completion anticipated 2006) to be located east of Highway 118 (Wells Road) we anticipate increasing pumping capacity in the basin to 6,400 AFY.

In March 1996, the City ended a five-year stalemate over the future use of the Santa Paula Basin. Under an agreement with the United Water Conservation District and the Santa Paula Pumpers Association (an association of ranchers and businesses), the City can pump on average 3,000 AFY from the Santa Paula Basin. The City is not limited to this allocation in any single year, but may produce seven times its average annual allocation (21,000 AF) over any running seven-year period. In addition, the City may pump an additional 3,000 AFY in case of an emergency resulting from a long-term drought situation. Therefore, for the purposes of this report, the future annual production from the Santa Paula Basin is estimated to be 3,000 AFY.

6. Saticoy Yard Well

The County of Ventura has relocated their maintenance yard to a site within the Saticoy Community contiguous to the City's water service area. In exchange for extraterritorial water service, the County has provided the City a well to offset their water demand. The well is expected to provide not only production capacity for serving the maintenance yard, but also significant additional system capacity. The Saticoy Yard Well is anticipated to begin production in 2006, with an estimated 75 percent of design production capacity of 2,262 AFY. The water demand for the maintenance yard is estimated to be 20 AFY.

III. Water Supply Summary

The following Table 1 summarizes the historical deliveries from each of the above sources, as well as projected deliveries to the year 2014. Projected figures are based on the water supply available from each source, and do not necessarily represent amounts currently produced.

Table 1: Historic and Projected Water Source Production and Supply Availability (acre-feet)

Year	Surface Water		Ground Water				Total Water Supply (7)
	Ventura River (1)	Lake Casitas (2)	Mound Basin (3)	Oxnard Plain Basin (4)	Santa Paula Basin (5)	Saticoy Yard Well (6)	
Historic Production							
1980	7,276	7,544	0	5,198	2,129		22,147
1985	5,493	9,099	2,360	6,172	46		23,170
1990	2,859	6,175	4,365	5,749	0		19,148
1995	9,042	1,622	2,169	2,603	2,594		18,030
1996	7,926	4,456	2,789	2,768	1,599		19,538
1997	7,052	7,089	213	3,452	2,025		19,831
1998	8,069	4,328	802	4,312	1,033		18,544
1999	6,419	7,061	3,955	1,621	1,669		20,725
2000	6,779	5,836	4,579	2,674	1,698		21,566
2001	5,727	6,292	4,030	905	2006		18,960
2002	5,951	7,127	3,720	1,978	1,157		19,933
2003	6,722	4,874	5,546	2,898	316		20,356
Projected Supply							
2004	6,700	8,000	4,200	4,600	3,000	0	26,500
2009	6,700	8,000	4,200	4,400	3,000	2,262	28,562
2014	6,700	8,000	4,200	4,100	3,000	2,262	28,262

Notes:

1. Ventura River future supply is the average long-term production based on analysis of the period from 1939 to 1982 per the Evaluation of Long Term Alternative Water Sources, James M. Montgomery, June 1993.
2. Includes the City's total past Casitas purchases in addition to raw water and oil recovery users; projected supply is the City's current in-district use.
3. Mound Basin future supplies are 75 percent of well pump rated output.
4. Oxnard Plain Basin future supply is based on GMA restricted extraction limits rounded to nearest 100 AF.
5. Santa Paula Basin future supply is the pumping allocation of the Stipulated Judgement.
6. Saticoy Yard Well future supply is 75 percent of design maximum pump output capacity.
7. Includes treated and raw water; excludes reclaimed water supply.

IV. Historic and Projected Water Demand

A. Historic Water Demand

Water consumption within the City (excluding raw water/oil company use) has decreased in recent years as shown by the per capita use figures in Table 2. The annual per capita usage from 1940 to 1970 averaged about 0.31 acre-feet per person (AF/capita). In the period 1976-1989 (pre-mandatory water conservation), the annual per capita use averaged about 0.22 AF/capita. In the period 1994-2003 (post mandatory water conservation), the per capita figure dropped to an average of 0.182 AF/capita. This decrease in per capita consumption is the result of structural improvements such as low flow fixtures and low water consuming appliances in some existing and all new housing and an active water conservation program adopted by the City in 1975 and further strengthened with mandatory regulations in 1990. Mandatory regulations were lifted in 1993, however water conservation efforts remain very effective.

Table 2: Historic Water Production and Population

Year	Total Prod. (AF) (1)	Raw Water Use (AF) (2)	Treated Water Use (AF) (3)	Est. Pop. Served by Water System (4)	Per Capita Use (AFY) (5)	Annual Rainfall (in.) (6)
1940	4,240	0	4,240	13,264	0.320	12.54
1950	5,307	0	5,307	16,534	0.321	13.34
1960	8,832	0	8,832	29,114	0.303	12.08
1970	21,524	4,473	17,051	57,964	0.294	13.92
1980	22,147	4,766	17,381	73,774	0.236	24.78
1990	19,148	2,317	16,831	94,856	0.177	5.53
1991	14,660	2,077	12,583	94,913	0.133	17.01
1992	16,469	1,625	14,846	95,626	0.155	20.91
1993	17,459	2,010	15,449	96,540	0.160	28.21
1994	18,980	2,000	16,980	97,154	0.175	11.47
1995	18,030	1,602	16,428	99,668	0.165	34.52
1996	19,538	1,500	18,038	100,482	0.180	13.81
1997	19,831	1,829	18,002	101,096	0.178	16.02
1998	18,544	1,769	16,775	101,610	0.165	43.25
1999	20,725	1,067	19,657	102,224	0.192	10.56
2000	21,566	1,129	20,481	103,238	0.198	17.04
2001	18,960	889	18,071	104,153	0.173	23.22
2002	19,933	968	18,965	105,267	0.180	7.24
2003	20,356	846	19,510	106,782	0.182	20.06
Average	1940-70				0.31	
Average	1976-89	Pre-Mandatory Water Conservation)			0.22	
Average	1994-2003	Post-Mandatory Water Conservation			0.179	

Notes for Table 2:

1. Total production includes all water produced by the City and purchased from the Casitas Municipal Water District, including raw water and oil recovery use.
2. Raw water use includes oil and raw water users.
3. Treated water use is total production less raw water use.
4. Population figures provided by City of Ventura Community Development Department and California Department of Finance. Estimated population served by water system for 1990-date includes areas outside of city limits served by the City.
5. Per capita use excludes raw water and oil use (treated water use ÷ population).
6. Annual rainfall is the average of measured precipitation for the water year (October 1st through September 30th) for four rain gauge stations throughout the City (Stations #66, #122, #167, and #222) as provided by the Ventura County Flood Control District.

B. Population Projections

Recent historical populations (see Table 2) are from adjusted Department of Finance figures for the City's Planning Area, including the County water service area. Projected populations used in this study (see Table 3) were provided by the City Community Development Department, and reflect the figures shown in the 1989 Comprehensive Plan for the City's Planning Area, adjusted to the 1990 and 2000 census. We have also included the portion of our water service area, which covers unincorporated areas adjacent to the City. These are slightly different than the population figures used in the City's 2002 Biennial Water Supply Report, due to recent adjustments by the Department of Finance.

It is important to note that the projected population figures used in this report are not intended to represent either support for or any commitment to this level of growth. Rather they are intended to provide a safe margin in planning for long-term water improvements that might be needed given the rate of growth that could be allowed under the 1989 Comprehensive Plan. Currently the City is going through the process of revising the Comprehensive Plan.

Table 3: Estimated Population Growth for Water Service Area

Year	Projected Planning Area Population
2004	108,651
2009	113,162
2014	118,295

Note: City population estimates are based on the U.S. 2000 Census and

a growth rate of 0.9%. Additional population for the unincorporated area served by Ventura's water system, is based on 2004 count of customers outside city limits and a growth rate of 0.6%.

C. Projected Water Demand

For planning purposes, in 1990 the City used 0.22 AF of water per capita per year based on the average pre-mandatory conservation per capita use data (see Table 2). Anticipated demand reductions, through long-term conservation programs, have lowered the per capita water usage factor. Estimated demand reductions due to conservation in 1990 were anticipated to be five percent in 1995 (0.209 per capita use), 10 percent in 2000 (0.198 per capita use), and 12 percent thereafter (0.194 per capita use). The figures in Table 2 show that the reductions assumed in 1990 have been exceeded and are now around 17 percent. Based on data from the past 10 years since mandatory conservation ended, the average per-capita usage is 0.179 AFY. For the purpose of this report 0.179 AFY per capita will be used to estimate future water demands.

In addition, raw water demand for oilfield injection has declined steadily since 1970. Average raw water usage for the past 5 years was 1,000 AFY. For the purpose of this report a future raw water demand of 1000 AFY will be used.

Applying this per capita demand factor to the projected populations provides an estimate of treated water demands for the next 10 years, as shown in Table 4. As stated, the numbers in Table 4 reflect the belief that there will be few substantive changes in the near future, with planned long-term improvements.

Table 4: Projected Water Demand (Acre Feet) - (Normal year, weatherwise)

Year	Est. Water Service Area Pop. (1)	Per Capita Usage AFY (2)	Treated Water Demand (2)	Raw Water Demand (3)	Total Water Demand
2004	108,651	0.179	19,449	1,000	20,449
2009	113,162	0.179	20,256	1,000	21,256
2014	118,295	0.179	21,175	1,000	22,175

Notes:

1. Estimated planning area populations are from Table 3.
2. Treated water demand is estimated population multiplied by 0.179 AF/capita based on the 1994-2003 average post-mandatory water conservation per capita use from Table 2.
3. Raw water demand projections include raw water and oil users.

V. Water Supply and Demand Summary

Table 5 summarizes the City's projected water demand and supply through the year 2014. Additional water supplies will not be needed until sometime after 2014 under average non-drought weather conditions.

Table 5: Summary of Projected Water Demand and Supply (Acre Feet) - (Non-Drought Conditions)

Year	Projected Planning Area Pop.(1)	Projected Water Demand(2)	Projected Water Supply(3)	Additional Water Supply Needed(4)
2004	108,651	20,449	26,500	No
2009	113,162	21,256	28,562	No
2014	118,295	22,175	28,262	No

Notes:

1. Projected planning area population is from Table 3.
2. Projected water demand is from Table 4, and includes oil and raw water use.
3. Projected water supply is from Table 1.
4. Additional water supply needed is the projected water supply less the projected water demand. Additional supply to meet water quality goals is not included.

Based on the above projection, the existing water supply and planned improvements are sufficient to satisfy the City's water needs for at least the next ten years.

VI. Planned Improvements

The City will continue to implement capital improvements and do resource planning for our water system. These improvements will increase production capacity and storage, improve our ability to move water from the diverse sources of supply to all points of use, improve water quality, reliability and safety. We anticipate an update of the Water System Master Plan during the 2004-05 fiscal year.

The availability of the facilities below are essential to meet future water production, storage and transport needs. For purposes of this report, we have assumed these projects will proceed as currently anticipated. Detailed system condition and hydraulic evaluations for both normal and drought condition operation are still to be completed. When completed these may change the projects on this list.

- Upgrade of Foster Park Production Facilities. This will include replacing the production capacity of the surface diversion with new wells. Upgrades of the facilities have been designed and are pending environmental approval. Construction should begin in 2006 and be completed by 2008.
- Saticoy Conditioning Facility Renovation. Upgrades to the facility, including the installation of an emergency generator, will provide capacity to treat production from two wells simultaneously.
- Construction of Saticoy Well No. 3. This new well is currently included with the upgrade of the Saticoy Conditioning Facility. Design is underway and completion is anticipated by 2006.
- Construction of Connecting Pipelines. Several system connections are still needed to enable efficient movement of water from sources to distant sections of the City.
- North Wells Road Reservoir. This 4 million gallons of additional storage will serve the eastern portion of the area to improve fire and domestic supply reliability.

Other projects currently included in the 5-year Capital Improvement Plan include both projects needed to maintain our existing water system infrastructure and projects planned to improve system efficiency and reliability. They include:

- Rehabilitate and upgrade mechanical/electrical system for Golf Course Well #3;
- Correction of distribution system dead-ends and complete system service loops;
- Replacement of aging cast iron mains;
- Continue modernization of and provide emergency backup power for the booster pump stations that deliver treated water to system storage; and
- Construct new pipeline improvements to include interties for the 210/330 and 210/430 zones and backup zone connections for the Pierpont-Harbor neighborhood.

Although additional water supplies are not needed at this time, the following system efficiency improvements will make the water system capable of supporting increased demands:

- Continue to work with participating agencies on the Ventura River Watershed and Habitat Conservation Plans for Steelhead Trout.
- Continue discussions with local agencies concerning our State Water Project Entitlement.

- Continue work towards development of Santa Paula Basin Operational/Management Plan with United Water Conservation District & Santa Paula Pumpers Association.
- Implement the recommendations in the West County Water Supply Reliability Study, which would provide an emergency connection between the Ventura and Oxnard water systems.
- Work with the Casitas Municipal Water District to formally define the City's water service in the North Ventura Avenue area.

VII. Certification

By adopting the 2004 Biennial Water Supply Report, the City Council certifies that based on the findings of this report, there is sufficient water supply available with existing local resources to satisfy the City's water needs for at least the next ten years. The next biennial certification review will take place in the Fall of 2006.

[wain:cert.supply04.doc]

Appendix G

Responses to Comments on the Draft EIR

RESPONSES TO COMMENTS ON THE DRAFT EIR

The letters that follow are the public comment letters on the Draft Environmental Impact Report (EIR) for the proposed 2005 Ventura General Plan. The Draft EIR was circulated for a public review period that began on June 1, 2005 and concluded on July 18, 2005. This appendix includes responses to comments on the Draft EIR.

The City received 32 comment letters on the Draft EIR. Commenters and the pages on which each letter appears are listed below.

Commenter	Page
1. Terry Roberts, Director, State Clearinghouse, Governor's Office of Planning and Research	3
2. Richard A. Rojas, Superintendent, Channel Coast District, California Department of Parks and Recreation	7
3. Kim Uhlich, Senior Analyst, Ventura Local Agency Formation Commission	11
4. Carol Schwartz and Demitrius Zeigler, Casden Properties, LLC	34
5. Charles W. Rogers, Owner APNs 90-143-13 and 90-143-17	44
6. Daniel Cormode	48
7. Daniel Cormode	67
8. Daniel Cormode	72
9. Charles Spraggins	79
10. Carol Schwartz and Demitrius Zeigler, Casden Properties, LLC	81
11. Jean Howard Mann, Owner and Managing Partner, Howard and Howard Ranch	85
12. Terry Donlon, Director of Government Affairs, Building Industry Association	99
13. Shull Bonsall, Jr., Rancho Cañada Larga	103
14. Reed V. Smith, Board Member, Science Chair, Ventura Audobon Society	110
15. Brian Wallace, Associate Regional Planner, Southern California Association of Governments	113
16. William M. Borgers, Vice President, Ventura Citrus Properties, Inc.	115
17. Buz Bonsall, Rancho Cañada Larga	117
18. Kriston D. Qualls, General Counsel, USA Petroleum Corporation	120
19. Buz Bonsall, Rancho Cañada Larga	124
20. Jorge B. Gutierrez, Director of Facilities, Maintenance and Operations, Ventura Unified School District	128
21. Cecilia V. Estolano, Gibson, Dunn & Crutcher, LLP, on behalf of Mariano Ranch, LLC	139
22. David J. Rose, DTR Engineering	150
23. Charles W. Cohen, Weston, Benshoof, Rochefort, Rubalcava & MacCuish, LLP	155

Commenter	Page
24. Christopher Stephens, County Planning Director, County of Ventura Resource Management Agency	162
25. Bruce Smith, Manager, General Plan Section, County of Ventura Planning Division	164
26. Paul Callaway, Ventura County Watershed Protection District	167
27. Alicia Stratton, Ventura County Air Pollution Control District	171
28. Nazir Lalani, Deputy Director, County of Ventura Public Works Agency, Transportation Department	177
29. Nancy M. Williams, Region Manager, Southern California Edison	198
30. Brad Golden, Vice Chair of HOME and Ventura Resident	201
31. Oscar F. Pena, General Manager, Ventura Port District	208
32. McLoughlin Family Ranch	257

The comment letters and the City's responses follow. Responses to individual comment letters immediately follow each letter. When a letter includes more than one comment, the individual comments are lettered (1A, for example) and specific responses are provided for each comment.





STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Arnold Schwarzenegger
Governor

Sean Walsh
Director

July 14, 2005

1

Kari Giaketsis
City of San Buenaventura
501 Poli Street
P.O. Box 99
San Buenaventura, CA 93002

Subject: City of Ventura 2005 General Plan Draft EIR
SCH#: 2004101014

Dear Kari Giaketsis:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 13, 2005, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Post-it* Fax Note	7671	Date	7-14-05	# of pages	3
To	Maggie	From	Sheila		
Co./Dept.	OPR	Co.	OPR		
Phone #		Phone #	445-0613		
Fax #	805-653-0763	Fax #	323-3018		

**Document Details Report
State Clearinghouse Data Base**

SCH# 2004101014
Project Title City of Ventura 2005-General Plan Draft EIR
Lead Agency San Buenaventura, City of

Type EIR Draft EIR

Description The 2005 Ventura General Plan is an update to the 1989 Comprehensive Plan that currently serves as the blueprint for development in the City of Ventura. The 2005 General Plan updates each of the 1989 Comprehensive Plan elements, other than the Housing Element (an update of which was approved in 2004) with policies and action items that reflect the current needs and preferences of the community. The land use map will also be updated including a simplification of the number of land use categories from over 30 to 9 land use categories.

The 2005 General Plan DEIR includes analysis of six separate land use scenarios. These scenarios range from an intensification/reuse only option with minimal changes to the City's sphere of influence (SOI) to an option that includes three expansion areas totaling 1,449 acres currently in agricultural use for possible future development. The DEIR would also be used as a Master Environmental Assessment (MEA) for future environmental analysis in the planning area.

Lead Agency Contact

Name Kari Gialkatsis
Agency City of San Buenaventura
Phone (805) 654-7726 **Fax**
email
Address 501 Poll Street
 P.O. Box 99
City San Buenaventura **State** CA **Zip** 93002

Project Location

County Ventura
City Ventura
Region
Cross Streets Citywide
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 101, 126, 33
Airports
Railways UPRR
Waterways Santa Clara River, Ventura River
Schools Ventura USD (All Schools)
Land Use All land use categories.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Coastal Zone; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Reviewing Agencies Resources Agency; Regional Water Quality Control Board, Region 4; Department of Parks and Recreation; Native American Heritage Commission; Department of Health Services; Department of Housing and Community Development; Office of Emergency Services; Department of Fish and Game, Region 5; Department of Water Resources; Department of Conservation; California Highway Patrol; Caltrans, District 7; California Coastal Commission; Department of Toxic Substances Control

Note: Blank in data fields result from insufficient information provided by lead agency.

Date Received 06/01/2005

Start of Review 06/01/2005

End of Review 07/13/2005

Note: Blanks in data fields result from insufficient information provided by lead agency

Letter 1

COMMENTER: Terry Roberts, Director, State Clearinghouse, Governor's Office of Planning and Research

DATE: July 14, 2005

RESPONSE:

The commenter attaches a letter from the California Department of Parks and Recreation and acknowledges that the City has complied with State Clearinghouse review requirements for draft environmental documents. The comments from the Department of Parks and Recreation are addressed in the response to Comment Letter 2.





State of California - The Resources Agency

Arnold Schwarzenegger, Governor

DEPARTMENT OF PARKS AND RECREATION

911 San Pedro Street

Ventura, CA 93001

805/585-1850 Fax 805/586-1957

Ruth Coleman, Director

2

RECEIVED
JUL 13 2005
STATE CLEARING HOUSE

clear
7-13-05
e

July 13, 2005

Attn: State Clearinghouse

RE: City of Ventura General Plan Draft EIR - SCH #2004101014

Dear Reader:

Thank you for the opportunity to review and comment of the Draft EIR (DEIR) for the City of Ventura's General Plan. Two state park units and a portion of the Ormer Rains Bike trail are within the jurisdiction of the City. We have had a long and successful working relationship with the City and look forward opportunities to work together.

Our comments on the DEIR focus on the biological resources. There are four specific points/considerations we believe should be brought to the City's attention. They are:

1. **Coastal strand/Beach:** Our field data records have recorded two Western snowy plover nests on the beach north of the Santa Clara River in Summer 2005. Western snowy plovers also use this coastal strand/beach as wintering foraging habitat. It is also an area known for nesting by the California Least Tern. A
2. **Special status communities/areas:** The beach area north of the Santa Clara River should be considered as a sensitive habitat area because it supports both Western Snowy Plover and California Least Tern habitat. B
3. **Summary comparison of impacts for EIR scenarios:** All development and intensification of use in the City has potential for increasing impacts on the Santa Clara River Estuary due to discharges from the City's wastewater treatment plant. Unless contemplated water recycling programs keep pace with increased growth there will be increased levels of discharge into the Santa Clara River Estuary. Other less easily quantified impacts will occur in riparian, wetlands, and open water habitats due to increased runoff tied to increased impermeable surface area within developments. These in turn could affect special status species such as tidewater goby, steelhead, and other aquatic spp. through the potential for increased erosion and associated sediment entering waterways, increased contaminants entering waterways, and other effects associated with increased impermeable surfaces C
4. **Action 1.8 should include the buffering all watercourses.** Action Items to protect riparian areas from the impacts of future development effective in protecting riparian areas should include the avoidance of building within the D

RE: City of Ventura General Plan Draft EIR – SCH #2004101014
Page 2

floodplain where feasible. Where infeasible, appropriate mitigations must be enforced.

Questions or follow-up on comments made in this letter can be addressed to Barbara Fosbrink, Technical Services Chief, (805) 585-1848 or bfosb@parks.ca.gov.

Sincerely,



Richard A. Rojas
Superintendent
Channel Coast District

cc. DPLA Environmental California Department of Water Resources
California Department of Parks and Recreation, Natural Resources Division

Letter 2

COMMENTER: Richard A. Rojas, Superintendent, Channel Coast District, California
Department of Parks and Recreation

DATE: July 13, 2005

RESPONSE:

Response 2A

The commenter notes that Department of Parks and Recreation records indicate that two Western snowy plover nests were identified on the beach north of the Santa Clara River in summer 2005 and notes that the same area is also known for nesting by California least tern. In response to this comment, the second paragraph under Coastal Strand/Beach on page 4.4-1 of Section 4.4, *Biological Resources*, will be revised to read as follows:

Cobble beach habitat is also found near the Ventura River mouth and in patches intermixed with sandy beach habitat. Littleneck and bean clams may be found buried next to cobbles used by gastropods such as the black turban snail. The cobble area also contains a few striped and yellow shore crabs. The listed Western snowy plover forages in the beach habitat in the City and has been identified on the beach north of the Santa Clara River. The listed least tern also nests in sandy beach/coastal strand habitat north of the Santa Clara River mouth.

This minor clarification does not affect the conclusions of the Draft EIR. Implementation of proposed General Plan policies and actions would reduce potential impacts to the Western snowy plover and California least tern to a less than significant level.

Response 2B

The commenter states that the beach area north of the Santa Clara River should be considered a "sensitive habitat" because it supports the Western snowy plover and California least tern. General Plan Action 1.17 identifies "shoreline areas" as sensitive habitats and requires surveys and appropriate buffers and other mitigation for any projects that may affect such areas. Implementation of this action would address possible future impacts to the Western snowy plover and California least tern.

Response 2C

The commenter states that the intensification of land use within the City has the potential to indirectly affect the Santa Clara River estuary and other open water habitats because of increased discharges from the wastewater treatment plant and increased surface runoff associated with the increase in impermeable surface area. Issues relating to wastewater treatment and surface water quality are addressed in Sections 4.13, *Utilities and Service Systems*, and 4.8, *Hydrology and Water Quality*. As discussed in Section 4.13, the City's wastewater treatment plant has adequate capacity to handle the projected increase in wastewater flow under any of the six EIR land use scenarios. As such, although an increase in overall wastewater generation would occur, wastewater



treatment would continue to meet Regional Water Quality Control Board discharge requirements and significant impacts would not occur. As discussed in Section 4.8, all future development in the City would be subject to the requirements of the Ventura County SQUIMP, which provide specific stormwater runoff treatment requirements and performance standards. The standards for new development and redevelopment exceed the standards of most existing development in the City and generally restrict post-project runoff levels to pre-project levels. Continued implementation of SQUIMP requirements on all new development and redevelopment within the City would be expected to generally improve the quality of stormwater runoff and reduce impacts to surface water quality to a less than significant level.

Response 2D

The commenter states an opinion that Action 1.8 should include the buffering of all watercourses and that building within the floodplain should be avoided. Proposed Action 1.8 provides for a minimum 50-foot buffer for waterways that retain natural soil slopes and thus have the potential for biological value. This action is not intended to apply to existing concrete-lined channels since such channels have little or no biological resource value. However, Action 1.10 calls for the removal of concrete channel structures as funding allows and where doing so will fit the context of the area and not create unacceptable flood or erosion potential. As discussed in Section 4.8, *Hydrology and Water Quality*, the six EIR land use scenarios include only a limited amount of developable land within the floodplain. Any future development proposals within 100-year flood zones would be required to comply with all Federal Emergency Management Agency requirements as well as the City's Flood Plain Ordinance.





3

July 11, 2005

RECEIVED

JUL 14 2005

Kari Gialketsis, Principal Planner
City of San Buenaventura Community Development Department
PO Box 99
Ventura, CA 93002-0099

Community Development
PLANNING DIVISION

RE: 2005 Ventura General Plan EIR Comments

Dear Kari:

Thank you for providing the Ventura Local Agency Formation Commission (LAFCO) with the opportunity to comment on the Draft Program EIR for the Ventura General Plan. As a responsible agency for subsequent projects that may be implemented according to the General Plan, LAFCO must be able to make findings that the CEQA determinations made by the lead agency are appropriate for proposed project(s). Having the opportunity to comment on draft environmental documents helps to ensure that the CEQA issues as they pertain to the LAFCO process are addressed prior to application to LAFCO. Please understand that the specific comments about the DEIR detailed below are those of the LAFCO staff. The DEIR has not been reviewed or discussed by the Commission.

Section 2.0 – Project Description

- 1. Figures 2-4, 2-5, 2-6, 2-7 and 2-8 contain multiple, confusing references to areas within the North Ventura Avenue area ("North Avenue Potential Expansion Area", "Upper North Avenue District" and "North Avenue District"). These Figures and all related text references should be clarified so the reader can better distinguish between "Districts" and the "Potential Expansion Areas" in the North Ventura Avenue area. A
- 2. Due to the relatively large scale of the "Scenario" maps (Figures 2-3 through 2-8), it would be helpful if a list or table of Assessor parcel numbers is included as part of the Project Description Chapter to distinguish the specific boundaries of each of the potential expansion areas. B

Section 4.2 - Agriculture

- 1. Please find enclosed additional comments offered in 11 x 17-inch chart format in an effort to reduce the length of our narrative comments. This chart is intended to clarify and supplement the information provided in the agricultural impacts chart on Page 4.2-12 of the EIR. In particular, please note Footnote No. 3 on the chart. As currently described in the EIR, annexation of the North Avenue Potential Expansion C

Area is not possible based on the fact that geographic contiguity cannot be established unless the EIR is revised to include parcels to the south not already analyzed in the scope of the proposed General Plan land use scenarios.

Please also note the a portion of the 11-acre property north of the wastewater treatment plant included in Scenario 1 is subject to City SOAR according to County GIS maps.

2. Although the City of Ventura may use the State Important Farmland Maps as a threshold for significance for their initial study checklist, LAFCO must comply with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 definition of prime agriculture to determine agricultural impacts. The definition is as follows:

(Government Code (G.C.) Section 56064)

"...an area of land whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

- (a) Land that qualifies, if irrigated, for rating as class I or II in the USDA Natural Resource Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.*
- (b) Land that qualifies for rating 80 and 100 Storie Index Rating.*
- (c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre...*
- (d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during commercial bearing period on an annual basis...of not less than \$400 per acre.*
- (e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than \$400 per acre for three of the previous five years."*

For LAFCO purposes, the USDA rating and storie class of the site should be addressed in the EIR or at the time of application for a specific boundary change.

3. Not all parcels under Land Conservation Act (LCA) contract within the Olivas Potential Expansion Area are shown on Figure 4.2-3. Based on our review of County GIS maps, it appears that approximately 170 acres of land are under LCA contract in the Olivas area rather than 24 acres as indicated in the EIR (Assessor Parcels: 080-0-020-200 and 138-0-060-495). The map and accompanying text references to total acreage under LCA contract should be revised accordingly.

4. For those Expansion Areas containing parcels subject to LCA contracts, the EIR should describe the consistency review process according to Government Code Section 56856.5 and acknowledge that this generally precludes the ability of LAFCO to approve the annexation of such lands to a city. G
5. The first paragraph on Page 4.2-11 indicates that any change to greenbelt agreement boundaries between cities requires approval from LAFCO. This is incorrect. Greenbelt agreements are statements of local policy adopted by one or more cities and the County of Ventura. However, although LAFCO is not a party to greenbelt agreements, it has “endorsed” all such agreements as statements of local policy. As such, LAFCO has adopted a policy providing that a proposal from a city that is in conflict with any greenbelt agreement will not be approved unless exceptional circumstances exist. A greenbelt amendment must be amended by all parties involved prior to any proposal which may be in conflict with the agreement being considered by LAFCO (see enclosed Section 2.5.3 of the LAFCO Commissioner’s Handbook). H
6. The EIR references proposed General Plan Policy 3D (“Continue to preserve agricultural lands within the City’s Planning Area”) and cites proposed General Plan Action 3.12 as being one means to this end. General Plan Action 3.12 directs the City to renew and “modify” greenbelt agreements as necessary to direct development to already urbanized areas.” I

Page 4.2-16 of the EIR contains the following statement:

“ Implementation of the above policies/actions would minimize the *premature* conversion of agricultural lands under any of the land use scenarios. Outside of re-designating important farmlands for continued agricultural use, additional mitigation is not available.” (emphasis added)

Given the above statement acknowledging that agricultural land would not be permanently preserved within the timeframe and context of the development contemplated under the proposed General Plan, and based on the EIR conclusion that all six land use scenarios would result in the conversion of agricultural land within the sphere, and that two of the scenarios (Scenario 2 and 3) would actually require a reduction in the area covered by the Oxnard-Ventura Greenbelt, it is unclear how any of the proposed scenarios could be found to be *consistent* with General Plan Action 3.12, let alone how these policies could be found to serve as “mitigation measures” (see next comment).

7. Two of the mitigation measures proposed by the EIR to address impacts associated with the conversion of agricultural land (Pages 4.2-15 – 4.2-16) refer to implementation of General Plan Actions 3.12 and 3.15 which, respectively, directs J

the City to renew and modify greenbelt agreements as necessary to direct development to already urbanized areas, and to adopt use permit standards for non-farm activities in agricultural areas that protect and support farm operations (including requiring non-farm uses to provide buffers). However, the EIR acknowledges that these policies merely serve to minimize the "premature" conversion of agricultural land and, and that "outside of re-designating important farmlands for continued agricultural use (which the EIR does not propose to do), additional mitigation is not available." As such, reliance on these policies which serve as only *temporary* means to preserve agricultural land as "mitigation" does not seem to reflect the true intent of mitigation under CEQA. Moreover, given that the impacts regarding agricultural land conversion would remain unavoidably significant, even with this "mitigation", we believe that the references to the proposed General Plan actions as "mitigation" should be deleted altogether.

8. Please note that LAFCO is planning to prepare a Municipal Service Review (MSR) for the City of Ventura, which is required before LAFCO can undertake an update of the City's sphere of influence. As part of this process, LAFCO policy 4.1.2.3 (enclosed) provides that city spheres of influence should coincide, with or cover lesser area than, voter approved growth boundaries. LAFCO will base the update of the City's sphere of influence on the above-noted policy, unless there is sufficient justification for change. This project EIR and subsequent decisions by the City about its SOAR boundary will be used as part of the basis for the City's sphere of influence update by LAFCO. Thus, once LAFCO completes the MSR, the probable result will be that all territory located within the current sphere of influence but subject to the City's SOAR ordinance will be removed from the sphere (including all or portions of land use Scenarios 2-6, and possibly even Scenario 1, with respect to the 11-acre area that is outside of the current sphere and a portion of which is subject to the City SOAR). If LAFCO's sphere of influence update is completed prior to the passage of a SOAR vote to redesignate any of the Expansion Areas, any of the Expansion Areas that are subject to the City SOAR ordinance could also be outside the City's sphere of influence. As such, the EIR should discuss the fact that an application for a sphere amendment may need to be approved by LAFCO prior to considering these lands for annexation. K
9. The first paragraph of page 4.2-18 incorrectly references the Olivas area as being part of Scenario 4. L
10. The discussion on page 4.2-18 under Scenario 5 indicates that a portion of the Western Cañada Larga area could only be converted to another use upon cancellation of existing LCA contracts and approval of a sphere of influence amendment by LAFCO. Scenarios 2 and 3 would also require cancellation of existing LCA contracts. The applicable sections of the EIR should be revised to acknowledge this fact. Also, based on the City's current sphere of influence M

boundary. Scenarios 1, 2, 3 and 4 would require sphere of influence amendments.
Scenario 6 may potentially require a sphere amendment following the pending sphere update to be performed by LAFCO as part of the Municipal Service Review process.

11. Under Scenario 1 on page 4.2-20, the EIR states, "several agricultural properties within the proposed SOI that are currently designated for non-agricultural uses could be developed under this scenario." The EIR proceeds to reference properties in the Saticoy area that may present potential agricultural/urban compatibility conflicts, however, there is no information about any specific property in the Saticoy area and no mapped reference. For the record, we would like it noted that the subject EIR does not contain sufficient information to assess impacts associated with any annexations associated with these properties. Any future actions requiring LAFCO approval will require additional environmental review. N

Section 4.14 - Land Use and Planning

12. Section 4.14 (Land Use and Planning) of the EIR contains erroneous interpretations of the Cortese-Knox-Hertzberg Act of 2000 (California Government Code Section 56000 et seq.), LAFCO policies and the Ventura County Guidelines for Orderly Development. Please refer to the "Frequently Asked Questions" link on our website at www.ventura.lafco.ca.gov for additional information. For the sake of ease and clarity, we recommend that the EIR simply reference the applicable Code Sections or local policy documents in sufficient detail for interested readers to locate on their own accord rather than include inaccurate restatements of statutes and policies. As such, we recommend that all the applicable interpretations found on pages 4.14.6 and 4.14.7 be deleted. O

13. In addition to the factors contained in Government Code Section 56000 et seq., the Ventura LAFCO has adopted local polices that will also be considered as a part of any LAFCO review of the project. A discussion about consistency with these Ventura LAFCO policies and any resulting environmental impacts should be included in the EIR. All of these polices are contained in the Ventura LAFCO Commissioner's Handbook. A complete copy of the Commissioner's Handbook is available from the Ventura LAFCO and on-line at the Ventura LAFCO web site. Specific applicable LAFCO policies are enclosed and include: P
- a. Conformance with local plans and policies (policy 2.5.1), especially in relation to any changes that may be necessary to the City's SOAR ordinance.
 - b. Agriculture and open space conversion (policy 3.1.5 in its entirety). Note that policy 3.1.5 requires a detailed alternative site analysis of non-prime agricultural or vacant lands as well as an analysis of the impacts on

adjoining prime agricultural or open space lands. Also note that this policy refers to phasing annexation for very large developments that may involve time horizons over 5 years.

- c. School capacity (policy 3.1.6)
- d. Annexation of unincorporated island (policy 3.2.3)

Given that the subject EIR does not include an analysis of several of the above noted policies, LAFCO does not consider this EIR adequate for the purposes of any future sphere amendments or annexations unless supplemental analysis is provided.

Paragraph b, above is emphasized in response to statements in the EIR indicating that the 2005 General Plan would not change the land use designation for any of the areas under Scenarios 2 through 6 (pages 4.2-17 through 4.2-18). At the point when the City begins to implement any land use scenario that requires an amendment to the sphere of influence, please note that LAFCO discourages such unless annexation of the territory involved is anticipated within five years. Note further, however, that once territory is within the City's sphere of influence there is no requirement that it be annexed within five years or any other specific timeframe.

- 14.** In acting on any governmental boundary reorganization proposal LAFCO must consider the factors identified in Government Code Section 56668. Each of these factors should be fully discussed in the appropriate sections of the EIR. Note that these factors include a reference to Government Code Section 56377 concerning open space conversion and that LAFCO uses the definition of open space contained in Section 65560 of the Public Resources Code.

Again, thank you for the opportunity to comment. If there are any questions regarding our comments, please feel free to contact me at 805-654-2866.

Sincerely,



Kim Uhlich
Senior Analyst

cc: Ventura LAFCO
Susan J. Daluddung, Community Development Director
Joe Power, Principal, Rincon Consultants, Inc.

DIVISION 2 – OPERATIONAL POLICIES

CHAPTER 5 – LOCAL PLANS AND POLICIES

SECTION 2.5.1 CONFORMANCE WITH LOCAL PLANS AND POLICIES

2.5.1.1 Consistency with General and Specific Plans: Unless exceptional circumstances are shown, LAFCO will not approve a proposal unless it is consistent with the applicable general plan and any applicable specific plan. For purposes of this policy, the applicable general plan is as follows:

- i. For proposals by a city, the general plan of the city.
- ii. For proposals by a district, where the affected territory lies within an adopted sphere of influence of a city, the general plan of the city.
- iii. For proposals by a district, where the affected territory lies outside an adopted city sphere of influence, the Ventura County General Plan.

2.5.1.2 Consistency with ordinances requiring voter approval: For cities that have enacted ordinances that require voter approval for the extension of services or for changing general plan designations, LAFCO will not approve a proposal unless it is consistent with such ordinances and voter approval has first been granted, or unless exceptional circumstances are shown to exist.

SECTION 2.5.2 GUIDELINES FOR ORDERLY DEVELOPMENT

LAFCO encourages proposals that involve urban development or that result in urban development to include annexation to a city wherever possible. In support of this policy LAFCO has adopted Guidelines for Orderly Development, the policies of which are incorporated by reference.

SECTION 2.5.3 GREENBELTS

The County of Ventura and various cities in the County have adopted Greenbelt Agreements for the purposes of preserving agriculture and/or open space, providing separation between cities, and/or limiting the extension of urban services. The Ventura LAFCO is not a direct party to these Greenbelt Agreements, but has endorsed them as statements of local policy. As such, LAFCO will not approve a proposal from a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. A Greenbelt Agreement shall be amended by all parties involved prior to any proposal which may be in conflict with the Agreement is considered by LAFCO.

SECTION 3.1.5 AGRICULTURE AND OPEN SPACE PRESERVATION

3.1.5.1 Findings and criteria for prime agricultural and open space land conversion: LAFCO will approve a proposal for a change of organization or reorganization which is likely to result in the conversion of prime agricultural or open space land use to other uses only if the Commission finds that the proposal will lead to planned, orderly, and efficient development. For the purposes of this policy, a proposal for a change of organization or reorganization leads to planned, orderly, and efficient development only if all of the following criteria are met:

- i. The territory involved is contiguous to either lands developed with an urban use or lands which have received all discretionary approvals for urban development.
- ii. The territory is likely to be developed within 5 years and has been pre-zoned for non-agricultural or open space use. In the case of very large developments, annexation should be phased wherever possible.
- iii. Insufficient non-prime agricultural or vacant land exists within the existing boundaries of the agency that is planned and developable for the same general type of use.
- iv. The territory involved is not subject to voter approval for the extension of services or for changing general plan land use designations. Where such voter approval is required by local ordinance, such voter approval must be obtained prior to LAFCO action on any proposal unless exceptional circumstances are shown to exist.
- v. The proposal will have no significant adverse effects on the physical and economic integrity of other prime agricultural or open space lands.

3.1.5.2 Findings that insufficient non-prime agricultural or vacant land exists: The Commission will not make affirmative findings that insufficient non-prime agricultural or vacant land exists within the boundaries of the agency unless the applicable jurisdiction has prepared a detailed alternative site analysis which at a minimum includes:

- i. An evaluation of all vacant, non-prime agricultural lands within the boundaries of the jurisdiction that could be developed for the same or similar uses.
- ii. An evaluation of the re-use and redevelopment potential of developed areas within the boundaries of the jurisdiction for the same or similar uses.
- iii. Determinations as to why vacant, non-prime agricultural lands and potential re-use and redevelopment sites are unavailable or undesirable for the same or similar uses, and why conversion of prime agricultural or open space lands are necessary for the planned, orderly, and efficient development of the jurisdiction.

3.1.5.3 Impacts on adjoining prime agricultural or open space lands: In making the determination whether conversion will adversely impact adjoining prime agricultural or open space lands, the Commission will consider the following factors:

- i. The prime agricultural and open space significance of the territory and adjacent areas relative to other agricultural and open space lands in the region.
- ii. The economic viability of the prime agricultural lands to be converted.
- iii. The health and well being of any urban residents adjacent to the prime agricultural lands to be converted.
- iv. The use of the territory and the adjacent areas.
- v. Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of prime agricultural or open space land outside of the agency's sphere of influence, or will be extended through prime agricultural or open space lands outside the agency's sphere of influence.
- vi. Whether natural or man-made barriers serve to buffer prime agricultural or open space lands outside of the agency's sphere of influence from the effects of the proposal.
- vii. Applicable provisions of local general plans, applicable ordinances that require voter approval prior to the extension of urban services or changes to general plan designations, Greenbelt Agreements, applicable growth-management policies, and statutory provisions designed to protect agriculture or open space.
- viii. Comments and recommendations by the Ventura County Agricultural Commissioner.

SECTION 3.1.6 SCHOOL CAPACITY

In addition to the factors and determinations required by state law, LAFCO will consider whether or not the territory involved in a proposal for a change of organization or reorganization can be served by affected school districts. LAFCO will not favor any change of organization or reorganization proposal where any affected school district certifies that there is not sufficient existing school capacity, or will not be sufficient school capacity at the time of development, to serve the territory involved.

SECTION 3.2.3 ANNEXATION OF UNINCORPORATED ISLAND AREAS BY CITIES

(Added 4/16/03)

Any approval of a proposal for a change of organization or reorganization will be conditioned to provide that proceedings will not be completed until and unless a subsequent proposal is filed with LAFCO initiating proceedings for the change of organization or reorganization of all unincorporated island areas that meet the provisions of Government Code Section 56375.3, provided all of the following criteria are applicable:

- i. The approved proposal was initiated by resolution of a city that surrounds or substantially surrounds one or more unincorporated island areas that meet the requirements of Section 56375.3.
- ii. The territory in the approved proposal consists of one or more areas that are each 40 acres or more in area.
- iii. The territory in the approved proposal will not be used exclusively for agriculture or open space purposes after the completion of proceedings.
- iv. The territory in the approved proposal is not owned by a public agency or used for public purposes.

DIVISION 4 – SPHERES OF INFLUENCE

CHAPTER 1 – GENERAL POLICIES

SECTION 4.1.1 APPLICABILITY AND WAIVER

4.1.1.1 Applicability:

(a) These policies and standards do not preempt state law. In the event of a conflict between these policies and the provisions of state law, the provisions of state law shall prevail.

(b) In the event of a conflict between these policies relating to spheres of influence and the rules and regulations, or the operational policies, adopted by the Ventura LAFCO, the provisions of the rules and regulations and the operational policies shall prevail.

4.1.1.2 Waiver: These policies and standards relating to spheres of influence shall be given great weight as a part of the Ventura LAFCO's consideration of proposals. They are general guidelines for the Commission to follow, however, they are not mandatory or binding. The Commission can and will consider each proposal upon its merits within the parameters set forth in state law. Should the Commission elect not to follow a policy, it shall, as a part of any resolution on the matter and as part of the written record, set forth the specific waiver, and the reason for it.

SECTION 4.1.2 BOUNDARIES

4.1.2.1 Compliance with state law: All boundaries shall comply with the provisions of state law.

4.1.2.2 Conformance with lines of ownership and assessment: Sphere of influence boundaries should coincide with lines of assessment or ownership. If sphere of influence boundaries do not coincide with lines of assessment or ownership they shall be described by metes and bounds legal descriptions sufficient for definitive mapping purposes using geographic information system software.

4.1.2.3 Consistent with voter approved growth boundaries: For cities that have enacted ordinances that require voter approval for the extension of services or for changing general plan designations, sphere of influence boundaries should coincide with, or cover lesser area than, voter approved growth boundaries.

Q

2005 Ventura General Plan EIR: Comparison of Scenarios 1 -6 Integrating LAFCo Law/Policies and Minor Data Corrections

CRITERIA	Scenario 1 (4)	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
Prime Farmland Conversion?	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage
Conflicts with SOAR? (1)	Portion of the 11 acres north of water filtration plant subject to City SOAR	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage
Conflicts with LAFCo Law/Policy? (2)	11 acres north of water filtration plant would require SOI amendment prior to annexation. However, annexation of noncontiguous territory is prohibited by Sec. 56741 of C-K-H	North Avenue area is not contiguous to City boundary, annexation is prohibited by Sec. 56741 of C-K-H	North Avenue area is not contiguous to City boundary, annexation is prohibited by Sec. 56741 of C-K-H	North Avenue area is not contiguous to City boundary, annexation is prohibited by Sec. 56741 of C-K-H	North Avenue and Western Canada Larga areas are not contiguous to City boundary, annexation is prohibited by Sec. 56741 of C-K-H.	North Avenue area is not contiguous to City boundary; annexation is prohibited by Sec. 56741 of C-K-H.
Conflicts with Guidelines for Orderly Development (3)?	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue area cannot be annexed per LAFCo policy	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue area cannot be annexed per LAFCo policy	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue area cannot be annexed per LAFCo policy	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue area cannot be annexed per LAFCo policy	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue and Western Canada Larga areas cannot be annexed per LAFCo policy	Yes; land to be developed for urban purposes should first be annexed to City. North Avenue area cannot be annexed per LAFCo policy
Conflicts with greenbelt agreement?	No, according to criteria for Scenario 1 eligibility as stated in EIR (5)	Yes; refer to EIR for acreage	Yes; refer to EIR for acreage	No	No	No
Conflicts with LCA contract(s)?	No, according to criteria for Scenario 1 eligibility as stated in EIR (5)	Yes; 170 acres in Olivias area under LCA contract (EIR indicates 24 total acres)	Yes; 170 acres in Olivias area under LCA contract (EIR indicates 24 total acres)	No	Yes; refer to EIR for acreage	No

NOTES:
 (1) The EIR should indicate that LAFCo will not accept an application for a sphere amendment or an annexation for any territory subject to the City SOAR ordinance until and unless voter concurrence is reached.
 (2) Through a pending State-mandated review and update of the City's sphere of influence to be performed by LAFCo within the next year, and based on Ventura LAFCo policies, all land currently subject to the City SOAR ordinance will potentially be removed from the SOI. As such, several areas identified as being within the SOI will potentially be removed from the SOI. This information should be included and made part of the EIR analysis.
 (3) The location of the "North Avenue Potential Expansion Area" as described in the EIR does not include territory that would make annexation of this PEA possible under State law. It is possible to annex the parcels within the North Area PEA but in order to do so under this EIR it would be necessary to revise the project description and the boundaries of one or more of the land use scenarios to include properties south of the PEA that provide a means of geographical contiguity with properties already within the City boundaries located considerably south of the currently described North Avenue PEA. Some of these properties may be subject to the City SOAR ordinance and thus their inclusion in the General Plan area would need to be analyzed along with any other additional potential impacts.
 (4) This analysis for Scenario 1 includes analysis of "incorporation" (sic) of approximately 11 acres north of water filtration plant in the North Avenue area as referred to in EIR. Specific properties included in under this Scenario are not all identified in the EIR. Those areas that are identified, such as the McGrath property, Thille area property, and several Saitcoy sites, should be included in the impact analysis if they are known to be part of Scenario 1.
 (5) Page 4.2-16 refers to criteria that properties eligible to be part of Scenario 1 must meet, such as properties not subject to City SOAR, can include agricultural land but must be designated for urban use, not subject to an LCA contract, not within a greenbelt and within the current SOI. However, Page S-1 of the EIR describes Scenario 1 as one that limits development "almost exclusively" to areas within the current SOI. Other EIR references to Scenario 1 indicate that no land outside the SOI will be included. Thus, the parameters of Scenario 1 are inconsistent and unclear.
 (6) According to the County GIS maps, approximately 29 acres within the W. Canada Larga PEA and approximately 66 acres in the North Ventura Avenue PEA, for a total of approximately 95 acres, are subject to the City SOAR.

Letter 3

COMMENTER: Kim Uhlich, Senior Analyst, Ventura Local Agency Formation Commission

DATE: July 11, 2005

RESPONSE:

Response 3A

The commenter notes that there are multiple confusing references to the North Avenue District, Upper North Avenue District, and North Avenue Expansion Area on Figures 2-4 through 2-8. The Upper North Avenue district is shaded gray and numbered "1." The North Avenue district is shaded gray and numbered "2." The North Avenue expansion area is shown with a hatch pattern and labeled as such. All three areas are within the current Sphere of Influence. However, the North Avenue expansion area is considered such because it is designated Agriculture in the current Comprehensive Plan land use map and therefore would need voter approval for re-designation and subsequent development.

Response 3B

The commenter requests a listing of parcel numbers for each of the potential expansion areas. This list was provided to the LAFCO staff upon their request and is attached.

Response 3C

The commenter notes that annexation of the North Avenue potential expansion area is not possible because it is not contiguous with the current City boundary. It is presumed that annexation and development of the North Avenue area would not occur (if at all) until such time as areas to the south and/or west are annexed to the City. The Draft EIR Project Description is unclear on this point. Therefore, the discussion of the City's corporate limits in Section 2.0, *Project Description*, will be revised as follows in the Final EIR (new text is underlined):

a. Corporate Limits. The corporate limits of the City currently encompass approximately 13,700 acres, or 21 square miles. The City stretches from the Pacific Ocean eastward to the community of Saticoy and northward up the Ventura River valley. The City is not currently seeking annexation of any lands outside the current City limits. However, the City may seek annexation of unincorporated islands as well as urbanized areas adjacent to the current City limits (such as in Saticoy and the North Ventura Avenue area) over the life of the 2005 General Plan. Any annexations would be sought only at such time as the area to be annexed is contiguous with the current (at that time) City limit.

In addition, the first full paragraph on page 2-5 will be replaced with the following in the Final EIR to clarify whether and how the City may seek adjustments to the Sphere of Influence:



The City is not seeking any adjustments to the SOI at this time. However, the 2005 General Plan includes a land use designation ("Industrial") for a small area outside the current SOI. This area encompasses approximately 10-11 acres located north of the City's water filtration plant. The City may seek inclusion of that area within the SOI over the life of the 2005 General Plan; however, any application for an adjustment to the SOI and annexation would occur (if ever) only at such time as the City's corporate boundary has been extended to be contiguous with the boundary of the area. Similarly, should any potential expansion areas be selected for inclusion in the General Plan land use map in the future, the SOI may be proposed for adjustment at that time to encompass the expansion areas. Applications for any necessary SOI adjustments would be sought at such time as development of these areas is proposed. The SOI adjustments that would be needed for each expansion area are discussed in detail in subsection 2.5. Finally, the City is interested in having the SOI moved to be coterminous with the City's corporate boundary for the hillside areas above the City pursuant to Action 1.13 of the Draft General Plan. It is the City's understanding that the Ventura LAFCO is planning to prepare a Municipal Service Review (MSR) for the City that will likely result in the removal this area (and possibly other areas, including all of the potential expansion areas) from the SOI; therefore, the City will not seek an SOI adjustment at this time. However, if the LAFCO does not take action to remove the hillside areas from the SOI, the City may apply for such an adjustment in the future.

Subsection 2.5.3.c of the EIR Project Description will be revised to read as follows in the Final EIR (new text is underlined):

c. Possible Future Changes to Sphere of Influence Boundaries. As noted in subsection 2.2, although the City is not seeking adjustment to the Sphere of Influence (SOI) at this time, implementation of the 2005 General Plan may require several adjustments to the Sphere of Influence (SOI) that would subsequently be processed and subject to approval by LAFCO. About 2,300 acres in the hillsides above the City are proposed to be removed from the SOI. This would remove these areas from consideration for future City extension of services and focus future development on non-hillside areas. In addition, approximately 10-11 acres north of the City's water filtration plant along the west of SR 33 may need to be included in the SOI at some point in the future. This area is partly in agricultural use, but it is designated for industrial development in the Ventura County General Plan and in the 1989 Comprehensive Plan.

The SOI would not need to be adjusted at this time to include any of the expansion areas considered in this EIR. However, certain expansion areas would require expansion of the SOI if they are to be considered for future development. Such SOI expansions would be sought, if ever, at such time as development of the areas is proposed. Possible future expansions of the SOI include the following:

- Western Cañada Larga – This 110-acre area, located at the northern end of the Planning Area along the State Route (SR) 33 corridor, would need to be included in the SOI if selected for possible future development. Inclusion within the SOI could occur only at such time as the City's corporate boundary has been extended to be contiguous with the boundary of the expansion area.*
- Olivas – About 55 acres of the 930-acre Olivas area (the portion of this area north of U.S. 101) are within the current SOI. However, the remaining 875 acres, which*

consist of agricultural land located primarily between U.S. 101 and Harbor Boulevard, would need to be included in the SOI if this area is selected for possible future development.

- *Serra – About 160 acres of the 438-acre Serra area are currently outside the SOI. This area, which is located south of Bristol Road and along the north bank of the Santa Clara River, would need to be included in the SOI if the Serra area is selected for possible future development.*

Because the Ventura LAFCO may remove all areas subject to voter approval from the SOI as a result of its Municipal Service Review, any of the expansion areas may have been removed from the SOI by the time they are considered for development. Therefore, an SOI adjustment may need to be sought for any of the expansion areas.

The second, third, and fourth paragraph under subsection 2.6 (those related to LAFCO approvals) will be replaced with the following:

The City is not seeking annexation of lands or adjustments to the SOI at this time. However, implementation of the 2005 General Plan may require future approval of adjustments to the City's SOI, as described above. Annexations and SOI adjustments would be sought as appropriate at such time as developments are proposed for the areas in question. Any adjustments to the SOI will require approval from the Ventura LAFCO.

Other references to future SOI adjustments throughout the Draft EIR will be adjusted to reflect the above. In addition, Figures 2-3 through 2-8 will be revised to eliminate the future SOI boundaries that are depicted.

Response 3D

The commenter states that the 11-acre property north of the water treatment plant is subject to SOAR according to County records. In actuality, two small pieces of the property in question are designated Agriculture in the current Comprehensive Plan and therefore subject to SOAR. However, the bulk of the property (and the entire area included within the Upper North Avenue District depicted on Figures 2-3 through 2-8) is designated Industrial and not subject to SOAR.

Response 3E

The commenter notes that the Ventura County LAFCO uses the USDA rating and storic class of the site to determine the significance of agricultural resource impacts. Any project EIR for future annexation or SOI adjustment proposals will address these factors, in accordance with LAFCO requirements.

Response 3F

The commenter notes that the Olivas area includes an additional Land Conservation Act (LCA) contract not noted in the Draft EIR. In response to this comment, Figure 4.2-3 will be amended to reflect this additional LCA contract. In addition, Table 4.2-3 and accompanying text will be



amended to reflect the fact that EIR Scenarios 2 and 3 would potentially affect 170 acres if land under LCA contract. This change in acreage does not affect the findings or conclusions of the Draft EIR as conflicts with agricultural designations were already identified as unavoidably significant for Scenarios 2 and 3.

Response 3G

The commenter suggests that the EIR should describe the LAFCO review process required by the California Government Code and that the presence of LCA contracts within an area generally precludes LAFCO from approving annexation. In response to this comment, the following will be added to the first paragraph under "Scenario 2 - Intensification/Reuse + North Avenue + Olivas + Serra" on page 4.2-17 (under Impact AG-2):

The California Government Code (Section 56856.5) generally precludes the LAFCO from approving annexation of lands under LCA contract unless a notice of non-renewal has been filed and the annexing agency (the City) agrees that no services will actually be provided during the remaining life of the contract for land uses or activities not allowed under the contract.

This same sentence will also be added under the discussion of Scenarios 3, 4, and 5.

Response 3H

The commenter notes that the Draft EIR incorrectly states that the LAFCO needs to approve amendments to greenbelt agreements. In response to this comment, the last sentence of the first paragraph under "Greenbelt Agreements" on page 4.2-11 will be replaced with the following:

A greenbelt agreement must be amended by all parties involved before the LAFCO will consider any proposal that may be in conflict with the agreement.

Response 3I

The commenter questions how the conversion of land within the Oxnard-Ventura Greenbelt Agreement could be found to be consistent with proposed General Plan Action 3.12 relating to the preservation of farmland and greenbelt agreements and how the proposed General Plan action could serve as a "mitigation measure." The action to which the commenter refers is not a "mitigation measure." Rather, it is an action proposed in the draft General Plan and thus is part of the "proposed project." In CEQA terms, mitigation measures are additional actions above and beyond those included in the proposed project. With respect to consistency with Action 3.12, it is the City's stated intent, throughout the 2005 General Plan, to focus first on intensification and reuse of lands within the SOI prior considering expansion of the SOI boundaries. It is expected that the focus on intensification and reuse will relieve pressure for the development of farmland at the City's periphery. Nevertheless, the City acknowledges that some planning objectives may not be met through intensification/reuse alone and, under Scenarios 2-6, would retain the flexibility to consider annexation of various expansion areas at some point in the future. Though the City's general approach to planning is expected to minimize pressure for the future conversion of farmland, the Draft EIR acknowledges that such conversion would be an unavoidably significant impact. Finally, it should be noted that City

staff are recommending adoption of a variation on Scenario 1 (the "Intensification/Reuse Only" scenario), which includes none of the expansion areas and thus would not affect any areas within existing greenbelt agreements.

Response 3J

The commenter states an opinion that General Plan Actions 3.12 and 3.15 should not be referred to as "mitigation measure." As noted in Response 3I, the actions to which the commenter refers are not "mitigation measures," but rather are proposed General Plan policies that are part of the "proposed project." The discussion in the Draft EIR is merely intended to direct the reader to proposed General Plan actions that address the issue of farmland conversion. The Draft EIR acknowledges that, despite the inclusion of these actions in the draft General Plan, buildout of any of the EIR land use scenarios would result in unavoidably significant impacts relating to the conversion of important farmlands.

Response 3K

The commenter notes that the LAFCO is currently planning to prepare a Municipal Service Review that may result in the removal of all areas subject to voter approval from the SOI and states that the EIR should acknowledge this fact. Such a discussion will be added to the Final EIR. Please see Response 3C.

Response 3L

The commenter notes that the discussion of Alternative 4 incorrectly references the Olivas area. In response to this comment, the last sentence of the first paragraph on page 4.2-18 will be removed in the Final EIR.

Response 3M

The commenter notes that the statement regarding LCA contract cancellation under Scenario 5 also applies to Scenarios 2 and 3. The commenter also notes that any of the scenarios could ultimately require an expansion of the SOI. In response to this comment, the following sentence will be added to the discussion of Scenarios 2 and 3 on page 4.2-18 (under Impact AG-2):

Lands under LCA contract could only be converted upon cancellation of the contracts.

The SOI issue is discussed in previous responses. A statement regarding the need to expand the SOI for Scenarios 2, 3, and 4 will be added to the applicable discussions under Impact AG-2 and a statement of the possible need for an SOI adjustment will be added to the discussion of Scenario 6. Such a statement is not necessary for Scenario 1 since, although development under that scenario may require a future SOI adjustment, such an adjustment would not involve agriculturally-designated land (please see Response 3D).



Response 3N

The commenter notes that the LAFCO will require additional environmental review for the future conversion of agricultural parcels within the SOI prior to any actions requiring LAFCO approval. Agricultural lands within the Planning Area are shown on Figure 4.2-1. The EIR is a program level document that analyzes the overall impact of growth under the 2005 General Plan. Project-specific environmental review will be conducted for individual development projects at such time as projects are proposed.

Response 3O

The commenter suggests that the text describing LAFCO policies and the Cortese-Knox – Hertzberg Act of 2000 be replaced with simple references to these policies in order to avoid inaccurate representations of policy intent. The commenter suggests that the EIR should include discussion of several additional policies relevant to LAFCO’s review of the 2005 General Plan that are not included in the Draft EIR. In response to this comment, the discussion under Impact LU-1 will be replaced with the following in the Final EIR:

Impact LU-1 No boundary adjustments are being sought at this time and all of the General Plan scenarios emphasize intensification and reuse over expansion of the City. Annexations and Sphere of Influence adjustments could be sought at some point in the future under any of the scenarios and certain possible annexations/Sphere of Influence adjustments could potentially conflict with relevant State and LAFCO policies. However, because any conflicts would need to be resolved prior to LAFCO approval of any boundary adjustment, impacts can be reduced to a Class III, less than significant level, for all six scenarios.

The State of California possesses the exclusive power to regulate boundary changes, which means that no local government has the right to change its own boundary without State approval. The Legislature has prescribed a “uniform process” for boundary changes for both cities and special districts that is now embodied in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.). This Act delegates the Legislature’s boundary powers to local agency formation commissions (LAFCOs).

The Ventura LAFCO is responsible for reviewing and approving proposed jurisdictional boundary changes in Ventura County, including the annexation and detachment of territory to and/or from cities and most special districts, incorporations of new cities, formations of new special districts, and consolidations, mergers, and dissolutions of existing districts. In addition, LAFCOs must review and approve contractual service agreements, conduct service reviews, and determine spheres of influence for each city and district.

In addition to the Cortese-Knox-Hertzberg Act, the Ventura LAFCO has adopted local policies that it considers in its review of projects. The LAFCO also enforces the County’s Guidelines for Orderly Development. A complete listing of policies that



LAFCO considers in its review of proposed boundary changes can be found in the LAFCO website (www.ventura.lafco.ca.gov).

No adjustments to the City's corporate boundaries or Sphere of Influence (SOI) are proposed at this time. However, all of the 2005 General Plan scenarios could accommodate the development of lands that are outside the current City boundaries and SOI. Specific analysis of individual proposals would be needed at the time such possible future boundary adjustments are proposed, but boundary adjustment policies are discussed below as they relate to the 2005 General Plan.

Conformance with Local Plans and Policies

Unless exceptional circumstances are shown, LAFCO will not approve a proposal unless it is consistent with the applicable general plan and any applicable specific plan. No boundary adjustments are being sought at this time. Although boundary adjustments may be sought in the future under any of the EIR scenarios, it is anticipated that such adjustments would be consistent with the 2005 General Plan, regardless of which of the EIR scenarios is adopted.

LAFCO will not approve a proposal unless it is consistent with ordinances requiring voter approval. Scenarios 2-6 all includes potential expansion areas that are subject to voter approval. No land use designated or boundary adjustment is being sought at this time for any of the expansion areas. If such adjustments are sought at some point in the future, they will be sought only after voter approval of a land use designation change for the property in question.

Guidelines for Orderly Development

LAFCO encourages proposals that involve urban development or that result in urban development to include annexation to a city wherever possible. All of the EIR scenarios emphasize intensification/reuse over expansion of the City's boundaries and no boundary adjustments are being sought at this time. Nevertheless, all of the scenarios would accommodate development in lands that are outside the current corporate boundaries and the SOI. Development of such areas could be found to be in conflict with the Guidelines for Orderly Development, particularly with respect to the North Avenue and Western Cañada Larga expansion areas, which are not contiguous with the existing City corporate boundary. However, no development would occur until such time as the property in question is annexed and, if necessary, included in the SOI. Such adjustments could be made only with LAFCO approval and, in the case of the expansion areas, voter approval under SOAR. Given that future boundary adjustments would only be made at such time as they are deemed consistent with the Guidelines for Orderly Development, any of the scenarios could be found to be consistent with the Guidelines.

Greenbelts

LAFCO will not approve a proposal for a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. Scenarios 1, 4, 5, and 6 do not include any lands that are subject to existing Greenbelt Agreements. However, the Olivas expansion area that is included in Scenarios 2 and 3 is within the Oxnard-

Ventura Greenbelt. As such, the Olivas area could be brought into the SOI and annexed to the City only if it is removed from the Greenbelt. Such an amendment to the Greenbelt Agreement could be made only with the consent of the City of Oxnard. Moreover, approval of a land use designation change could only be made with voter approval under the SOAR Ordinance.

Agricultural and Open Space Preservation

LAFCO will approve a proposal for a change of organization that is likely to result in the conversion of Prime agricultural land or open space land only if it finds that the proposal will lead to planned, orderly, and efficient development. For a development to be deemed planned, orderly, and efficient, all of the following criteria must be met: (1) the territory involved is contiguous with lands developed with an urban use or that have received approvals for urban development; (2) the territory is likely to be developed within 5 years and has been pre-zoned for non-agricultural use; (3) insufficient non-Prime agricultural land or vacant land exists within the existing boundaries of the agency that is planned and developable for the same general type of use; (4) the territory is not subject to voter approval for the extension of services or changing of land use designations; and (5) the proposal will have no significant adverse effects on the integrity of other Prime agricultural or open space lands.

All of the EIR scenarios emphasize intensification and reuse of existing urban lands prior to the development of agricultural lands. Nevertheless, as discussed in Section 4.2, Agricultural Resources, any of the six scenarios would potentially accommodate the conversion of some Prime agricultural lands if the City's planning objectives cannot be met through intensification and reuse. All of the areas that could potentially be converted are contiguous with existing urban uses and, in many instances, are surrounded by urban uses. Although the North Avenue, Olivas, Serra, and Poinsettia expansion areas are subject to voter approval under the SOAR Ordinance, voter approval would have to be received prior to any LAFCO action. In addition, it is anticipated that inclusion within the SOI and/or annexation would not be sought unless development were planned within five years. In the case of large developments that could potentially be accommodated under Scenarios 2, 3, 4, and 6, development and annexation may need to be phased. Any of the agricultural lands that could be converted under Scenarios 1-6 could be found to be consistent with LAFCO's agricultural and open space preservation policies, though LAFCO's determination would need to be at the time of individual proposals based upon current (at that time) circumstances and the nature of the proposals.

School Capacity

LAFCO will not favor a change of organization where any affected school district certifies that there is no sufficient existing school capacity to serve the territory involved. As discussed in Section 4.11, Public Services, many VUSD schools are at or near capacity and would be over capacity in 2025 with the growth projected under any of the EIR scenarios. Scenario 1 would only accommodate a minor SOI adjustment that would not bring any residential development, though the annexation of individual properties that may be sought in the future under Scenario 1 could generate new VUSD students. The expansion areas included in Scenarios 2, 3, 4, and 6 include sufficient acreage to

accommodate new schools that would be needed to serve the areas. However, the expansion areas included in Scenario 5 may lack sufficient land to accommodate the development of new schools. The impacts of individual developments on schools will need to be addressed on a case-by-case basis as such impacts depend upon the nature of the project and the circumstances for the VUSD at the time of the individual application.

Annexation of Unincorporated Island Areas

Any approval of a proposal for a change of organization for an area of 40 acres or more will be conditioned to provide that the proceedings will not be completed until and unless a subsequent proposal is filed with LAFCO initiating proceedings for the change of organization of all unincorporated island areas that meet the provisions of Government Code Section 56375.3. This policy means that LAFCO will not approve annexations of 40 acres or more unless the City has filed an application to annex all of the island areas in the City, which include eight separate islands in the Montalvo area totaling about 55 acres. Therefore, no additional annexations will be completed until an application for annexation of these island areas has been filed.

***Mitigation Measures.** No mitigation is required. Individual boundary adjustment proposals will need to be addressed by the City and the Ventura LAFCO on a case-by-case basis.*

***Significance After Mitigation.** As the City is not seeking any boundary adjustments at this time, no inconsistencies would occur with respect to any of the six scenarios. Certain areas that may be considered for future annexation and/or inclusion within the SOI would not be eligible under current conditions; however, it is assumed that boundary adjustments would not be sought until such time as such adjustments could be found to be consistent with state and local requirements.*

The summary matrix and EIR summary table will also be revised to reflect this revised discussion.

Response 3P

The commenter notes that LAFCO must consider factors identified in Government Code Section 56668 in acting on any governmental boundary reorganization and suggested that these factors should be discussed in the EIR. Please see Response 3O. As noted in previous responses, although development that could be accommodated under any of the EIR scenarios may involve the consideration of future adjustments to the City's corporate boundary and/or sphere of influence, the City is not seeking any boundary adjustments at this time. As specific boundary adjustments are proposed in the future, the City will conduct analysis of applicable Government Code provisions as required by LAFCO.

Response 3Q

The commenter has attached a matrix with LAFCO's analysis of each of the EIR scenarios. Most of the items contained in the matrix are addressed in Responses 3A through 3Q. However, several additional items are addressed below.



The commenter states that County records indicate that 95 acres included in EIR Scenario 5 are subject to the SOAR Ordinance rather than the 84 acres indicated in the Draft EIR. The commenter may have included in the 11 acres north of the City's water treatment plant in the estimate of SOAR acreage. As discussed in Response 3D, only a very small piece of the 11-acre property north of the City's water treatment plant is subject to SOAR.

With respect to the North Avenue expansion area, it is correct that this area could not currently be annexed. However, no annexation would be sought at this time even if that expansion area were included in the selected General Plan land use map. Rather, annexation may be sought in the future, but not until and unless contiguous properties to the south and/or west were incorporated either before or as a part of the same request. If annexation is sought at some point in the future to accommodate a specific development proposal, a separate environmental review of the specific proposal will be conducted.

Footnote 4 of the LAFCO's suggested corrections table suggests that the EIR should include specific analysis of several sites within the current SOI that could be considered for future annexation under EIR Scenario 1. The Draft EIR acknowledges that a number of properties outside the corporate limits may be considered for annexation and development in the future and addresses the overall citywide impacts associated with the possible future development of these areas. However, project-specific analysis is not the purpose of the General Plan EIR, nor is such analysis possible given that no specific developments have been proposed at any of the sites in question. If and when specific development applications are submitted to the City, project-specific analysis, including analysis of applicable LAFCO policies, will be conducted at that time.



Expansion Area Parcels

Western Canada Larga

035-0-210-245
035-0-210-265
063-0-030-075
063-0-060-020
063-0-060-045

North Avenue

063-0-110-090
063-0-131-010
063-0-131-020
063-0-131-035
063-0-131-045

Olivas

080-0-020-040
080-0-020-160
080-0-020-200
080-0-020-220
080-0-020-340
138-0-050-100
138-0-050-170
138-0-060-350
138-0-060-495
138-0-060-505
138-0-060-515
138-0-060-590
138-0-060-600

Serra

130-0-070-035
131-0-050-070
131-0-050-080
131-0-050-090
131-0-050-100
131-0-050-150
131-0-050-160
131-0-050-200
131-0-060-015
131-0-060-030
131-0-060-040
131-0-060-110
131-0-060-145
131-0-060-190
132-0-010-085
132-0-010-180

Poinsettia

083-0-040-295
083-0-040-355
083-0-040-455
083-0-040-465
083-0-040-475
085-0-010-025
085-0-010-035
085-0-010-045
085-0-010-065
085-0-010-095
085-0-010-125
085-0-010-220
085-0-010-230
085-0-021-205
085-0-031-015
085-0-041-015
085-0-050-315
085-0-050-325
088-0-111-015
088-0-123-255

9090 WILSHIRE BOULEVARD
BEVERLY HILLS
CALIFORNIA 90211
TEL 310.860.4934
FAX 310.550.3718

CASDEN PROPERTIES LLC

4

June 14, 2005

Lisa Porras
Senior Planner
City of San Buenaventura
City Hall
501 Poli Street
Ventura, CA 93002

Re: Casden Properties LLC site at Johnson and North Bank Drives, Ventura, CA

Dear Ms. Porras:

You will soon be considering the Public Review Draft of the Ventura General Plan ("Draft General Plan") for adoption and the supporting Draft Environmental Report ("DEIR"). In the attached letter to Ms. Daluddung, Community Development Director, we have outlined our comments for your consideration in this matter.

We own an 8-acre site located at the northeast corner of Johnson and North Bank Drives. After initial meetings with City staff in early 2003, we were told that staff anticipated that the new planning designation of our site would support a dense, mixed-use development. We revised our proposal accordingly and shared this new plan with staff and with the CPAC at a hearing. Upon the City's recommendation, we withheld submission of a formal application and participated in the General Plan amendment process, waiting to submit our project once the General Plan is amended. We were quite surprised that our proposed project was not reflected in the Draft General Plan or the DEIR and that, in fact, the development potential for the entire Johnson Drive Corridor was lower than that proposed for just our project.

Please review the attached letter on the Draft General Plan and our proposed project and consider our recommendations. We are committed to supporting the goals of the City and would be happy to discuss our proposed project with you at your convenience. Thank you for your consideration.

Sincerely,



Carol Schwartz, Assistant Vice President
Community Development
Casden Properties LLC



Demetrius Zeigler, Project Manager
Community Development
Casden Properties LLC

Cc: Howard Katz, Vice President, Community Development
Ronald C. Mayhew, Vice President, Community Development

Attachments:

Letter to Ms. Susan Daluddung dated June 10, 2005

A LIMITED LIABILITY COMPANY

CASDEN PROPERTIES LLC

9090 WILSHIRE BOULEVARD
BEVERLY HILLS
CALIFORNIA 90211
TEL 310.860.4934
FAX 310.550.3718

June 10, 2005

Ms. Susan J. Daluddung
Community Development Director
City of San Buenaventura
City Hall – Room 133
501 Poli Street
Ventura, CA 93002

Ref.: Casden Properties LLC site at Johnson and North Bank Drives
Ventura, CA

Dear Ms. Daluddung:

We have reviewed the Public Review Draft of the Ventura General Plan (“Draft General Plan”) and respectfully submit these comments for your review and consideration. We believe that the Development Potential identified for the Johnson Drive Corridor should be increased, especially with respect to the residential component.

Our Property

As you are aware, in January 2003, Casden Properties LLC, through an affiliate, acquired an 8.03 acre site in Ventura located at the northeast corner of Johnson and North Bank Drives. In Spring 2003, we met with City staff for a pre-application meeting for development of this site. At the meeting, we were informed that the City had embarked on the update of the General Plan based on Smart Growth principles and were anticipating that the new designation of our site would support a dense, mixed-use development. We therefore revised our development scheme to a mixed-use project including 300 rental housing units and 22,500 square feet of commercial space, which we shared with staff. Because of the review process, we postponed the submission of a formal application for this project until the General Plan was amended.

In the intervening period, we have participated in the General Plan Update process, attending the various scoping and community meetings and shared the proposed project at a CPAC hearing. The Draft General Plan designated our site in the Johnson Drive Corridor for Commercial use. The Commercial designation “encourages a wide range of building types of anywhere from two to six stories that house a mix of functions, including commercial, entertainment, office, and housing” which supports the mixed-use concept we have proposed.

A LIMITED LIABILITY COMPANY

However, we are concerned that the Development Potential that was identified in the Draft General Plan for the Johnson Drive Corridor appears to understate the potential for this area. While we recognize that the City has stated that the guidelines are not limits of development, we believe that a greater level of development should be encouraged in this Corridor to better support the City's growth goals.

The Draft Environmental Impact Report that was prepared to support the Draft General Plan states that the growth was distributed among the various corridors and districts in the City "[B]ased on the development potential of each growth district and corridor and direction from the community, CPAC, Planning Commission and City Council on where growth in the community should be encouraged". We believe that the Johnson Drive Corridor, and in particular, our site, is an excellent location for rental housing as a component of a mixed-use project. In this letter, we will present our rationale for increasing the residential potential of the corridor. We hope that the planners and members of the CPAC can review the allocation for housing and revise it, taking into account our 300 units before the General Plan is finalized and adopted this summer.

Johnson Drive Corridor

The Johnson Drive Corridor appears to have two large sites remaining for development—our site and the site bounded by Johnson Drive, North Bank and the Ventura Freeway. The remainder of the corridor is developed with entertainment/retail use, commercial buildings and self storage.

While some of the existing projects might ultimately be redeveloped, we would anticipate that the Development Potential for the Corridor is much greater than the proposed 150 residential units, 50,000 square feet of retail space and 20,000 square feet of office space, and would be easily realized on these two undeveloped sites. Given its location, fronting the freeway, the other site would not be a prime location for residential development. However, our site is an excellent location for rental housing. We contend that a build-out of 300 units at this location would provide the appropriate scale of development to support the City's goals for Smart Growth.

The City of Ventura is committed to the principles of Smart Growth and has identified a number of Smart Growth concepts as part of the Draft General Plan. Increasing the intensity of residential development in the Johnson Drive Corridor serves to further support Smart Growth precepts. We will demonstrate how intensification of residential development in the Johnson Drive Corridor will support Smart Growth objectives and how a larger critical mass of residential development is needed at our site to support these Smart Growth goals and desirable development forms.

Johnson Drive Corridor as Location for Housing

Mix land uses. Smart Growth encourages a mix of land uses both vertically and horizontally. By introducing a significant component of residential units to this commercial corridor, residents can benefit from proximity to services and existing

businesses can benefit from this additional customer base. For example, the commercial center adjacent to the project site includes a TutorTime childcare facility which tends to attract new families with young children. This facility would benefit from an adjacent residential property that could provide additional client families.

Create a range of housing opportunities and choices. Because of the commercial nature of the corridor, a significant amount of rental housing would be an appropriate infill use. Rental product in this area will provide a much needed alternative to the for-sale product available further north on Johnson Drive.

Create walkable communities. By developing a substantial number of residential units at this site, we increase the opportunity for neighboring businesses and for the on-site retail and live/work units to be supported by walk-in customers. Residents will be able to walk to the movies or the video store located across the street or to the shops and services on the property. Our scheme also incorporates pedestrian access to the Linear Park which runs along the perimeter of the site.

Preserve open space, farmland, natural beauty and critical environmental areas. Our site is an infill location within the Johnson Drive Corridor. It is adjacent to the farmland of the Serra Expansion Area, being considered in the Draft EIR for future development and expansion of the City. By intensifying the development in this existing corridor, it forestalls the development of this agricultural area.

Provide a variety of transportation choices. Intensifying the residential development in the Corridor allows an increased number of residents to benefit from proximity to the South Coast Area Transit (SCAT) bus route along Johnson Drive, Ventura Intercity Service Transit Authority (VISTA) bus stops and easy access to the Freeway. By locating more potential commuters adjacent to the Freeway, we reduce the impact of these new households on local traffic patterns.

Foster distinctive, attractive communities with a strong sense of place. The Johnson Drive Corridor lacks a cohesive focus or image. The addition of a substantial, high-quality housing component will support a more diversified base of commercial establishments to better serve the corridor and the neighboring communities.

Casden Properties LLC Development Concept

Mix land uses. We have proposed the development of 22,500 square feet of retail space and 300 residential units, a number of which will be live/work product. We have designed the site with retail at the western portion of the site, along North Bank Drive, with live/work space transitioning to the residential eastern portion of the site. Our site is a preferable location for residential units in the City as the mix of uses at our site and the proximity to surrounding commercial development allows for pedestrian access, reducing the traffic impact that might accompany a similar level of residential development elsewhere.

Take advantage of compact building design. The residential component of the Casden proposal is comprised of 3-story buildings set on slightly elevated podiums. The required parking is primarily accommodated under the podium in a semi-subterranean structure. This creates a compact building form above ground, surrounding landscaped courtyards. The sprawl that comes from vehicular circulation and parking in projects with grade level automobile accommodation is avoided in this design scheme. It is important to note that podium products are very expensive to construct. We need to be able to develop a critical mass of units (approximately 300) before the substantial investment needed for this product is supported.

Create a range of housing opportunities and choices. Our project concept includes a range of housing product and target markets. Our current proposal includes both traditional rental units as well as live-work units fronting the commercial edge of our site. We also plan to provide both market rate and a significant component of affordable housing units in our project.

Foster distinctive, attractive communities with a strong sense of place. Casden Properties LLC is committed to developing beautiful projects with a high level of amenity. This proposed project will be distinctive by virtue of the podium product separating the vehicular from the pedestrian circulation and allowing for significant landscaping. By developing this site with 300 units, we are able to provide a high level of community amenities, including a large recreation center and pool area, which are anticipated to become a focal point for the residents. With lower development potential, the level of community amenities must be scaled back significantly.

Strengthen and direct development toward existing communities. As an infill site within an existing community, development should be intensified at this location. By increasing the amount of housing at the site, a critical mass of units can be developed to strengthen the sense of community here. The currently contemplated 150 units are simply too few to achieve a true sense of community in this location, which does not abut other residential areas.

Achieving critical mass on our site is necessary to develop and maintain a project that is consistent with City goals.

- Quality Product: The podium product we plan to develop creates very desirable, walkable communities, with large amounts of landscaped areas free from vehicular traffic.
- Project Amenities: Our proposed project includes a large recreation center, pool, spa, and large landscaped areas as project amenities. This level of amenity requires a critical mass of units to support their inclusion and maintenance.
- On-going, Committed Management: In order to operate and maintain this project at the appropriate level of service and security, dedicated property management is required, which can only be supported at a project of significant size.

Casden Properties LLC respectfully submits this request to increase the residential allocation in Johnson Drive Corridor to at least 300 units. We are very committed to supporting the goals of the City while developing this project and are eager to discuss our proposal further at your convenience. Attached for your perusal are a copy of the proposed site plan and a description of the project.

Sincerely,



Carol Schwartz
Assistant Vice President
Community Development
Casden Properties LLC



Demetrius Zeigler
Project Manager
Community Development
Casden Properties LLC

Cc: Howard Katz, Vice President
Community Development

Ronald C. Mayhew, Vice President
Community Development

Attachments:

Project Description
Site Plan

Project Site: Johnson and North Bank Drives
Northeast Corner of intersection
The site is accessible off Highway 101 North at the Johnson Drive exit.

Site Description:

Lot Area: 8.03 acres
Density: 300 dwelling units / 52 du/acre Residential
22,500 SF Commercial
Parking: 510 stalls –Residential [includes direct and tandem]
90 stalls -Commercial

Project Description:

This project is designed to include 300 dwelling units including an affordable component in a community where people can live and work.

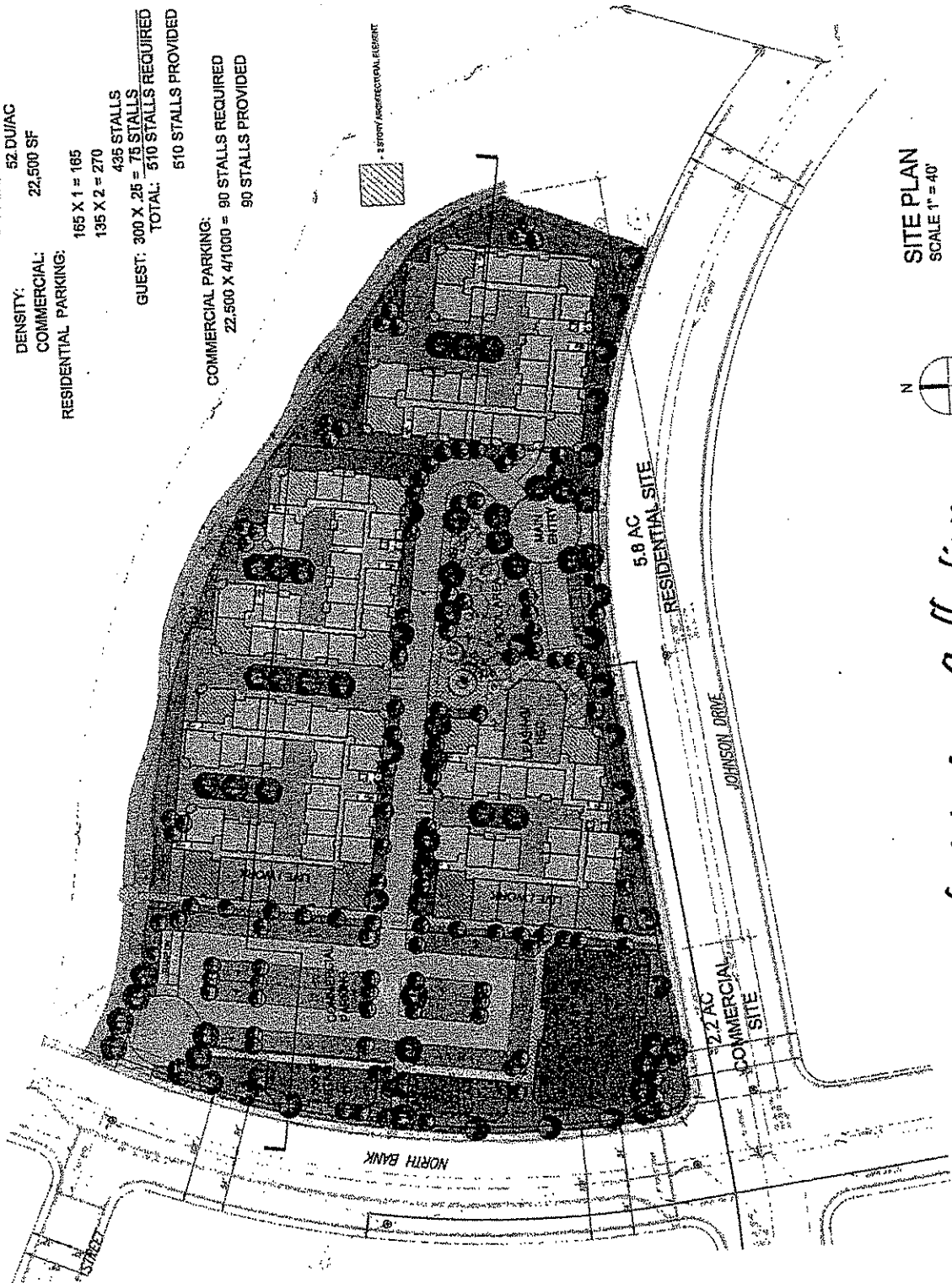
The development is arranged to respond to the constraints and opportunities presented by its surroundings. The main entrance is off Johnson Drive. This provides great visibility from the Highway 101. The site will be lushly landscaped, feature decorative paving and planting to entice the motorist.

The proposed project is bounded by commercial sites to the north, and west. To the east is agricultural developed land; however this site borders the east end of San Buenaventura. The adjacent site to the east is outside of San Buenaventura. The south edge of the site borders Highway 101.

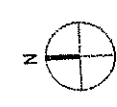
The buildings are designed with three stories over semi-subterranean parking. A main drive runs through the site past a 3,500 square foot clubhouse with attendant. The residential buildings front on this main drive or perimeter view opportunities as appropriate.

The typical building has eighteen dwelling units. These apartments include one bedroom, and two bedroom configurations.

LOT AREA
 RESIDENTIAL: 5.8 AC
 COMMERCIAL: 2.2 AC
 1BR - 165 - 55%
 2BR - 135 - 45%
 TOTAL: 300 DU
 52 DU/AC
 22,500 SF
 RESIDENTIAL PARKING:
 165 X 1 = 165
 135 X 2 = 270
 435 STALLS
 GUEST: 300 X .25 = 75 STALLS
 TOTAL: 510 STALLS REQUIRED
 510 STALLS PROVIDED
 COMMERCIAL PARKING:
 22,500 X .41000 = 90 STALLS REQUIRED
 90 STALLS PROVIDED



SITE PLAN
 SCALE 1" = 40'
 0' 40' 80' 160'



A101
 VAN TIEBORG
 ARCHITECTS
 1700 S. GARDEN
 ANAHEIM, CA 92805

The Ventura Collection

CITY OF BUENA VENTURA, CALIFORNIA
 CASDEN PROPERTIES, LLC

Intensification/Reuse Only (Scenario 1)

	Residential Development (units)	Non-Residential Development (square feet)				
		Retail	Office	Industrial	Hotel	Total
Districts						
Upper North Avenue	100	10,000	50,000	150,000		210,000
North Avenue	50	10,000	50,000	250,000		310,000
Downtown	1,600	100,000	200,000		150,000	450,000
Pacific View Mall	25	25,000	0			25,000
Harbor	300	65,000			150,000	218,000
Arundell	200	25,000	300,000	1,000,000		1,325,000
Auto Center	50	300,000	50,000	300,000		650,000
MetroLink	50	0	50,000	25,000		75,000
Salicoy	50	0	0	25,000		25,000
Subtotals (Districts)	2,425	536,000	700,000	1,750,000	300,000	3,286,000
Corridors						
Ventura Avenue	800	40,000	100,000	50,000		190,000
Main Street	100	15,000	40,000			55,000
Thompson Boulevard	300	15,000	40,000			55,000
Loma Vista Road	25	15,000	40,000			55,000
Telegraph Road	250	15,000	40,000			55,000
Victoria Avenue	50	15,000	40,000			55,000
Johnson Drive	150	50,000	20,000			70,000
Wells Road	50	15,000	20,000			35,000
Subtotals (Corridors)	1,725	180,000	340,000	50,000	0	570,000
SO/Other Infill						
101/126 Agriculture	200					0
Wells/Salicoy	1,050					0
Pierpont	100	30,000				30,000
Other Neighborhood Centers	100					
Second Units	300					
Underutilized	250					
Vacant	450	165,000	50,000			215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
Totals (Intensification/Reuse)	6,600	911,000	1,090,000	1,800,000	300,000	4,101,000
Planned and Pending Developments						
Downtown	50	1,072			150,000	151,072
Ventura Avenue/Westside	238	7,086		27,000		34,086
Midtown	34	13,751				13,751
College (Telegraph/Loma Vista)	4	2,718	8,849			11,567
Telephone Road Corridor	256		54,785			54,785
Montalvo/Victoria	296		4,300			4,300
Salicoy/East End	840	7,950	5,600			13,550
Arundell		41,640	42,614	18,080		102,334
Olivas		7,160	7,066	300,053		404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
Totals (Intensification + Expansion + Pending)	8,318	992,377	1,213,214	2,235,133	450,000	4,890,724

Notes:

- Overall residential growth is based on 0.88% annual growth through 2025. Overall non-residential growth is based on estimates provided by Stanley R. Hoffman Associates, Inc. All unit and square footage numbers are estimates of how future growth may be distributed based on available land, local land use practices, and recent Council and community direction and preferences. All figures are for analytical purposes only. The actual distribution of future growth in the City may vary based on market forces and other factors. Both the districts/corridors and expansion areas could accommodate more development and/or a different mix of development.
- The distribution of growth in the districts and corridors is based on the following general assumptions: (a) The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth; (b) the Arundell, North Avenue, and Upper North Avenue areas will be the focus of future industrial growth; (c) other districts and corridors will not be the focus of growth, but will accommodate a certain amount of growth over time. When possible, knowledge of possible future plans or land availability has been used to estimate future growth. For example, the estimates of growth in the Downtown and Harbor Districts are based on the Downtown Specific Plan and Master Plan and staff knowledge of likely projects. Growth estimates for the Arundell community consider the likely development of the 75-acre McGeeth property with a mix of uses and development of other vacant lands. Growth estimates for the Auto Center area consider the possibility of a "big box" retailer in that area.
- Estimates of growth in the SO/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Salicoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed land use designations.
- Planned and Pending Developments based upon the City's 2004 Planning and Pending Developments list. Building areas do not include self storage facilities.
- Expansion area totals are conceptual estimates that encompass a mix of uses and residential densities.
- The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the Auto Center area; (2) 165,000 square feet of retail development along Wells Road in the Salicoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the Auto Center district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a "worst-case" analysis of possible future impacts.

Letter 4

COMMENTERS: Carol Schwartz and Demetrius Zeigler, Casden Properties, LLC

DATE: June 14, 2005

RESPONSE:

The commenters state concerns that their project near the northeast corner of the Johnson Drive/North Bank Drive intersection was not reflected in the Draft EIR and note that the development potential for the Johnson Drive corridor identified in the Draft EIR is lower than for their project. The commenters also attach a letter describing their proposal and how it relates to various City development goals and requesting an amendment to the development "allocation" for the Johnson Drive corridor.

It is not the intent of the Draft EIR to identify or analyze the impacts of specific development proposals. As discussed in Section 1.0, *Introduction*, the Draft EIR is intended to meet the requirements of a Program EIR, which is prepared on a series of actions (such as a General Plan) that may be characterized as one large project. By design, a Program EIR is more conceptual in nature than a Project EIR and contains a more comprehensive discussion of impacts, alternatives, and mitigation measures. Once a Program EIR has been prepared, subsequent activities within the program (such as individual development proposals) must be evaluated to determine whether an additional CEQA document needs to be prepared.

The development totals used in the Draft EIR, as reflected in Appendix C of the Draft EIR, should not be interpreted as "allocations" of growth for individual districts, corridors, or neighborhood centers. Rather, they are estimates of the distribution of future growth within the Ventura Planning Area based on direction from the City Council, ongoing development trends in the City, and other factors. The estimates for individual districts, corridors, and neighborhood centers are not intended to serve as growth caps for those areas, but rather, were developed for analytical purposes only in order to estimate the overall effects of projected citywide growth through 2025. In no case do the estimates of projected growth for an individual district, corridor, or neighborhood center reflect the maximum growth potential for that district, corridor, or neighborhood center. Actual growth within each district, corridor, and neighborhood center may be higher or lower than projected in the Draft EIR. Individual developments will need to undergo separate environmental review on a case-by-case basis to determine their specific impacts.

In response to several comments on the Draft 2005 General Plan and Draft EIR, a table will be added to the General Plan that will show the carrying capacity of the total land area for the Plan. This table is intended to show what the total development potential is versus the realistic estimates provided in the original table (May Draft Overview, Table 2, pages 14 & 15).

June 20, 2005

5

Lisa Porras, Senior Planner
City of Ventura
P.O. Box 99
Ventura, CA 93002-0099

Re: Correction to Assessor's Parcel Number referenced in 2005 General Plan EIR – Page 6-17, paragraph 6.6.1., lines 5 & 6.

I have noticed a typographical error in the 2005 EIR of the Assessor's Parcel Number for my property located at 1456 Alelia Street in Saticoy.

My parcel is incorrectly identified as 90-043-13. The correct APN is 90-143-13.

Two additional APN's should also be referenced. The Southerly extension of Alelia Street has been abandoned by the County of Ventura and the acreage deeded back to myself and the property owner to the West - APNs 90-142-14 & 90-143-17. Please see the enclosed platt map.

Therefor, all four APN's should be referenced in paragraph 6.6.1 as follows: APNs 90-142-11, 90-142-14, 90-143-13 and 90-143-17.

Thank you for your assistance in this matter.

Respectfully,



Charles W. Rogers
Owner APNs 90-143-13 & 90-143-17

Enclosures:
Platt map
2005 EIR page 6-17

Like 2005 General Plan Scenarios 2-6, this alternative would generally be consistent with most regional land use plans and policies. This alternative would pose the same potential conflict with the Guidelines for Orderly Development associated with Scenario 5, but would not pose the potential conflict with Coastal Act policies pertaining to the preservation of Prime farmland that would occur under Scenarios 2 and 3.

Population and Housing

Population and housing growth would be similar to that of General Plan Scenarios 2-6. The 2025 population is projected to exceed SCAG and Ventura County AQMP forecasts. As with the 2005 General Plan scenarios, implementation of this alternative would be expected to maintain a balance of jobs and housing in the City.

6.6 INTENSIFICATION/REUSE + MINOR MAP CLEAN-UP

6.6.1 Description

This alternative is a variation of 2005 General Plan Scenario 15, the Intensification/Reuse Only scenario. The purpose of this alternative is to address three minor map clean-up issues identified following receipt of City Council direction on the recommended 2005 General Plan land use map. The first of these involves the re-designation of approximately five acres along the south side of Rosal Lane in the unincorporated area of Saticoy (APNs 90-142-11 and 90-043-13) that are designated "Industrial" on the draft General Plan land use map, but are designated "Residential Two Family" in the County of Ventura's Saticoy Area Plan. To achieve consistency with the Saticoy Area Plan, these lots would be redesignated "Residential Medium Density" under this alternative. The second change involves properties located on the Westside between Ramona (north), Simpson Street (south) and straddling Sheridan Way. This map change would include changing the proposed land use designation from low to high density residential to be consistent with the neighborhood and existing uses on the properties. A third change involves properties located in the Simpson Historic District located to the south of Simpson Street in generally the same area. The land use map would be changed from high to medium density, which is consistent with existing development in the Simpson Historic District and would generally allow 2 units per parcel.

90-143-13

Other than the three changes described above, this alternative is identical to 2005 General Plan Scenario 1. An estimated 8,300 residential units are projected to be added through 2025.

6.6.2 Impact Analysis

Other than issues pertaining to land use compatibility (aesthetics, noise, hazards), this alternative's impacts would be identical to those of Scenario 1. Re-designation of the five-acre area in Saticoy may incrementally increase the potential for compatibility conflicts with existing and future industrial uses in the area as properties to the south are designated "Industrial." However, potential conflicts relating to lighting, noise, and hazards can be addressed through appropriate design, including, if necessary, the construction of solid block walls between residential and industrial uses. In addition, it should be noted that the properties along the north side of Rosal Lane, immediately across the street, are designated "Residential Medium Density." As such, developing the site along the south side of Rosal Lane with residential uses

Letter 5

COMMENTER: Charles W. Rogers, Owner APNs 90-143-13 and 90-143-17

DATE: June 20, 2005

RESPONSE:

The commenter notes that the assessor's parcel numbers for the site along the south side of Rosal Lane in Saticoy that would be re-designated "Residential Medium Density" under the "Intensification/Reuse + Minor Map Cleanup" alternative discussed in Section 6.0, Alternatives, are incorrectly identified. In response to this comment, the first paragraph under the "Description" of that alternative on page 6-17 will be amended to read as follows (changes are underlined):

This alternative is a variation of 2005 General Plan Scenario 5, the Intensification/Reuse Only scenario. The purpose of this alternative is to address three minor map clean-up issues identified following receipt of City Council direction on the recommended 2005 General Plan land use map. The first of these involves the re-designation of approximately five acres along the south side of Rosal Lane in the unincorporated area of Saticoy (APNs 90-142-11, 90-142-14, 90-143-13, and 90-143-17) that are designated "Industrial" on the draft General Plan land use map, but are designated "Residential Two Family" in the County of Ventura's Saticoy Area Plan. To achieve consistency with the Saticoy Area Plan, these lots would be redesignated "Residential Medium Density" under this alternative. The second change involves properties located on the Westside between Ramona (north), Simpson Street (south) and straddling Sheridan Way. This map change would include changing the proposed land use designation from low to high density residential to be consistent with the neighborhood and existing uses on the properties. A third change involves properties located in the Simpson Historic District located to the south of Simpson Street in generally the same area. The land use map would be changed from high to medium density, which is consistent with existing development in the Simpson Historic District and would generally allow 2 units per parcel.

This minor text correction does not change the EIR conclusions or result in any significant impacts not identified in the Draft EIR. The change in land use would not create any significant land use conflicts that could not be addressed through site design.



6

19 June 2005

From: Daniel Cormode
186 Gorrion Ave
Ventura, CA 93004

To: City of San Buenaventura
501 Poli St
Ventura, CA 93002
Attn: Kari Gialketsis

Subj: 2005 General Plan Draft Environmental Impact Report Review Comments

1. A review of the General Plan Draft Environmental Impact Report June 2005, Section 4.13, UTILITIES & SERVICE SYSTEMS, was conducted and resulted in development of the following comments.

A. Page 4.13-1, of the General Plan Draft Environmental Impact Report¹ states "An operational evaluation prepared as part of the 1993 City Water Master Plan provides a detailed analysis of the water system and future needs.", however, the Water System Operational Evaluation & Improvement Program Report² findings are not discussed and has not been updated to reflect current conditions of the water system, sources of water supply or the population being served by the water system.

A

B. The General Plan Draft Environmental Impact Report does not address: historic or future water consumption by category; the impact of drought conditions on the yield of existing water sources; or the potential future water source requirements. Page 4.13-9 of the General Plan Draft Environmental Impact Report³ identifies the City of Ventura Historic and Projected Water Production⁴ and is based on the 2004Biennial Water Supply Report⁵. The water system analysis contained in the 2004Biennial Water Supply Report⁶ does not address: 1) historic or future water consumption by category⁷; 2) the impact of drought conditions on the yield of existing water sources⁸; or 3) the potential future water source requirements⁹. A graph of the annual rainfall data for Ventura Station 66 obtained from the Ventura County Watershed Protection District for the period 1892-2001 is attached for information as Figure 1. The graph shows a trend for above average rainfall began in 1991.

B

¹ General Plan Draft Environmental Impact Report June 2005

² Water System Operational Evaluation & Improvement Program, June 1993

³ General Plan Draft Environmental Impact Report June 2005

⁴ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

⁵ 2004Biennial Water Supply Report, September 2004

⁶ 2004Biennial Water Supply Report, September 2004

⁷ Water System Operational Evaluation & Improvement Program Historic Water Consumption Summary, Table ES-2

⁸ Water System Operational Evaluation & Improvement Program Potential Yield of Existing Water Sources, Table ES-8

⁹ Water System Operational Evaluation & Improvement Program Potential Future Water Source Requirements, Table ES-10

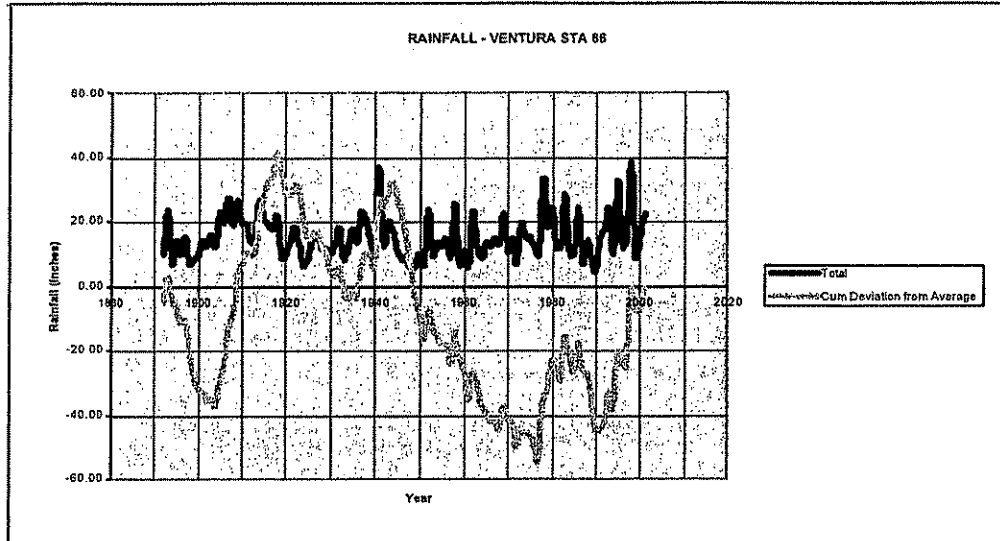


Figure 1 – Total Annual Rainfall and Cumulative Deviation from Annual Average Rainfall for Ventura Station 66 for the Period of 1892-2001.

C. Page 4.13-9 of the General Plan Draft Environmental Impact Report¹⁰ identifies the City of Ventura Historic and Projected Water Production¹¹. The projected future treated water production requirements are computed from a constant per capita water usage of 0.179 and the expected population being served. There appears to be a discontinuity in the Years 1989-1991 between the per capita water usage data contained in the Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1¹² and General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8¹³. Chart of the annual per capita water usage contained in 1993 Water Report and 2005 DEIR are contained in Figures 2 and 3. It is recommended this discontinuity in the per capita water usage between the 1993 and 2004 Water Reports be explained in the DEIR.

¹⁰ General Plan Draft Environmental Impact Report June 2005

¹¹ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

¹² Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1

¹³ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

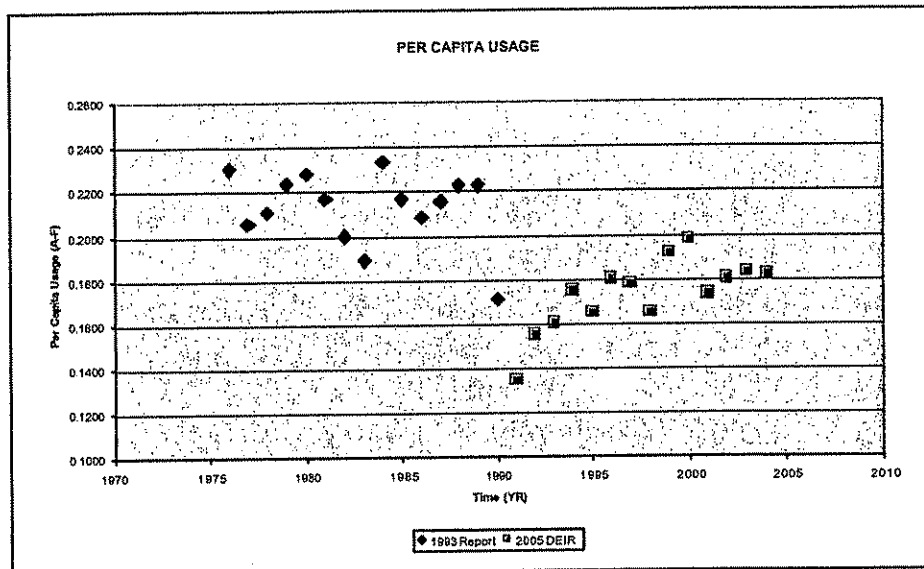


Figure 2 – Comparison of Per Capita Water Usage Data contained in the Water System Operational Evaluation & Improvement Program Historic Water Demand, Table ES-1¹⁴ and General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8¹⁵.

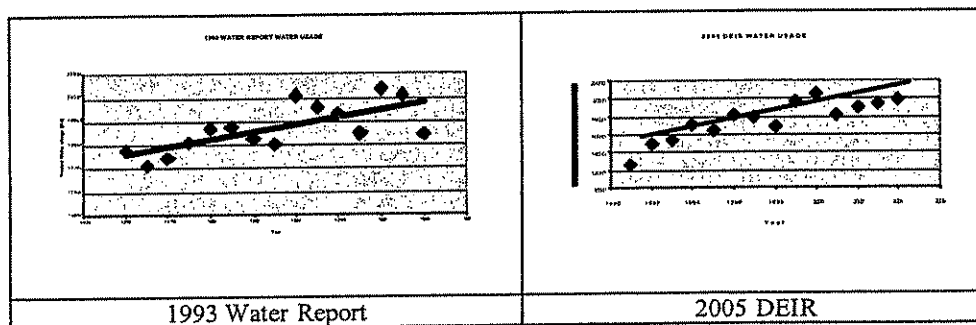


Figure 3 – Trend Lines for Annual Per Capita Water Usage Data contained in 1993 Water Report and 2005 DEIR.

D. Furthermore, a detailed trend analysis of the per capita water usage between the years 1991 and 2004 reveals a increase in 0.0028 A-F per capita per year which is not factored into future treated water requirements and is shown in Figure 4. The General Plan Draft Environmental Impact Report, Projected Water Demand, Intensification/Reuse Only, Table 4.13-15¹⁶ appears to use 0.504 A-F per year water use per unit which equates to a 0.196 A-F per capita per year based on an occupancy of 2.57 persons per dwelling unit. A need for an additional source of water can be expected to meet treated water needs between the years 2020 and 2025 and is shown in Table 1 if the projected annual increase in per capita water usage is used to compute future requirements. The potential requirement for future water sources depends on several factors including the anticipated long-term yield of existing water sources under

¹⁴ Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1

¹⁵ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

¹⁶ General Plan Draft Environmental Impact Report, Projected Water Demand, Intensification/Reuse Only, Table 4.13-15

varying weather conditions, potential future water demands in the system, which potential future water sources are implemented, and water quality goals¹⁷.

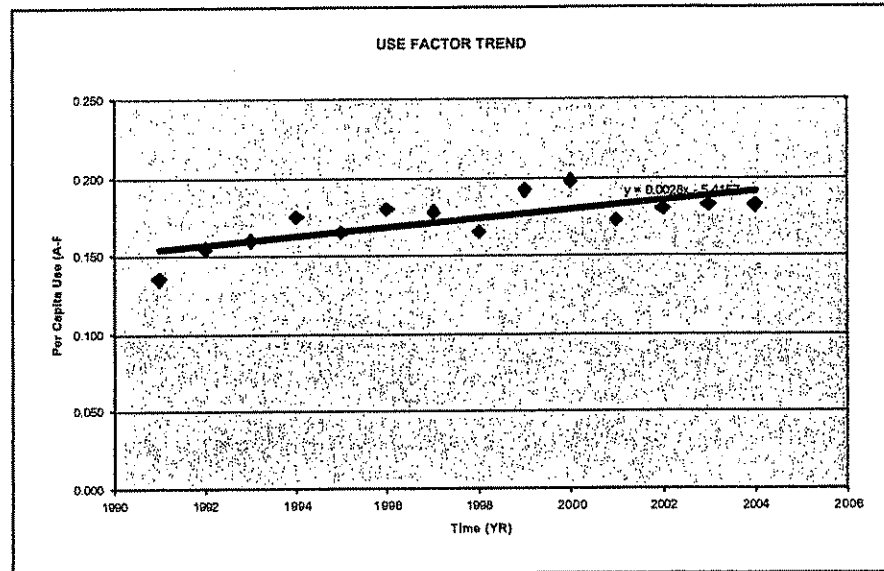


Figure 4 – Per Capita Water Use Trend Analysis

¹⁷ Water System Operational Evaluation & Improvement Program Potential Future Water Sources Requirements, Page ES-16

Year	Per Capita Treated Water Use	Expected Population (0.88% Growth)	Expected Population (1.14% Growth)	Treated Water Demand (0.88% Growth)	Treated Water Demand (1.44% Growth)
2004	0.182	104952	104952	19101.26	19101.26
2005	0.194	105876	106148	20539.86	20592.8
2006		106807	107359		
2007		107747	108582		
2008		108695	109820		
2009		109652	111072		
2010	0.201	110617	112338	22233.98	22580.03
2011		111590	113619		
2012		112572	114914		
2013		113563	116224		
2014		114562	117549		
2015	0.209	115570	118889	24154.21	24847.89
2016		116587	120245		
2017		117613	121616		
2018		118648	123002		
2019		119692	124404		
2020	0.217	120746	125822	26201.83	27303.46
2021		121808	127257		
2022		122880	128707		
2023		123962	130175		
2024		125052	131659		
2025	0.227	126153	133160	28636.71	30227.24

Potential Future Water Sources Requirements

The quantity of water needed by the City from new sources depends on several factors, including the anticipated long-term yield of existing water sources under varying weather conditions, potential future water demands in the system, which potential future water sources are implemented, and water quality goals. Even without improving the quality of water provided to the customers, additional water is needed now and in the future just to meet quantity deficits in dry years. Table ES-10 summarizes the water quantity needs for future demand conditions based on potential yields from existing sources only. As shown in the table, water quantity deficits are anticipated in all future dry years, and in average years by 2040. Dry year deficits would be approximately 4,500 acre-feet in 1995 and approximately 7,000 acre-feet per year by 2010. Additional water quantities beyond those indicated would be needed to improve water quality.

Figure 4 - Water System Operational Evaluation & Improvement Program
Potential Future Water Sources Requirements, Page ES-16

E. Page 4.13-9 of the General Plan Draft Environmental Impact Report¹⁸ identifies the City of Ventura Historic and Projected Water Production¹⁹. The projected future treated water production requirements are computed from a constant per capita water usage of 0.179 and the expected population being served. There appears to be a discontinuity in the Years 1989-1991 between the treated water used data contained in the Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1²⁰ and General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8²¹. Chart of the treated water used contained in 1993 Water Report and 2005 DEIR are contained in Figure 5. It is recommended this discontinuity in the treated water requirements between the 1993 and 2004 Water Reports be explained in the DEIR.

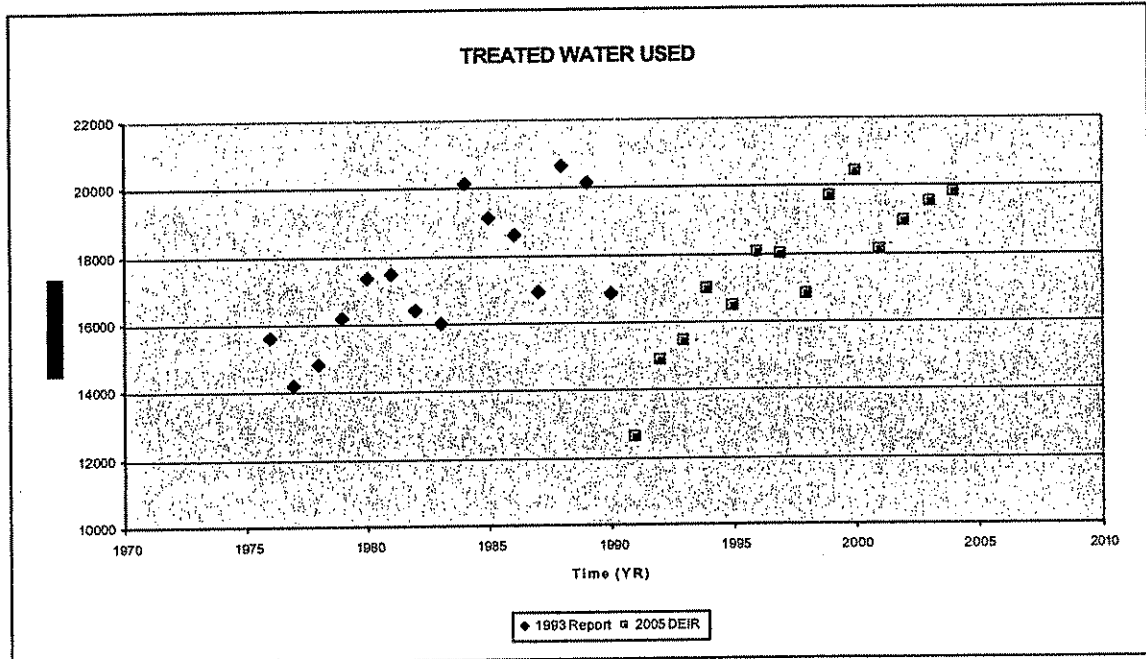


Figure 5 – Chart of Treated Water Used.

2. For additional information, please feel free to contact Daniel Cormode by telephone at 805-647-4063 or by e-mail at dcormode@sbcglobal.net.

Copy to:

City Manager
 Community Development Director
 Urban Planning Manager
 Public Works Director
 Mayor
 City Council

¹⁸ General Plan Draft Environmental Impact Report June 2005

¹⁹ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

²⁰ Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1

²¹ General Plan Draft Environmental Impact Report, Historic and Projected Water Production, Table 4.13-8

SUPPLEMENTARY INFORMATION

**Table 4.13-8
Historic and Projected Water Production
(Acre Feet)**

Year	Estimated Population Served	Per Capita Use ⁽¹⁾	Treated Water Production	Raw Water Production	Total Water Production
<i>Historic</i>					
1980	73,774	0.236	17,381	4,766	22,147
1990	94,856	0.177	16,831	2,317	19,148
1995	99,668	0.165	16,428	1,602	18,030
1996	100,482	0.180	18,038	1,500	19,538
1997	101,096	0.178	18,002	1,829	19,831
1998	101,610	0.165	16,775	1,769	18,544
1999	102,224	0.192	19,658	1,067	20,725
2000	103,238	0.198	20,437	1,129	21,566
2001	104,153	0.173	18,071	889	18,960
2002	105,267	0.180	18,965	968	19,933
2003	106,782	0.183	19,510	846	20,356
<i>Projected</i>					
2005	109,465	0.179	19,594	1,000	20,594
2010	115,774	0.179	20,724	1,000	21,724
2015	122,447	0.179	21,918	1,000	22,918
2020	129,504	0.179	23,181	1,000	24,181

Sources: City of Ventura Urban Water Management Plan, Dec. 2000
City of Ventura 2004 Biennial Water Supply Report as amended, September 2004 (see Appendix F)

(1) Per capita use excludes raw water and oil use.

General Plan Draft Environmental Impact Report, Historic and Projected
Water Production, Table 4.13-8

**Table 4.13-15
Projected Water Demand
Intensification / Reuse Only (Scenario 1)**

	Residential		Non-Residential Development					Grand Totals	
	Number of Units	Water (AFY)	Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)	Water (AFY)	Water (AFY)
Districts									
Upper North Avenue	100	50	10,000	50,000	150,000		210,000	70	120
North Avenue	50	25	10,000	50,000	250,000		310,000	105	130
Downtown	1,000	507	100,000	200,000		150,000	450,000	168	975
Pacific View Mall	25	13	25,000		0		25,000	7	20
Factor	300	151	66,000			150,000		54	205
Arundell	200	101	25,000	300,000	1,900,000		1,325,000	444	645
North Bank	50	25	300,000	50,000	300,000		650,000	204	238
Montalvo	50	25		50,000	35,000		75,000	23	48
Satcoy	50	25	0		25,000		25,000	9	34
Subtotals (Districts)	2,425	1,223	536,000	700,000	1,750,000	300,000	3,286,000	1,084	2,307
Corridors									
Ventura Avenue	500	404	40,000	100,000	50,000		190,000	57	480
Man Street	100	50	15,000	40,000			55,000	15	60
Thompson Boulevard	300	151	15,000	40,000			55,000	15	167
Loma Vista Road	25	13	15,000	40,000			55,000	15	28
Telegraph Road	250	122	15,000	40,000			55,000	15	142
Victoria Avenue	50	25	15,000	40,000			55,000	15	41
Johnson Drive	150	78	50,000	20,000			70,000	20	95
Wells Road	50	25	15,000	20,000			35,000	10	35
Subtotals (Corridors)	1,725	870	180,000	340,000	50,000	0	570,000	163	1,033
SOI/Other Infill									
101/128 Agriculture	200	101					0	0	101
Wells/Satcoy	1,050	523					0	0	530
Pierpont	100	50	30,000				30,000	5	58
Other Neighborhood Centers	100	50						0	60
Second Units	300	151						0	151
Unservitized	250	120						0	128
Vacant	450	227	185,000	50,000			215,000	60	267
Subtotals (Other Infill)	2,450	1,236	195,000	50,000	0	0	245,000	69	1,304
Totals (Intensification/Reuse)	6,600	3,329	911,000	1,090,000	1,800,000	300,000	4,101,000	1,316	4,645
Planned and Pending Developments									
Downtown	50	25	1,073			150,000	151,073	84	110
Ventura Avenue/Westside	238	120	7,088		27,000		34,088	13	133
Midtown	34	17	13,751				13,751	4	21
College (Telegraph/Loma Vista)	4	2	2,718		5,249		11,527	3	5
Telephone Road Corridor	250	122		54,785			54,785	15	144
Montalvo/Victoria	290	142		4,300			4,300	1	151
Satcoy/East End	840	424	7,850	5,000			13,850	4	227
Arundell		0	41,840	42,614	12,080		102,534	30	30
Olivas		0	7,100	7,068	352,053		404,275	142	142
Subtotals (Planned/Pending)	1,718	867	81,377	123,214	435,133	150,000	789,724	295	1,162
Totals (Intensification + Expansion + Pending)	8,318	4,196	992,377	1,213,214	2,235,133	450,000	4,890,724	1,611	5,806

General Plan Draft Environmental Impact Report, Projected Water Demand, Intensification/Reuse Only, Table 4.13-15

**TABLE ES-1
HISTORIC WATER DEMAND TRENDS**

Year	Total Production (AF)1/	Untreated Water Use (AF)2/	Treated Water Use (AF)3/	Average Day Demand (MGD)	Maximum Day Demand (MGD)4/	Maximum Day Peaking Factor5/	Estimated Water Population6/	Per Capita Use Factor (AF/Yr)7/	Rainfall (inches)8/
1976	19421	3828	15593	13.92	19.81	1.41	67867	0.2304	14.1
1977	17360	3169	14191	12.67	20.30	1.60	68020	0.2056	14.0
1978	18227	3409	14818	13.23	23.46	1.77	70253	0.2109	36.5
1979	19320	3164	16157	14.43	24.98	1.73	72336	0.2234	20.3
1980	22147	4768	17381	15.52	27.27	1.76	76153	0.2282	25.0
1981	22436	4337	17489	15.62	30.78	1.97	80587	0.2172	15.9
1982	21205	4781	16424	14.88	25.95	1.77	82140	0.2000	17.2
1983	19658	3837	15822	14.31	25.71	1.80	84856	0.1888	36.1
1984	24522	4402	20120	17.96	27.03	1.50	86203	0.2334	8.7
1985	23169	4045	19123	17.07	30.81	1.79	88276	0.2186	9.7
1986	22283	3676	18607	16.60	24.98	1.51	89254	0.2082	21.8
1987	22456	2824	19632	17.63	28.14	1.61	91120	0.2155	12.2
1988	24089	3480	20609	18.42	30.16	1.64	92700	0.2225	11.8
1989	23921	2669	21253	18.80	30.85	1.65	94575	0.2226	5.1
1990	19148	2312	16837	15.03	20.81	1.39	98758	0.1708	5.8
1991	14660	2077	12583	11.23	18.43	1.64	99531	0.1284	17.0
1992	16735	1825	15110	13.49	20.44	1.52	N/A	N/A	N/A
Minimum	14680	1825	12583	11.23	18.43	1.39			
Maximum	24522	4837	21053	18.80	30.85	1.97		0.1284	5.1
Average (1976-92)	20643	3481	17162	15.72	26.05	1.65		0.2334	36.5
Average (1976-89 pre-mandatory conservation)	21302	3888	17414	16.32	28.28	1.68		0.2075	18.9
								0.2154	16.9

11/22/09

1/ Total production is all water produced or delivered from City sources; AF = acre feet.
 2/ Untreated water use is oil company and agricultural water use in the North Ventura Avenue area (CMWD direct + Kingston effluent).
 3/ Treated water use is total production less untreated water use.
 4/ Maximum day demand is based on treated water production (Ball Course Wells + Sycamore Well + Victoria Well + CMWD #2 + A's MWD + Power effluent + Valley Vista BPS); MGD = million gallons per day.
 5/ Peaking factor for maximum day demand is related to average day demand.
 6/ Estimated water population is the approximate population served by the water system; this is slightly higher than the population within the City limits (see Table 5).
 7/ N/A = data not available.
 8/ Per capita use factor is treated water use divided by population.
 City-wide annual rainfall averaged from four rainfall stations: Downtown, Avenue 10, Hill Canyon, and the County Government Center.

Water System Operational Evaluation & Improvement Program Historic Water Demand Trends, Table ES-1

TABLE ES-2
HISTORIC WATER CONSUMPTION SUMMARY^{1/}

Consumption Category ^{2/} Code	1990		1989		1988		1987		1986	
	Water Use (AF)	% of Total Production	Water Use (AF)	% of Total Production	Water Use (AF)	% of Total Production	Water Use (AF)	% of Total Production	Water Use (AF)	% of Total Production
Residential: (R)										
Single unit	5881	30.7	7277	30.4	7459	31.0	7684	35.0	7168	32.2
Multi unit	3751	19.8	4022	16.8	4012	16.7	4118	18.3	3549	15.9
Unclassified	671	3.5	747	3.1	753	3.1	734	3.3	598	2.7
Subtotal	10303	53.8	12046	50.4	12223	50.7	12716	58.8	11313	50.8
Commercial (C)	4128	21.5	4381	18.3	4574	18.0	4558	20.3	3568	16.0
Industrial (N)	333	1.7	399	1.7	405	1.7	571	2.5	540	2.4
Municipal (M)	344	1.8	390	1.6	349	1.4	333	1.5	305	1.4
Untreated Wtr (G)	2107	11.0	2841	11.9	3263	13.5	3328	14.8	3391	15.2
Other:										
Schools (S)	348	1.8	346	1.4	354	1.5	421	1.9	344	1.5
Churches (H)	130	.7	148	.8	127	.5	217	1.0	264	1.2
Firelines (F)	8	.0	11	.0	14	.1	72	.3	21	.1
Irrigation (I)	129	.7	125	.5	109	.5	125	.6	96	.4
Temporary (T)	55	.3	89	.4	41	.2	43	.2	28	.1
Closed acct (Z)	0	.0	2	.0	8	.0	258	1.1	906	4.1
Subtotal	688	3.5	721	3.0	653	2.7	1136	5.1	1657	7.4
Total Consumption	17881	83.4	20777	83.9	21467	89.1	22642	100.8	20772	83.3
Water Loss ^{3/}	1257	6.6	3144	13.1	2822	10.9	-188	-8	1491	6.7
Total Production	19148	100.0	23921	100.0	24089	100.0	22456	100.0	22263	100.0

^{1/} Data is from City water consumption billing records (AF = acre feet).
^{2/} Consumption categories are from City billing data base.
^{3/} Water loss is the difference between total production and total consumption; the 1987 figure of 188 AF is an anomaly due to meter read cycles.

Water System Operational Evaluation & Improvement Program Historic Water Consumption Summary, Table ES-2

TABLE ES-8

POTENTIAL YIELD OF EXISTING WATER SOURCES

Existing Source	Potential Long-Term Yield (acre-feet) ^{1/}			Projected Water Quality (mg/l TDS) ^{2/}
	Wet Year	Avg Year	Dry Year	
Ventura River	11,000	6,700	700	660
Lake Casitas ^{3/}	7,090	7,090	4,960	450
Oxnard Plain Basin ^{4/}	4,090	4,090	4,090	1,100
Santa Paula Basin	3,000	3,000	3,000	1,000
Mound Basin	<u>6,000</u>	<u>6,000</u>	<u>6,000</u>	2,100
Total	31,180	26,880	18,750	

- 1/ Potential long-term (year 2010) yield of existing sources per the Long-Term Sources Evaluation study. Some of the existing sources require additional production facilities to provide the potential yields shown. Assumes groundwater safe yields extracted in wet, average, and dry years.
- 2/ Projected water quality is the average TDS for the past five years, except for the Mound Basin where quality is expected to continue to deteriorate from current levels.
- 3/ Lake Casitas yield is the City's Stage 2 annual allocation for wet and average years, and Stage 5 allocation (70% of Stage 2 allocation) for dry years.
- 4/ Oxnard Plain Basin long-term yield (year 2010 and beyond) is 75% of GMA baseline allocation (yield decreases in 5% steps from baseline beginning in 1992).

Water System Operational Evaluation & Improvement Program Potential Yield of Existing Water Sources, Table ES-8

TABLE ES-10

**POTENTIAL FUTURE WATER SOURCE REQUIREMENTS
(For Annual Water Quantity Needs Only -
Quality Needs Are Not Included)**

Study Year	Total Demand ^{1/}	Potential Yield from Existing Sources ^{2/}			Net Supply (Deficit) ^{3/}		
		Wet Yr	Avg Yr	Dry Yr	Wet Yr	Avg Yr	Dry Yr
1995	24,027	31,990	27,690	19,560	7,963	3,663	(4,467)
2000	24,280	31,720	27,420	19,290	7,440	3,140	(4,990)
2010	25,732	31,180	26,880	18,750	5,448	1,148	(6,982)
2040	30,959	31,180	26,880	18,750	221	(4,079)	(12,209)

1/ From Table ES-4 (all values in table are in acre-feet).

2/ From Table ES-8 and including GMA Stepped reductions of Oxnard Plain Basin sources (5% reduction increments in 1995, 2000, 2005, and 2010). Some of the existing sources require additional production facilities to provide the potential yields shown.

3/ Total existing source capacity less total demand.

Conjunctive Use of Sources

One of the recommendations of the Long-Term Sources Evaluation study is to increase the overall yield of existing water sources by implementing a conjunctive use operating procedure. This procedure would involve utilizing surface waters (Ventura River, Lake Casitas, and SWP) during wet years to the fullest extent possible while letting groundwater sources rest. During dry years when the surface water source yields are reduced, the groundwater sources can be pumped to meet remaining demands. Production facilities for the additional dry year extractions would be required. This approach can also be implemented if desalinated seawater is chosen by conjunctively using groundwater and Ventura River and Lake Casitas water.

Conjunctive use of the City's existing groundwater sources is limited by the requirement to maintain long-term production from the groundwater basins within their safe yields. The total safe yield of existing groundwater sources is estimated to be approximately 13,000 acre-feet per year in the year 2010. The Oxnard Plain and Mound Basins are recommended to be conjunctively used, because both basins have large storage and transmissivity capacities. The Oxnard Plain Basin also has an accounting system in place per the GMA ordinances.

In order for conjunctive use of existing groundwater sources to be feasible, a long-term balance between wet, average, and dry year conditions must occur. Beginning a conjunctive use program after an extended dry period is not recommended, because groundwater levels have been reduced and require several wet years to bring levels back to normal conditions.

Potential Future Water Sources Requirements

The quantity of water needed by the City from new sources depends on several factors, including the anticipated long-term yield of existing water sources under varying weather conditions, potential future water demands in the system, which potential future water sources are implemented, and water quality goals. Even without improving the quality of water provided to the customers, additional water is needed now and in the future just to meet quantity deficits in dry years. Table ES-10 summarizes the water quantity needs for future demand conditions based on potential yields from existing sources only. As shown in the table, water quantity deficits are anticipated in all future dry years, and in average years by 2040. Dry year deficits would be approximately 4,500 acre-feet in 1995 and approximately 7,000 acre-feet per year by 2010. Additional water quantities beyond those indicated would be needed to improve water quality.

Water System Operational Evaluation & Improvement Program Potential Future Water Sources Requirements, Page ES-16

**Table 2-3
Population and Housing Projections**

	2004 Levels ^a	2025 Estimates		Change from 2004-2025	
		0.88% Annual Growth	1.14% Annual Growth	0.88% Annual Growth	1.14% Annual Growth
Population	104,952	126,153	133,160	21,201	28,208
Housing Units ^b	40,880	49,138	51,867	8,258	10,987

^a Source: California Department of Finance, City/County Population and Housing Estimates, 1/1/2004. Note that 2004 data are used as the baseline because 2005 data were not available when the EIR was initiated in Fall 2004; 2005 population and housing estimates are provided in Table 3-1 in Section 3.0, Environmental Setting.

^b Housing unit estimates assume that the current ratio of 2.57 persons per household remains constant through 2025. In reality, the number of persons per unit could go up or down, depending upon housing costs, the types of housing built in the City, population growth, and other factors.

General Plan Draft Environmental Impact Report, Table 4.13-15

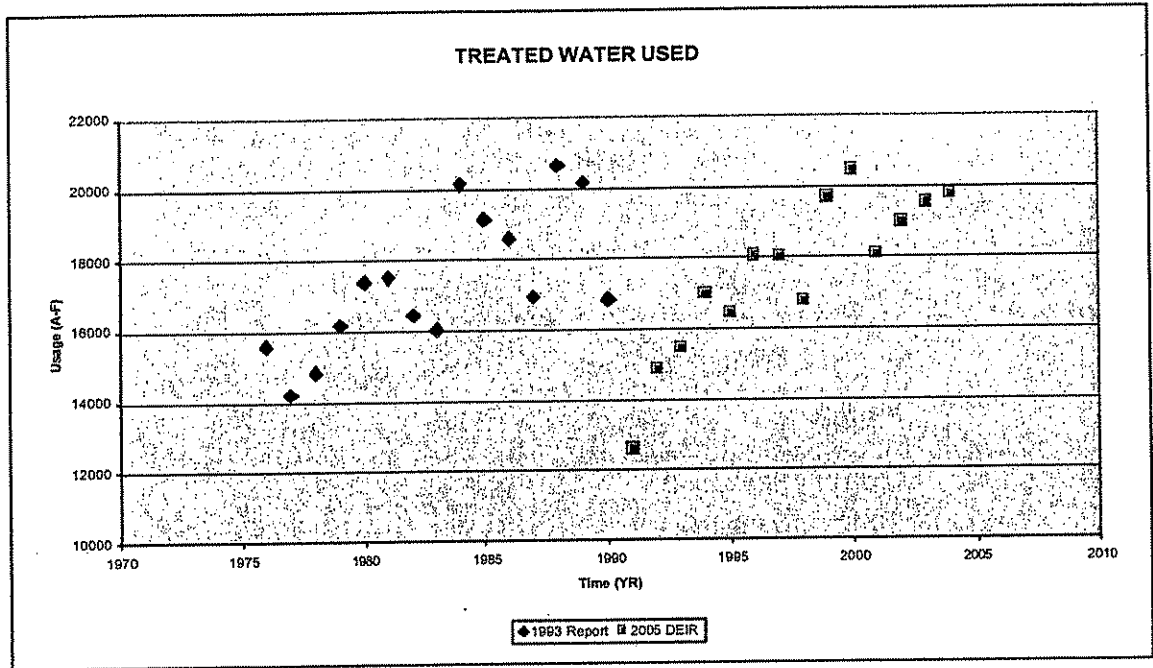
Table 1: Historic and Projected Water Source Production and Supply Availability (acre-feet)

Year	Surface Water		Ground Water				Total Water Supply (7)
	Ventura River (1)	Lake Casitas (2)	Mound Basin (3)	Oxnard Plain Basin (4)	Santa Paula Basin (5)	Saticoy Yard Well (6)	
Historic Production							
1980	7,276	7,544	0	5,198	2,129		22,147
1985	5,493	9,099	2,360	6,172	46		23,170
1990	2,859	6,175	4,365	5,749	0		19,148
1995	9,042	1,622	2,169	2,603	2,594		18,030
1996	7,926	4,456	2,789	2,768	1,599		19,538
1997	7,052	7,089	213	3,452	2,025		19,831
1998	8,069	4,328	802	4,312	1,033		18,544
1999	6,419	7,061	3,955	1,621	1,669		20,725
2000	6,779	5,836	4,579	2,674	1,698		21,566
2001	5,727	6,292	4,030	905	2,006		18,960
2002	5,951	7,127	3,720	1,978	1,157		19,933
2003	6,722	4,874	5,546	2,898	316		20,356
Projected Supply							
2004	6,700	8,000	4,200	4,600	3,000	0	26,500
2009	6,700	8,000	4,200	4,400	3,000	2,262	28,562
2014	6,700	8,000	4,200	4,100	3,000	2,262	28,262

Notes:

1. Ventura River future supply is the average long-term production based on analysis of the period from 1939 to 1982 per the Evaluation of Long Term Alternative Water Sources, James M. Montgomery, June 1993.
2. Includes the City's total past Casitas purchases in addition to raw water and oil recovery users; projected supply is the City's current in-district use.
3. Mound Basin future supplies are 75 percent of well pump rated output.
4. Oxnard Plain Basin future supply is based on GMA restricted extraction limits rounded to nearest 100 AF.
5. Santa Paula Basin future supply is the pumping allocation of the Stipulated Judgement.
6. Saticoy Yard Well future supply is 75 percent of design maximum pump output capacity.
7. Includes treated and raw water; excludes reclaimed water supply.

Source Data used for Analyzing Water Usage								
	1993 Water System Operational Evaluation & Improvement Program				2005 General Plan Draft Environmental Impact Report			
	Water Population	Treated Water Use	Per Capita Use Factor	Rainfall	Water Population	Treated Water Use	Per Capita Use Factor	Rainfall
1940					13264	4240	0.320	12.54
1950					16534	5307	0.321	13.34
1960					29114	8832	0.303	12.08
1970					57964	17051	0.294	13.92
1976	67667	15583	0.2304	14.1000				
1977	69020	14191	0.2056	14.0000				
1978	70265	14818	0.2109	36.5000				
1979	72338	16157	0.2234	20.3000				
1980	76153	17381	0.2282	25.0000	73774	17381	0.236	24.78
1981	80587	17499	0.2172	15.9000				
1982	82140	16424	0.2000	17.2000				
1983	84856	16022	0.1888	36.1000				
1984	86203	20120	0.2334	8.7000				
1985	88276	19123	0.2166	9.7000				
1986	89254	18587	0.2082	21.6000				
1987	91120	16932	0.2155	12.2000				
1988	92700	20629	0.2225	11.9000				
1989	94575	20153	0.2226	5.1000				
1990	98758	16837	0.1708	5.9000	94856	16831	0.177	5.53
1991	99531	12583	0.1264	17.0000	94913	12583	0.135	17.01
1992		15110			95626	14846	0.155	20.91
1993					96540	15449	0.160	28.21
1994					97154	16980	0.175	11.47
1995					99668	16428	0.165	34.52
1996					100482	18038	0.180	13.81
1997					101096	18002	0.178	16.02
1998					101610	16775	0.165	43.25
1999					102224	19658	0.192	10.56
2000					103238	20432	0.198	17.04
2001					104153	18071	0.173	23.22
2002					105267	18965	0.180	7.24
2003					106782	19510	0.183	20.06



Letter 6

COMMENTER: Daniel Cormode

DATE: June 19, 2005

RESPONSE:

Response 6A

The commenter states that the Draft EIR does not provide updated information on the water system from the 1993 Water Master Plan. The current water system is described on pages 14.13-1 through 4.13-7 based on updated information provided by City Public Works Department staff. The 1993 Water Master Plan is incorporated by reference in the Final EIR.

Response 6B

The commenter states that the Draft EIR does not address historic or future water source by category, the impact of drought conditions on the yield of existing water sources, or potential future water source requirements. Detailed historic water consumption by land use category is not available. Detailed future consumption by area and by land use category is provided in Tables 4.13-15 through 4.13-20 for Scenarios 1 through 6, respectively. Potential sources of supply are shown in Table 4.13-7 and the entire discussion under Impact U-1 compares projected future water demand to available supply. The Biennial Water Supply Report included in Appendix F includes discussion of various City programs that augment City supplies under drought conditions. A detailed analysis of available water supply during various drought conditions will be undertaken as part of the City's Urban Water Management Plan, which must be updated in years ending in zero and five. Demand projections from the various scenarios were, however, compared to those of the 2000 UWMP and all were below those projections.

Response 6C

The commenter suggests that the Draft EIR estimates future water demand based on a constant per capita rate and notes that per capita water consumption has risen since 1991. The projections of future water demand contained in Section 4.13 of the Draft EIR are not based upon a per capita rate, but rather are based upon water demand factors for the various uses anticipated under the 2005 General Plan. Therefore, the fact that per capita consumption may have increased slightly does not affect the water demand projections or conclusions regarding the availability of water supply.

Future water demand was not projected based on a per capita rate, but rather was projected based on typical rates for the uses anticipated to be developed through 2025. Therefore, the current per capita rate from the Biennial Report (which includes all water demand associated with all uses) cannot be compared only to the demand associated with future residential development. Instead, it should be compared to the entire projected demand associated with all uses. For comparison purposes, the increase in annual water demand for Scenario 6 is estimated at 7,611 acre-feet, while the projected population increase for that scenario is 28,208



(as shown in Table 2-3 in Section 2.0, *Project Description*). This equates to a per capita rate of 0.269 acre-feet per person (7,611/28,208). Other scenarios would yield similar per capita consumption.

The projected per capita rate of 0.269 acre-feet per year is about 50% higher than the current citywide per capita rate of 0.179 acre-feet per year. Therefore, water demand associated with future development has been projected based upon a conservative estimate of per capita water consumption. The estimates of overall citywide water demand in 2025 are conservative not only because of the high per capita rate assumed, but also because the baseline citywide water demand assumed for all scenarios is the highest water use from the past five years (21,500 acre-feet per year).



7

23 June 2005

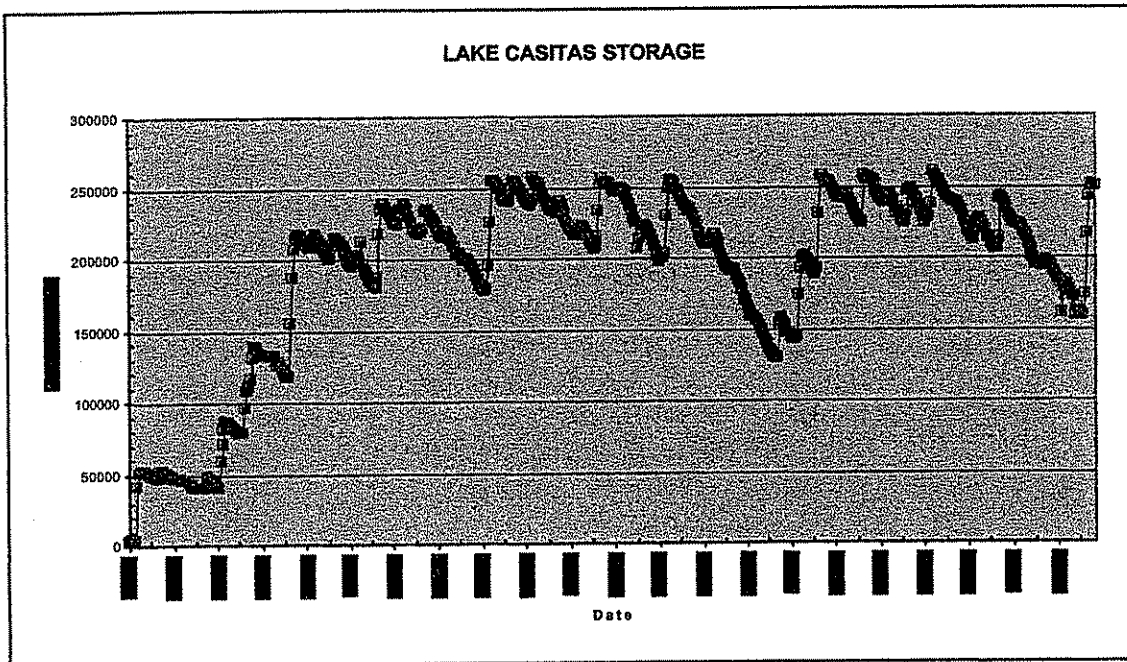
From: Daniel Cormode
186 Gorrion Ave
Ventura, CA 93004

To: City of San Buenaventura
501 Poli St
Ventura, CA 93002
Attn: Kari Gialketsis

Subj: 2005 General Plan Draft Environmental Impact Report Review Comments

Ref: (a) Daniel Cormode ltr re: 2005 General Plan Draft Environmental Impact Report Review Comments dated 19 June 2005

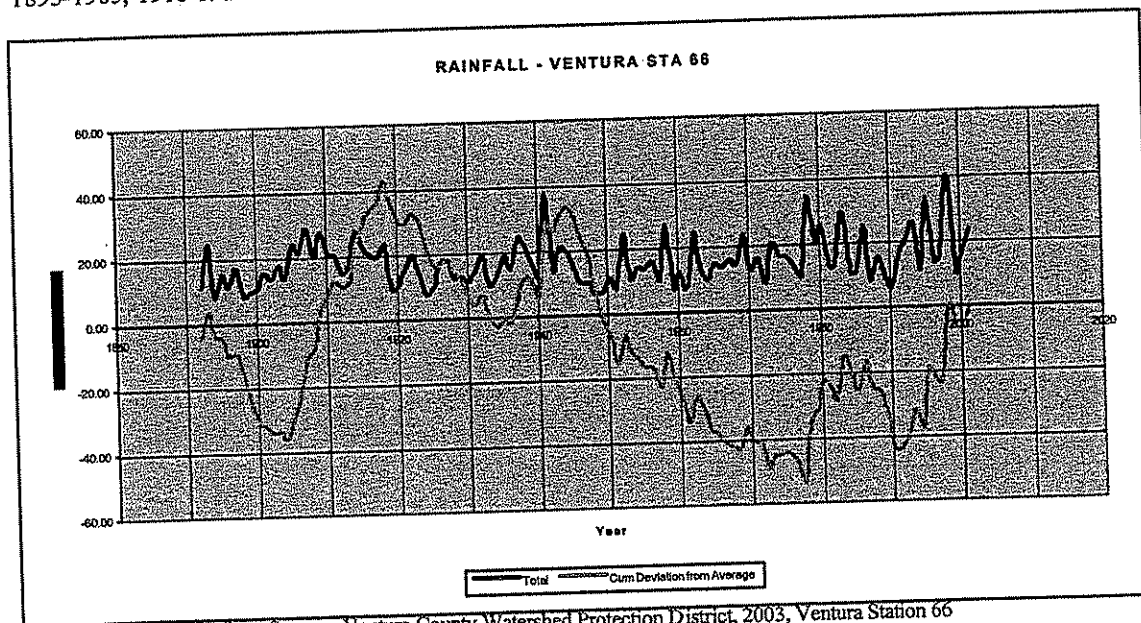
1. A review of the General Plan Draft Environmental Impact Report June 2005, Section 4.13, UTILITIES & SERVICE SYSTEMS, was conducted and comments were contained in reference (a)/
2. Additional comments are forwarded relative to review of the subject document.
3. The subject document does not adequately address the impact of a prolonged drought and the adequacy of water resources to supply the required water under those conditions.
4. During the April 1986 through January 1991, the volume of water stored in Lake Casitas decreased by 48% from 254,800 A-F to 129,173 A-F and is shown in Figure 1.



Data Source:

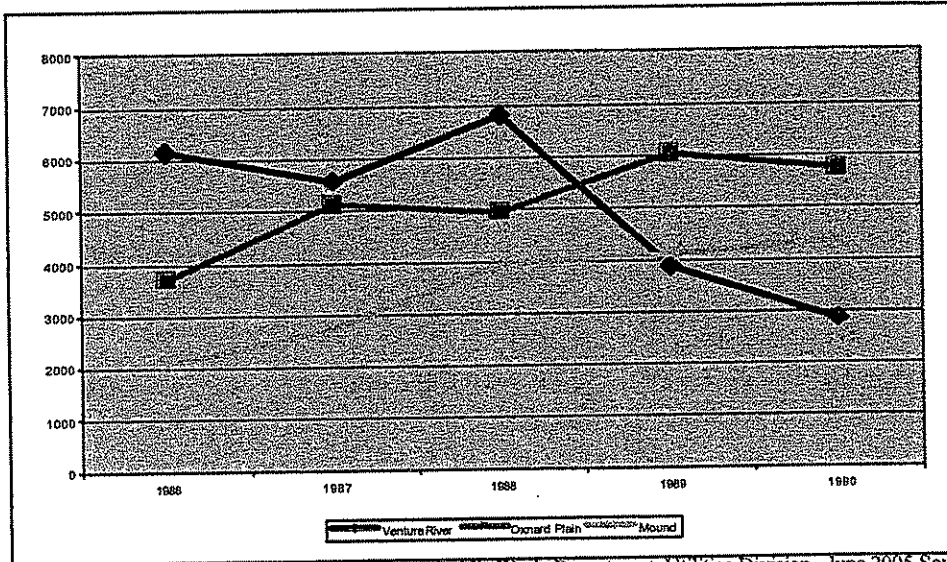
California Department of Water Resources, Division of Flood Management, June 2005 Lake Casitas
Figure 1 – Lake Casitas Water Storage (A-F)

5. It is highly probable that additional droughts can be identified from the examination of rainfall data for the years 1891-2001 for Ventura Station 66 shown in Figure 2. Droughts of 8 years probably occurred during the years 1893-1905, 1918-1925 and 1944-1951 and a 5 year drought occurred during 1986-1990.



Data Source: Ventura County Watershed Protection District, 2003, Ventura Station 66
Figure 2 - Annual and Cumulative Deviation from Average Rainfall for Ventura Station 66

6. Drought conditions also impact the ability of the City to pump water from the Ventura River basin. And increase the load on the Oxnard and Mound aquifers and i9s shown in Figure 3. The DEIR does not discuss the ability of the aquifers to supply water during prolonged drought conditions.



Data Source: Developed from City fo San Buenaventura, Public WorksDepartment, Utilities Division, June 2005 Source Data

SOURCE PRODUCTION - DATA IN ACRE FEET					
APRIL 1986 - FEBRUARY 1991					
	Ventura River/ Foster Park	Oxnard Plain/ Golf Course	Saticoy#2	Mound/ Victoria	TOTAL
1986	6,161.68	3,705.32	0.00	2,074.65	11,941.65
1987	5,574.86	5,111.35	0.00	2,726.21	13,412.42
1988	6,803.49	4,947.15	0.00	3,932.27	15,682.91
1989	3,858.80	6,033.46	0.00	4,100.92	13,993.18
1990	2,858.73	5,749.18	0.00	4,365.59	12,973.50
1991	193.67	745.69	0.00	533.16	1,472.52
TOTAL	25,451.23	26,292.15	0.00	17,732.80	69,476.18

Source: City fo San Buenaventura, Public Works Department, Utilities Division, June 2005

7. For additional information, please contact Daniel Cormode by telephone at 805-647-4063 or by e-mail at dcormode@sbcglobal.net.

Copy to:

City Manager
Community Development Director
Urban Planning Manager
Economic Development Manager
Mayor
City Council

Letter 7

COMMENTER: Daniel Cormode

DATE: June 23, 2005

RESPONSE:

The commenter states an opinion that the Draft EIR does not adequately address the impact of a prolonged drought and the adequacy of water resources to supply the required water under those conditions. As stated in responses to Letter 6 (the commenter's June 19, 2005 letter), the Biennial Water Supply Report included in Appendix F discusses various City programs that augment City supplies under drought conditions. The impact of drought on the ability of the water supply system, including the management of surface and groundwater storage, is addressed in the City's Urban Water Management Plan, which is updated in years ending in zero and five. It should also be noted that any future development of more than 500 dwelling units would also be subject to the requirements of Senate Bills 221 and 610, which require a Water Supply Assessment and Verification Report that must address drought conditions.



20 June 2005

8

From: Daniel Cormode
186 Gorrion Ave
Ventura, CA 93004

To: City of San Buenaventura
501 Poli St
Ventura, CA 93002
Attn: Kari Giaketsis

Subj: 2005 General Plan Draft Environmental Impact Report (DEIR) Review Comments

Ref: (a) Daniel Cormode e-mail of 20 May 2001

1. The subject DEIR identifies impacts to fire services, police services, traffic; circulation, storm drain systems and schools which will required additional funding. Some of those mitigation measures will require public finding as they will benefit the general population and other mitigation measures having direct impact as a result of the development require funding by developer. These magnitude of these economic impacts do not appear to be discussed in either the proposed 2005 General Plan nor the subject DEIR.

2. It is recommended discussion of the following relevant economic/fiscal elements identified in the State of California General Plan Guideline be adequately addressed in the subject DEIR and discussion should be contained therein. Those elements include discussing:

a. Fiscal Stability, including existing and potential revenue resources, costs of services and facilities and economic forecasts.

b. Budgetary Structure, including: existing outlays to departments, services and comparable revenue recoupment mechanisms and levels; and comparison of facility and services versus efficiency of providing the programs.

3. For additional information, please contact me by telephone at 805-647-4063 or by e-mail at dcormode@sbcglobal.net.

Copy to:

City Manager
Community Development Director
Urban Planning Manager
Economic Development Manager
Mayor
City Council

Subj: Economic Development Issue Paper
Date: 5/20/01
To: merrymanwcc@aol.com
CC: sandmand@pacbell.net
BCC: ttanda@pacbell.net

Margaret,

At the 16 May 01 CPAC Meeting, an Economic Development Issue Paper for the City of San Buenaventura Comprehensive Plan was presented to members of the Comprehensive Plan Advisory Committee (CPAC).

The presentation stated that Economic Development Goals and policies can assist the City in achieving its overall Vision by:

- Guiding economic revitalization in key areas of the community;
- Presenting new economic options for development at key entry points to the City;
- Promoting the City's economic potential to achieve regional prominence, strengthen the economic base of the City, and stimulate other economic investments in the community;
- Seeking to minimize sales tax "leakage" to surrounding areas and increase fiscal benefits;
- Providing a healthy climate to encourage economic investments in the community;
- Emphasizing training and job opportunities for local workers;
- Providing a choice of housing opportunities commensurate with job growth;
- Maintaining a high level of public services and infrastructure for residents and businesses; and
- Actively pursue opportunities for a more balanced economic base in all focus areas.

What is missing from both the above presentation and the Vision, are identification, and potential cost if applicable, of:

- Key areas of the City requiring revitalization;
- The type of revitalization required for each key area;
- Specific economic options;
- Key entry points to the City;
- The economic potential of the City through an economic model or other measurable statistical analysis tool;
- The ability for the City to sustain itself economically, both currently and in the future, based on City infrastructure maintenance and support requirements;
- The climate needed to encourage economic investment in the City;
- Training and job opportunities for local workers;
- Types of housing opportunities available;
- Areas of current/expected job growth;
- Current/Future public services and infrastructure requirements by both residents and business; and
- opportunities for a more balanced base.

Furthermore, I feel the data contained in the presentation did not clearly relate to the following relevant economic/fiscal elements identified in the State of California General Plan Guidelines:

- Business retention and development by sector;
 - Identification of the needs, limitations and alternatives to existing businesses;
 - Identification of potential improvements and strategies which would encourage business retention;
- Employee Development

- Areas of employment growth, shortages and needs;
- Business Recruitment:
 - Relevant issues concerning the types, number, and success of existing and potential recruitment strategies.
 - Identification of those businesses which would be compatible with the objectives of the general plan and consistent with the carrying capacity of the land and infrastructure.
- Fiscal Stability
 - Includes existing and potential revenue resources, costs of services and facilities and economic forecasts.
- Budgetary Structure
 - Existing outlays to departments, services and comparable revenue recoupment mechanisms and levels.
 - Comparison of facility and services versus efficiency of providing the programs.

Recommend the above concerns be either placed on the CPAC meeting agendas for discussion or forwarded on to City Staff for action as appropriate.\

R/

Daniel Cormode
805-647-4063

Excerpts fro Draft EIR

- **Storm Drain System** - potential impacts due to system deficiencies in older parts of the City, including Ventura Avenue corridor and Downtown district (all scenarios); this impact can be mitigated through development of funding mechanisms to address system deficiencies
- **Fire Protection Service** - potentially significant impacts to fire protection service in the North Ventura Avenue area (Scenarios 2-6); this impact can be mitigated through development of a new fire station in the North Ventura Avenue area
- **Police Protection Service** - potentially significant impacts relating to the need for new facilities (all scenarios); this impact can be mitigated through expansion of facilities as necessary
- **Traffic Performance Standards** - potentially significant impacts to roadway intersections (Scenarios 1, 3, 4, 5, and 6); impacts can be mitigated through policies and actions directing implementation of feasible system improvements as needed

<p>Impact HWQ-2 Development accommodated through the year 2025 under any of the land use scenarios under consideration for the 2005 General Plan would increase the amount of impervious surfaces within the Planning Area, potentially increasing surface runoff in areas where existing storm drain systems are deficient. This is considered a Class II, significant but mitigable, impact for all scenarios.</p>	<p>HWQ-2 Additional Drainage Actions. The following actions shall be added to the 2005 General Plan to address existing storm drain system deficiencies:</p> <ul style="list-style-type: none"> • Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City. • Adopt assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist (e.g., Downtown district, Ventura Avenue corridor, and Harbor district). 	<p>Less than significant for all scenarios.</p>
---	---	---

<p>Impact PS-1 Development under any of the 2005 General Plan land use scenarios would increase the City's population and density of development, and introduce new development into high fire hazard areas. This would increase demand for fire protection services and potentially create the need for new fire protection facilities. With proposed General Plan policies, impacts for Scenario 1 are Class III, less than significant. Impacts for Scenarios 2-6 are considered Class II, significant but mitigable.</p>	<p>PS-1(a) North Avenue and Western Cañada Large Expansion Areas. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the North Avenue expansion area or the Western Cañada Large expansion area is adopted:</p> <ul style="list-style-type: none"> • Add a fire station in the North Avenue area as determined necessary by the Ventura Fire Department. Consider an assessment district for the North Avenue area to fund a new station. <p>PS-1(b) Poinsettia Expansion Area. The following action shall be added to the 2005 General Plan if any land use scenario that includes possible future development of the Poinsettia expansion area is adopted:</p> <ul style="list-style-type: none"> • Include a fire station site in any future specific plan for the Poinsettia expansion area if determined necessary by the Ventura Fire Department. 	<p>Less than significant for all scenarios.</p>
---	---	---

<p>Impact PS-2 Possible future development under Scenarios 1-6 would increase the City's population and density of development, thereby resulting in the need to construct new facilities in order to provide effective police protection service. Impacts would be Class II, significant but mitigable, for any of the six land use scenarios.</p>	<p>PS-2 Police Protection Service. The following actions shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> • Establish a new Downtown storefront to meet the needs of the growing Downtown population • Expand the Police Department headquarters as necessary to accommodate staff growth. 	<p>Less than significant for all scenarios.</p>
--	--	---

<p>Impact PS-3 Projected enrollment growth under the 2025 General Plan would exceed the capacity of existing schools within the Ventura Unified</p>	<p>None required, but the following are recommended:</p> <p>PS-3(a) School Coordination. The</p>	<p>Less than significant for all scenarios.</p>
<p>School District, thereby creating the need to construct additional facilities. However, payment of State-mandated school impact fees is presumed to provide funding for needed new school facilities. Therefore, although available land for new schools may be limited (particularly for Scenarios 1 and 5), impacts to schools would be reduced to a Class III, less than significant, level for any of the six land use scenarios.</p>	<p>following action should be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> • Coordinate with the Ventura Unified School District to ensure that school facilities can be provided to serve new development. <p>PS-3(b) Expansion Area Schools. The following action should be added to the 2005 General Plan if any land use scenario that includes an expansion area is adopted:</p> <ul style="list-style-type: none"> • Require expansion area specific plans to be prepared in coordination with the Ventura Unified School District and set aside land needed for new school facilities. 	

<p>Impact TC-1 Growth accommodated under any of the General Plan land use scenarios could result in deficiencies to the local circulation system based on recommended level of service standards. The number of locations that could have deficiencies based on the projected growth scenarios ranges from one (for Scenario 1) to four (for Scenarios 2 and 4). Feasible improvements are available to address all projected deficiencies for Scenarios 1, 3, 4, 5, and 6; therefore, impacts associated with those scenarios are considered Class II, significant but mitigable. For Scenario 2, implementation of feasible improvements would not achieve performance standards at the Johnson Drive/North Bank Drive intersection. The impact at that location is considered Class I, unavoidably significant, for Scenario 2.</p>	<p>To ensure that impacts are addressed and that the improvements identified in this EIR (or other feasible improvements that achieve the same objectives) are identified, the following measure is required:</p> <p>TC-1 Additional Circulation Action. The following action shall be added to the 2005 General Plan to ensure that traffic impacts of future developments are addressed and mitigated:</p> <ul style="list-style-type: none"> • Require project proponents to analyze traffic impacts and implement mitigation as appropriate prior to development. Depending upon the nature of the impacts and improvements needed, mitigation may either consist of implementing needed physical improvements, contributing "fair share" fee toward implementation of needed improvements, or some combination thereof. 	<p>Less than significant for Scenarios 1, 3, 4, 5, and 6. Unavoidably significant at Johnson Drive/North Bank Drive intersection for Scenario 2.</p>
---	--	--

Letter 8

COMMENTER: Daniel Cormode

DATE: June 20, 2005

RESPONSE:

The commenter states an opinion that the Draft EIR should include economic and fiscal analysis relating to increased demand for police and fire service, and transportation and storm drain infrastructure. It is not the EIR's purpose to discuss environmental or fiscal effects. The purpose of the EIR is to identify and, when possible, mitigate potentially significant environmental effects, which generally relate to physical changes to the environment. Section 15131 of the *CEQA Guidelines* states that "economic or social effects of a project shall not be treated as significant effects on the environment."



9

Gialketsis, Kari

From: Daluddung, Susan
Sent: Monday, June 27, 2005 11:37 AM
To: 'Charles Spraggins'
Cc: Gialketsis, Kari
Subject: RE: EIR

Hello Charles:

I understand that granny flats is the vernacular way of describing a guest house and even is used to describe second units. My understanding is that you are asking about second units.... under the law it has this new name.. People often the two. Two Second units are exempt from CEQA under State statute. the second point is that both second units and "granny flats " do not have an impact separate and apart from any other population-- so the answer is yes, the City has taken them into account with our population projections. I will forward you to our consultant if you are asking for more detailed information.

Have a great day.
Susan

Dr.Susan J. Daluddung
Community Development Director
Phone: 805-658-4723
Fax: 805-653-0763
sdaluddung@ci.ventura.ca.us
*Enhancing Ventura's quality of life by
leading the way towards a better tomorrow*

-----Original Message-----

From: Charles Spraggins [mailto:c.spraggins@sbcglobal.net]
Sent: Sunday, June 26, 2005 5:27 PM
To: sdaluddung@ci.ventura.ca.us
Subject: EIR

Has the EIR made any provision for the impact of the Granny Flats that have been included in the general plan? Since the implementation of the program will be impacted by the city's understanding of the resources required to build the flats, has a sensitivity analysis been done concerning alternate ways to implement the plan. Granny flats can create a lot of problems in neighborhoods with limited parking. Since residents are often using their garage for storage rather than their cars, just because a house has a garage does not mean that there is adequate parking. Since this issue can create a lot of legal issues between neighbors, how ill disputes be resolved without burdening the courts?

Charles Spraggins
Ventura, CA

Letter 9

COMMENTER: Charles Spraggins

DATE: June 26, 2005

RESPONSE:

The commenter asks whether the EIR has made any provision for “granny flats” and how disputes about parking associated with these units will be resolved. The EIR analysis assumes that up to about 300 second units will be built in the City through 2025, or about 15 units per year for 20 years. Therefore, the overall citywide impact of adding second units has been accounted for in the EIR. Any analysis of the impacts of individual second units would be speculative as the nature and magnitude of impacts would depend upon where such units are built. In any event, it should be noted that State law allows for the construction of second units in certain instances regardless of whether or not the proposed 2005 General Plan is adopted.



10

RECEIVED

JUL 08 2005

Community Development
PLANNING DIVISION

July 7, 2005

Ms. Kari Gialketsis, Principal Planner
Community Development Department
501 Poli Street
P.O. Box 99
Ventura, CA 93002-0099.

SUBJECT: COMMENTS TO THE DRAFT EIR

Dear Ms. Gialketsis:

We have reviewed the Public Review Draft Environmental Impact Report ("DEIR") and respectfully submit the following comments regarding the development potential identified for the Johnson Drive Corridor for City decision makers' consideration. We are concerned that the Development Potential identified in the DEIR of 150 residential units, 50,000 square feet of retail space and 20,000 square feet of office space appears to considerably understate the potential for this area.

We feel that a greater level of development should be encouraged in the Johnson Drive Corridor to better support the City's smart growth goals, and other sustainable development policies, especially with respect to the residential component. We believe that future intensification and redevelopment in the Johnson Drive Corridor, combined with future new development on available infill sites, makes the stated Development Potential in the Corridor insufficient. It is quite likely that the projected thresholds for residential and non-residential development described in the DEIR would be quickly realized on the two remaining undeveloped sites in the Corridor (both located at the intersection of Johnson and North Bank Drives). We contend that significantly increasing the intensity of residential development in the Johnson Drive Corridor would support the City's Smart Growth goals and encourage desirable development forms in this very important "gateway" corridor. Intensifying the residential development potential in the Johnson Drive Corridor would:

- 4. *Preserve open space, farmland, natural beauty and critical environmental areas.*
The Johnson Drive Corridor is adjacent to the farmland of the Serra Expansion Area being considered in the Draft EIR for future development and expansion of the City. By intensifying the development in this existing Corridor, it forestalls the development of nearby agricultural areas.

- ⊥ *Foster distinctive, attractive communities with a strong sense of place.* The Johnson Drive Corridor lacks a cohesive focus or image. The addition of a substantial, high-quality housing component would support a more diversified base of commercial establishments to better serve the corridor and the neighboring communities.
- ⊥ *Mix land uses.* Smart Growth encourages a mix of land uses both vertically and horizontally. By introducing a significant component of residential units to this commercial corridor, existing businesses can benefit from the stabilizing effect of this sizeable, adjacent customer base, while residents benefit from proximity to services and stores.
- ⊥ *Create walkable communities.* By encouraging the development of a substantial number of residential units in this corridor, we increase the opportunity for local businesses to be supported by walk-in customers. Residents will be able to walk to the movies or the nearby shops and make use of the Linear Park which runs along the perimeter of the Corridor.
- ⊥ *Create a range of housing opportunities and choices.* Because of the generally commercial nature of the corridor, a significant amount of housing would be an appropriate infill use. For example, rental product in this area would provide a much needed alternative to the for-sale product available further north on Johnson Drive.
- ⊥ *Provide a variety of transportation choices.* Intensifying the residential development in the Corridor allows an increased number of residents to benefit from proximity to the South Coast Area Transit (SCAT) bus route along Johnson Drive, Ventura Intercity Service Transit Authority (VISTA) bus stops, and easy access to the Freeway. By locating more potential commuters adjacent to the 101 Freeway, the impact of these new households on local traffic patterns would be reduced.

We understand that the City intends for the projections included with the DEIR to be assumptions for analytical purposes only, and that the Districts, Corridors and Expansion Areas could accommodate more development based on market forces and other factors. We acknowledge City staff's assertion that the Development Potential described in the DEIR is not intended as a future "cap" on development; however, we are concerned that the described Development Potential would later be perceived by members of the public (or even the City Council) as a limit to growth and, thus, constrain new residential development in this corridor otherwise ripe for infill/intensification. We fear this is a real possibility since the DEIR indicates that projected City growth was distributed among the various corridors and districts in the City "based on the development potential of each growth district and corridor and direction from the community, CPAC, Planning Commission and City Council on where growth in the community should be encouraged." Even clear language qualifying the empirical assumptions, as provided in

the footnotes to "Appendix C" of the DEIR, may do little to change the perception that the Development Potential projections are not targets or limits.

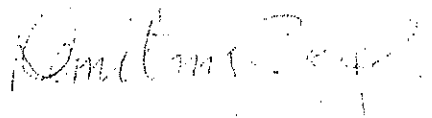
Equally concerning to us is the anticipated relationship among the DEIR, Draft General Plan and forthcoming Development Code, such that the same assumptions and projections used solely for analytical purposes in the DEIR (such as residential development potential) could become policy through the creation of the formal Development Code. In other words, those projections used solely for analysis in the Draft General Plan and DEIR could seriously limit future development opportunities if adopted into ordinance with the Development Code if the zoning density designations are derived from these figures. This could have the unintended consequence of turning the otherwise "analytical projections" into local law.

As a result of the above considerations, we respectfully recommend that the residential development potential in the Johnson Drive Corridor be revised substantially upward to accommodate the appropriate scale and quality of future housing in this key infill Corridor.

Sincerely,



Carol Schwartz
Assistant Vice President
Community Development
Casden Properties LLC



Demetrius Zeigler
Project Manager
Community Development
Casden Properties LLC

cc: Howard Katz, Vice President
Community Development

Ronald C. Mayhew, Vice President
Community Development

Letter 10

COMMENTERS: Carol Schwartz and Demetrius Zeigler, Casden Properties, LLC

DATE: July 7, 2005

RESPONSE:

The commenters re-state concerns about the amount of development assumed in the Draft EIR for the Johnson Drive corridor and request that the amount of development assumed for the Johnson Drive corridor be revised upward. These concerns are addressed in the response to Comment Letter 4. As the commenters acknowledge, the growth estimates included in the Draft EIR for all districts, corridors, and neighborhood centers are assumptions to be used for analytical purposes. These do not represent growth caps or restrictions and do not limit the ability of the City to approve individual projects that include more units or square footage than have been assumed in the EIR analysis. As such, there is no reason to adjust the growth estimates shown in the Draft EIR. The specific impacts of individual development projects will need to be addressed on a case-by-case basis.

In response to several comments on the Draft 2005 General Plan and Draft EIR, a table will be added to the General Plan that will show the carrying capacity of the total land area for the Plan. This table is intended to show what the total development potential is versus the realistic estimates provided in the original table (May Draft Overview, Table 2, pages 14 &15).



11

Howard and Howard Ranch
1575 Montgomery Avenue Ventura, California

Mailing Address 15000 SW Scarlett Drive Tigard, Oregon 97224 (503) 521-1551

*Members:
Sunkist Growers, Inc.
Saticoy Lemon Association
Calavo Growers of California*

*Owners:
Clyde Atkinson
Howard B. Atkinson
Diane H. Belding
Jean H. Mann*

July 14, 2005

TO: Kari Gialketsis, Principal Planner
City of San Buenaventura
Community Development Department

Cc: Lisa Porras, AICP, Senior Planner

FROM: Jean Howard Mann, Owner and Managing Partner
Howard and Howard Ranch

Subject: **Response to the Draft Environmental Impact Report for the 2005 Ventura General Plan**

On behalf of the partners of the Howard and Howard Ranch, and also, of all the farmers in the Serra area, I would like to take this opportunity to commend both Staff and the Consultants for a remarkable achievement in producing this EIR on the 2005 Draft Ventura General Plan. Having been an active citizen participant over the course of the past 5 years of this process, I am particularly gratified that so much attention was given to the issues of agriculture in the Ventura urban environment, and to the Serra area in particular. **A**

We understand that Scenario 1 – Intensification/Reuse is the first priority of the General Plan and that further discussion of the potential expansion areas, identified as Scenarios 2-6, will be postponed until after the adoption and ratification of both the General Plan and the EIR has occurred on August 8th. As owners of commercial agricultural land within the Serra area, we support this approach. However, we also agree with the statement in the General Plan (page 3-10) that “even the most successful effort to achieve community planning goals through infill may need to be supplemented at some point by expanding into areas outside the city limits.”

The Draft EIR has included the Serra area in two of the potential growth expansion scenarios, Scenario 2 (Intensification/Reuse + North Avenue + Olivas + Serra) and Scenario 4 (Intensification/Reuse + North Avenue + Serra). We are also aware that Staff has recommended “the North Avenue and Serra expansion areas as the top priority for development if future growth to the year 2025 cannot be met through infill development alone.” (Attachment D – Long-Term Potential Expansion Strategy to the General Plan). We strongly support their recommendation.

This response to the Draft EIR addresses several major concerns, contradictions, and what we believe to be errors in the content of the document, particularly as they affect the discussion of the Serra area. These points are as follows:

LACK OF CONSISTENCY IN THE MAPS (FIGURES) INCLUDED IN THE DRAFT EIR SHOWING THE SERRA AREA

The First Assembly of God Church site at the corner of Montgomery Avenue and Bristol Road

B

In November, 1999, this 25.59-acre parcel was removed from SOAR restrictions and pre-zoned to an R-1 Single Family zone with a subzone of R-1-1AC with the passage of Measure C the "First Assembly of God Land Initiative." (See Appendix F, Draft General Plan). In early 2004, the church submitted plans for the development of the site to the Community Development Department. Those plans, proposed to be built in several phases, include at least seven sports fields, a large church sanctuary, multiple other church buildings, two maintenance buildings, two concession buildings, an amphitheater, picnic areas, parking areas, and a jogging track. Although no further action has been taken by the church to proceed with this development, the plans are included in the City's Pending Project list.

Section 2.5.5 b. (pg. 2-31) of the Draft EIR states, "Currently planned and pending projects were taken from the City's Pending Projects list. These were assumed to occur".

Despite this stated assumption, only seven maps out of a total of 36 maps showing the Serra Expansion Area correctly show the First Assembly of God Church site removed from the Serra Expansion Area. One map includes the parcel as outside the City Limit boundaries (Figure 2-9) and is correct. Two other maps show this site as continuing in agriculture, so are possibly correct, despite the plans to urbanize this land in the near future. The remaining 26 maps erroneously include this parcel in the Serra Expansion Area and contradict the Draft's stated working assumptions and methodology of assuming pending projects to occur. Figure 4.2-3 (Greenbelts, Land Conservation Act Contracts, SOAR Designated Lands, and Hillside Voter Participation Areas) is particularly inaccurate, given that the church property has not been under SOAR since 1999. (Specific details of these maps are given below.)

On several occasions since 2000, I have requested the Community Development Department to change their maps to accurately reflect this change in the Serra area. I was assured that the General Plan would reflect this change: most maps presented in both the Draft General Plan and the Draft EIR do not. We believe that no accurate future growth planning of this area can be accomplished without an accurate report of the extent to which urban uses have and are encroaching upon commercial farmland under SOAR restrictions in Serra. We respectfully request that all maps in both the Draft General Plan and the Draft EIR be corrected to accurately depict the First Assembly of God Church site.

Maps CORRECTLY showing Serra WITHOUT the First Assembly of God Church site
(These maps are correct)

- Figure 2-3 (page 2-17) Scenario 1 – Intensification/Reuse Only
- Figure 2.4 (page 2-19) Scenario 2 – Intensification/Reuse + No. Avenue + Olivas + Serra
- Figure 2.5 (page 2-21) Scenario 3 – Intensification/Reuse + No. Avenue + Olivas
- Figure 2.6 (page 2-23) Scenario 4 – Intensification/Reuse + No. Avenue + Serra
- Figure 2.7 (page 2-25) Scenario 5 – Intensification/Reuse + No. Avenue + Western Canada Larga
- Figure 2.8 (page 2-27) Scenario 6 – Intensification/Reuse + No. Avenue + Poinsettia

**Maps Showing 1st Assembly of God site in agriculture despite “Assumed” Development
(These maps may be correct)**

Figure 4.2-1 Lands in Agricultural Use
Figure 4.2-2 Important Farmlands

**All Other Maps in the Draft EIR Showing the Serra Area *INCORRECTLY INCLUDE* the First
Assembly of God Church site**

VUSD Property (South of Ralston where it meets the Serra Area Agricultural Land)

C

This ten-acre parcel is owned by the VUSD and is therefore under no SOAR restrictions. It can be developed at any time. Curiously, it appears on only one map in either the Draft General Plan or the Draft EIR as separate from the rest of the agricultural lands in the Serra Potential Expansion Area.

Figure 4.12-5 – Pedestrian System includes this parcel as a school-owned property, nestled in a corner of the Serra Potential Expansion Area (see the lilac colored square under the letters EX.)

More curious still, this area does not even appear as a school site on the following map
Figure 4.11-3 –Public Schools and Libraries.

Figure 4.2-3 – Greenbelts, Land Conservation Act Contracts, SOAR Designated Lands, and Hillside Voter Participation Areas, inaccurately shows this area to be part of SOAR Designated Lands. It is not and has never been under SOAR restrictions.

Our concerns regarding this property are similar to those we have with the presentation of the 1st Assembly of God site as being part of the Serra Potential Expansion Area. Again, we believe that accurate reporting of the land designations and uses in this area are vital to responsible future growth planning. We respectfully request that all maps in both the Draft General Plan and the Draft EIR be corrected to accurately depict the VUSD property in the Serra Area.

TRANSPORTATION AND CIRCULATION – SECTION 4.12

D

This section of the Draft EIR includes a number of errors and omissions, as well as some proposed “roadway improvements” that directly contradict a primary goal of the 2005 General Plan “to protect our hillsides, farmlands and open spaces”. Below is a discussion of those areas of particular concern, including the widening of Montgomery and Ramelli Avenues, the extension of Kimball Road and Ralston Street, and proposed Class II bikeways, any and all of which will remove farmland from the Serra Potential Expansion Area.

Widening of Ramelli and Montgomery Avenues

Ramelli Avenue borders existing SOAR farmland on the northwest section of the Serra Potential Expansion area and Montgomery Avenue borders existing SOAR farmland on the northeast section of Serra.

Common sense might dictate that both of these roads be widened as a consequence of increased urban development in the area, specifically that of the Community Park and the First Assembly of God Church site. However, if these roads are widened it will necessitate removing farmland currently under SOAR restrictions for the purpose of building the road improvements. These two roads will take land from three of the five remaining farmers in the Serra area. Hence, any discussion of changes to Ramelli and/or Montgomery is of great concern to those of us who own farmland in Serra.

Both the Draft General Plan (Figure 4-3 Roadway Classification Plan) and a number of maps in Appendix E graphically show the City's intention to widen both of these roads, under each and every scenario presented in the EIR. Yet, the EIR does not mention these roadway improvements anywhere else in the document, either in the text or in any table in the EIR or Appendix E to the EIR.

It should be noted that unless the Serra Potential Expansion Area is selected for growth expansion, the widening of Ramelli and/or Montgomery Avenues would be in direct conflict of the stated goal to "protect and preserve farmland". In the case of these two roadway improvements, farmland would be removed from production not only for the road itself, but also for any buffer that might be required by the County Agricultural Commissioner and the City. In addition to actual farmland lost from production, the additional encroachment of urban traffic in this area will only serve to exacerbate already serious ag/urban conflict issues.

It is impossible to know whether these the maps, showing the widening of these roads, have been printed in error, or whether there have been multiple omissions in not including these roadway improvements in the various tables in the Draft EIR and Appendix E to the Draft EIR. Regardless, this needs to be clarified and corrected before the final approval and ratification of this document. We respectfully request that this be done.

Appendix E Maps Showing the Widening of Ramelli and Montgomery

Figure 4-6 (page 4-13)	Roadway Classifications Scenario 1
Figure 4-8 (page 4-15)	Roadway Classifications Scenario 2
Figure 4-10 (page 4-17)	Roadway Classifications Scenario 3
Figure 4-12 (page 4-20)	Roadway Classifications Scenario 4
Figure 4-14 (page 4-22)	Roadway Classifications Scenario 5
Figure 4-16 (page 4-24)	Roadway Classifications Scenario 6

Tables for Scenarios 1-6 Which Omit the Widening of Ramelli and Montgomery

Table 4.12-4	Scenario 1	Appendix E – Table 3-2 (page 3-8)
--------------	------------	-----------------------------------

Table 4.12-6	Scenario 2	Appendix E - Table 3-5 (pages 3-17,18)
Table 4.12-8	Scenario 3	Appendix E – Table 3-8 (pages 3-28,29)
Table 4.12-10	Scenario 4	Appendix E – Table 3-11 (pages 3-39,40)
Table 4.12-12	Scenario 5	Appendix E – Table 3-14 (pages 3-51,52)

Howard and Howard Response to the Draft EIR
 July 14, 2005
 Page Five

Extensions of Kimball Rd. and Ralston St. in Scenario 5 (Intensification/Reuse + No. Avenue + Western Canada Larga)

The discussions of Scenario 2 (Intensification/Reuse + North Avenue + Olivas + Serra) and of Scenario 4 (Intensification/Reuse + North Avenue + Serra) include a Kimball Road extension from Telephone Road to North Bank Drive and a Ralston Street extension from Ramelli Avenue to Montgomery Avenue. Certainly, if either of these two scenarios is selected for future growth expansion, these two road extensions will be crucial to a well-planned development of the Serra area. E

Discussion for Scenario 5 (Intensification/Reuse + North Avenue + Western Canada Larga), however also anticipates that new roadway links would include a “Kimball Road extension from Johnson Drive to Bristol Road” and a “Ralston Street extension from Ramelli Avenue to Montgomery Avenue” (Section 4.12 Scenario 5, page 4.12-63). We believe this to be an error for the following reasons:

1. A Kimball Road extension from Johnson Drive to Bristol Road would transect farmland in Serra that is supposed to remain in farmland under Scenario 5 until at least 2025.
2. The Transportation and Circulation Element of every General Plan since the early 1970’s has included an extension of Kimball Road to Bristol Road, but never one from Johnson Drive to Bristol Road, so it begs the question whether this is really the intended extension.
3. A Ralston Street extension from Ramelli Avenue to Montgomery Avenue makes absolutely no sense in that it would horizontally bisect the northern portion of the Serra farmland when this area is supposed to remain in farmland under Scenario 5. It makes even less sense to extend Ralston Street, without also including the extension of Kimball Road from Telephone Road to Bristol Road.
4. **These road extensions are INCLUDED in the following discussion of Scenario 5:**
 Draft EIR Transportation and Circulation Scenario 5 text (page 4.12-63)
 Draft EIR Table 4.12-12 Roadway Improvements – Scenario 5 (page 4.12-67)
 Appendix E Table 3-14 Roadway Improvements – Scenario 5 (page 3-52)
 Appendix E Table 3-15 2025 ICU Summary-Scenario 5. (page 3-56)
5. **These road extensions are NOT INCLUDED in the following discussion of Scenario 5:**
 Appendix E Scenario 5 Text related to roadway improvements (pgs. 3-45, 3-50)
 Appendix E Figure 3-14 2025 ADT Volumes – Scenario 5 (page 3-48)
 Appendix E Figure 3-15 2025 ICU – Scenario 5 (page 3-49)
 Appendix E Figure 4-14 Roadway Classifications – Scenario 5 (page 4-22)
 Appendix E Figure 4-15 ADT Volumes – Scenario 5 (page 4-23)

Given the conflicting information presented in the Draft EIR and the Appendix to the Draft EIR it is difficult to know if these two road extensions are planned under Scenario 5 or not. I recently spoke with a member of

Staff, who assured me that yes, indeed, these road extensions had been planned through Serra under Scenario 5, despite the fact that Serra is not included as a Potential Expansion Area under this scenario.

Howard and Howard Response to the Draft EIR
July 14, 2005
Page Six

Therefore, in response to this EIR, we must strenuously object to the extension of these two roads in particular, in any configuration, and also to the development of any roads that will transect and/or remove farmland that potentially will remain under SOAR restrictions and/or are designated Agriculture Only until at least 2025 in this General Plan.

For five years I have argued in both oral presentations and written submissions to the CPAC, the Planning Commission, and the City Council that any road extensions or expansions through farmland that is expected to remain under SOAR restrictions should be removed or abolished from any growth development plan for Ventura. This is particularly true in the case of "roadway improvements", such as the Kimball and Ralston Road extensions discussed here and the widening of Ramelli and Montgomery discussed above.

To intentionally design urban incursion by road extensions that will subdivide what is left of already small islands of farms segregated in the Ventura urban area, while requiring those farms to remain as farms is to violate every goal, policy and action plan that calls for the protection and preservation of agricultural land. As stated above, in addition to actual farmland lost from production for these road extensions, the additional encroachment of urban traffic in this area will only serve to exacerbate already serious ag/urban conflict issues.

Either the citizens of Ventura want to preserve farmland, already completely encircled by urban development, or they don't. If they do, they must accommodate the farms they say they want to protect. If they want to realistically protect these "inner city" farms, they will have to deal with traffic congestion that might otherwise be accommodated by driving roads through what is now farmland. They will also have to learn to accept other inconveniences associated with having farms in the midst of the urban environment. If the citizens of Ventura do not wish to do these things, they must allow this farmland to be developed.

Therefore, we respectfully demand that the extensions of both Kimball Road and Ralston Street as described in Scenario 5 be deleted from the Traffic and Circulation section of the Draft EIR and also from Appendix E of the Draft EIR.

Class II Bike Lane as shown in the Serra Area

A Class II Bike Lane is defined in Section 4.2 Transportation and Circulation 4.12.1 Setting d. Bicycle/Pedestrian Travel (page 4.12-15) as a "lane on a road that is reserved for bicycles. The lane is painted with pavement lines and markings and is signed. The lane markings decrease the potential for conflicts between

F

motorists and bicyclists. Bike lanes are one-way, with a lane on each side of the roadway between the travel lane and the edge or paving or, if parking is permitted, between the travel lane and the parking lane. The lanes are at least four feet wide, five feet if parking is permitted.”

Howard and Howard Response to the Draft EIR
July 14, 2005
Page Seven

Both Figure 4-1 (Bicycle Facilities) of the General Plan and also Figure 4-12-4 of Section 4.12 Transportation and Circulation Figure show Class II Bike Lanes where there would be potential extensions of Kimball Road and Ralston Street.

Given that Class II Bicycle Lanes can only exist where there are developed roads, it would seem reasonable to suggest that these potential bikeways should only appear in those areas, and under those circumstances, in which those roads would be extended.

Therefore, while we encourage the use of alternative transportation, especially that of bicycles, we must object to the presentation in both the Draft General Plan and the Draft EIR of these Class II Bicycle lanes along presupposed extensions of Kimball Road (from Telephone Road to Bristol Road) and/or the extension of Ralston Street from Ramelli to Montgomery. Until and unless the Serra Area is selected as a Growth Expansion Area, it is inappropriate to identify bike lanes going through the area, without the confirmation of the development of the associated roads.

Consequences of the First Assembly of God Church Site Development

G

As owners of one of the two SOAR-restricted agricultural properties that are adjacent to the First Assembly of God Church site in the Serra Area, we are incredibly concerned about the impact that the development of this site will have on our land, and also the other remaining farmlands in the Serra area. A Staff member assured me that the Church property had been evaluated and had been included in the EIR analysis as a “pending project”.

Considering the contradictions and confusions in the Draft EIR Transportation and Circulation section, as presented above, we believe that there is some reason to be skeptical.

We are not traffic engineers, but it is difficult for us to believe that there will be no adverse or even increased traffic impact in the area considering the stated intentions of Church officials that this very intensely developed parcel will be in operation from 7 AM to 10 PM seven days a week. Despite assurances, we cannot but believe that at least Montgomery Road will need to be widened (as has been shown in many maps, although not detailed in any text or tables – See Above). We also believe that Ralston Street will need to be analyzed for expansion, even though the EIR traffic studies would indicate otherwise.

AGRICULTURE

The Draft EIR does an exemplary job of describing the impacts of development accommodated under the 2025 General Plan on existing agriculture in the Ventura Area.

Description of Serra in Section 4.2.1 Agriculture Setting (page 4.2-7)

H

The description of Serra in the Draft EIR is incorrect in several respects, including crops currently in production, the proximity of residential development to existing farmland, and the absence of discussion of the First Assembly of God Church site and the UVSD parcel (discussed above) that abut farmland.

Howard and Howard Response to the Draft EIR
July 14, 2005
Page Eight

We suggest the following rewrite (*Italics used for new language*):

This 464-acre area is currently used *for lemon and avocado orchards and for row crops. Adjacent to the farmland on the north is residential development and Telephone Road. Across Telephone Road on the north are more single-family homes and the new 100-acre community park that is expected to open during the summer of 2005. To the east is low-density residential development, and to the west both low and medium density residential development. At the corner of Montgomery Avenue and Bristol Road is a 26-acre parcel that is no longer under SOAR restrictions and which is planned for development.* Commercial uses are to the southwest along Johnson Drive. The Santa Clara River is located along the southern boundary of this area. The Department of Conservation has classified the entire Serra Area as a mix of "Prime", "Statewide Importance", and "Unique".

Buffers

For a number of years, the commercial farmers operating within the SOI of Ventura have asked the City to adopt a buffer policy that would help, in some measure, protect our land from the effects of urban encroachment. We are delighted that the 2005 General Plan includes two Actions that provide buffer policy.

Action 7.24 in the General Plan states: "Require non-agricultural development to provide buffers of 50 feet or more from agricultural operations to minimize the potential for pesticide drift." This action is also included in the Draft EIR in Section 4.7 Hazards and Hazardous Materials (page 4.7-13).

Action 3.15 in the General Plan states "Adopt use permit standards for non-farm activities in agricultural areas that protect and support farm operations, including requiring non-farm uses to provide all necessary buffers as determined by the Agricultural Commissioner's Office." This action is not specifically included in the Draft EIR. We believe that it would be appropriate to include this Action in Section 4.2 Agriculture in the Draft EIR. We respectfully request that Action 3.15 be included.

I

Portions of Land Not Developed in Scenarios 2-6 Allowed to Remain in Agriculture

J

Throughout the Draft EIR, discussions of Scenarios 2-6 submit the possibility that in such cases where there is more land than necessary to accommodate growth, that "any development could include wide areas of open space that could either allow portions of the areas to remain in agriculture or allow for large areas of civic spaces (parks) ..." (Section 4.1 Aesthetic and Community Design, page 4.1-15).

It is important to stress that any urban development that is built adjacent to commercial agricultural lands is potentially threatening to the protection and preservation of those agricultural lands. Even with buffers

required as part of the design of the new urban development, natural conflicts will arise between the urban interests and the agricultural interests. A list of such conflicts is presented in Section 4.2 Agriculture (pages 4.2-7 and 4.2-8). While it is gratifying that this EIR recognizes such conflicts, it is also somewhat troubling that it is potentially proposing that if too much land exists in a selected scenario, that the City will build what it needs, while leaving the remaining agriculture to deal with the consequences of adjacent development.

We suggest that any Long-term Potential Expansion Strategy that is selected give careful consideration to attempting to avoid creating new and potentially destructive ag/urban conflicts.

Howard and Howard Response to the Draft EIR
July 14, 2005
Page Nine

Right-to-Farm Ordinances

K

Section 4.2.1 c of the Draft EIR discusses the Right-to-Farm Ordinance approved by the City in 1997. However the description of this Ordinance presented here does not include the disclaimer built into the Ordinance that it does not apply "if the agricultural activity, operation, or facility obstructs the free passage or use, in the customary manner of ... any public park, square, street, or highway." (Right-to-Farm Ordinance, Section 4162) (underlining for emphasis.)

Given today's litigious-happy society, we believe it is important for the City to consider these exceptions to the Right-to-Farm Ordinance before adopting any growth plan or policy that will require roads or parks to encroach on existing agricultural land.

CONCLUSION

We congratulate everyone involved in the preparation of this Draft Environmental Impact Report to the 2005 Ventura General Plan. It is an outstanding effort and accomplishment. The scope and detail required in the production of this document is truly impressive.

We hope that you will accept the comments and suggestions included in this response to the Draft EIR knowing that we offer them with the sole purpose of making an already remarkable document even better.

Respectfully submitted,

Jean Howard Mann
Owner and General Manager
Howard and Howard Ranch

Howard and Howard Ranch

1575 Montgomery Avenue Ventura, California

Mailing Address 15000 SW Scarlett Drive Tigard, Oregon 97224 (503) 521-1551

*Members:
Sunkist Growers, Inc.
Saticoy Lemon Association
Calavo Growers of California*

*Owners:
Clyde Atkinson
Howard B. Atkinson
Diane H. Belding
Jean H. Mann*

July 14, 2005

TO: Kari Gialketsis, Pricipal Planner
 City of San Buenaventura
 Community Development Department
 501 Poli Street
 P.O. Box 99
 Ventura, CA 93002-0099

FROM: Jean Howard Mann, Owner and Managing Partner
 Howard and Howard Ranch

Subject: **Response to the Draft Environmental Impact Report for the 2005 Ventura General Plan** L

The following are additional corrections that should be made to the Draft EIR. I suspect that by now, most of these have probably been cleaned up for the Final version, but just in case, I offer them here.

- Page iii Under List of Figures, after Figure 2-8, add "Scenario 6" before Intensification/Reuse + North Avenue + Olivas
- Page 4.2-18 At the end of the first paragraph under "Scenario 4 – Intensification/Reuse + North Avenue + Serra, the final sentence "In addition, about 24 acres within the Olivas area are under LCA contract" should be deleted. Olivas is not an expansion area studied under this scenario.
- Figure 4.11-2 This map is labeled "Parks and Recreational Facilities". It should be renumbered to read Figure 4.11-4. Figure 4.11-2 appears earlier in the section as a map labeled "Wildfire Risk Areas"
- Page 4.12-76 The heading at the top of the page reads "Scenario 6 – Intensification/Reuse + North Avenue + Olivas + Serra". This should be changed to read "Scenario 6 – Intensification/Reuse + North Avenue + Poinsettia".
- Page 4.12-89 A graphic box should be added around the section TC-1.

Again, many kudos for a job well done.

Respectfully submitted,

Jean Howard Mann

Letter 11

COMMENTERS: Jean Howard Mann, Owner and Managing Partner, Howard and Howard Ranch

DATE: July 14, 2005

RESPONSE:

Response 11A

The commenter states support for the City's emphasis of intensification and reuse as the top priority for future growth as well as staff's recommendation that the North Avenue and Serra areas be the top priority for development if future growth through 2025 cannot be met through infill development alone. This support is noted.

Response 11B

The commenter states that there are inconsistencies on several maps, suggesting that some maps show the First Assembly of God Church site as within the Serra expansion area and that others of show the church as outside the Serra expansion area. All of the Draft EIR maps that depict the Serra expansion area include the First Assembly of God Church site within the expansion area. However, the commenter correctly notes that re-designation of the site has received voter approval and the site is no longer subject to the SOAR Ordinance. Therefore, although the First Assembly of God Church site is outside the current City boundary, it will be removed from the Serra expansion area. The maps throughout the Draft EIR will be revised to reflect this change, which will reduce the size of the Serra expansion area to an estimated 438 acres. This change will not substantively affect any of the Draft EIR conclusions, though the total acreage of agricultural land conversion for the Intensification/Reuse Only scenario will increase by about 26 acres and the amount of land subject to SOAR under Scenarios 2 and 4 will decrease by a similar amount. These changes will be made in the Final EIR.

Response 11C

The commenter notes that a 10-acre parcel south of Ralston Street is owned by the Ventura Unified School District (VUSD) and states an opinion that EIR figures should depict the site as a school and not subject to the SOAR Ordinance.

Figure 4.11-3 to which the commenter refers is intended to show existing school facilities, not merely VUSD-owned properties. Though owned by the VUSD, the site in question is currently used for agricultural production, not a school; therefore, no correction to Figure 4.11-3 is needed.

With respect to Figure 4.2-3, whether or not school district-owned properties are subject to local policies such as the SOAR Ordinance has been the subject of some debate. While it may be true that a public school could be developed without a SOAR vote, any other development on the property would be subject to a SOAR vote. For example, if the VUSD were to sell the property to a private developer (as has occurred with several other VUSD properties), development of



the site could occur only with voter approval. Because the 10-acre site in question could be subject to SOAR under certain circumstances, no correction to Figure 4.2-3 is needed.

Response 11D

The commenter states that there are inconsistencies between figures and tables in the EIR traffic study. Specifically, the comment states that several figures suggest that Ramelli Avenue and Montgomery Avenue are to be widened, but that accompanying tables omit the widening of those same roadways. Neither Ramelli Avenue nor Montgomery Avenue would be widened to add lanes or increase the road capacity. The widening that could potentially occur would be to add on-street park and/or sidewalks. However, such widening would only be expected to occur in conjunction with the possible future development of the Serra area.

Response 11E

The commenter states that there are inconsistencies in the Draft EIR with respect to whether or not the extensions of Kimball Road and Ralston Street would be implemented in conjunction with buildout of Scenario 5, which does not include the Serra expansion area. It is not anticipated that either Kimball Road or Ralston Street would be extended through the Serra expansion area under Scenario 5. The traffic modeling for that scenario did not assume the extension of either roadway. Any references to the extension of those two roadways for Scenario 5 contained in the Draft EIR will be corrected in the Final EIR.

Response 11F

The commenter states an opinion that figures showing the future extension of the bikeways through the Serra expansion area should be amended to exclude those extensions until and unless the Serra area is planned for development. In response to this comment, Figure 4-1 in the traffic study in Appendix E and Figure 4.12-4 in Section 4.12, *Transportation and Circulation*, will be amended to include a note indicating that bikeways through agricultural or open lands would be constructed only in conjunction with development of the area.

Response 11G

The commenter states concerns about the impact of the First Assembly of God Church site development on remaining agricultural lands and re-states concerns about the possible future expansion of Montgomery Road and Ralston Street. Agricultural/urban conflicts are discussed generally in Section 4.2, *Agricultural Resources*, and it is acknowledged that conflicts between the agricultural growers in the Serra area and adjacent urban uses may persist if the Serra area remains in agricultural use. The specific impacts of the First Assembly of God Church site on adjacent agricultural lands would need to be addressed as part of a site-specific environmental review of the church's development plans. See Response 11D for a response to concerns about the possible future widening of Montgomery Avenue. No widening of Ralston Street is planned.



Response 11H

The commenter suggests several clarifications with respect to the discussion of the Serra expansion area in Section 4.2, *Agricultural Resources*. In response to this comment, the paragraph describing the Serra area on page 4.2-7 is revised as follows (text revisions are underlined):

Serra. This 438-acre area is currently used for lemon and avocado orchards and for row crops. Adjacent to the farmland on the north are residential development and Telephone Road. Across Telephone Road to the north are more single family homes and the new 100-acre community park that is currently under construction. To the east is low density residential development, and to the west are both low and medium density residential development. At the corner of Montgomery Avenue and Bristol Road is a 26-acre parcel that is no longer subject to the SOAR Ordinance and that is planned for development. Commercial uses are to the southwest along Johnson Drive. The Santa Clara River is located along the southern boundary of this area. The Department of Conservation has classified this area as a mix of "Prime," "Statewide Importance," and "Unique" farmland.

Response 11I

The commenter requests that General Plan Action 3.15 pertaining to requiring non-farm uses to provide necessary buffers between agricultural and urban uses be included in the Final EIR. Action 3.15 is discussed in two separate places in the Draft EIR, on pages 4.2-16 and 4.2-22.

Response 11J

The commenter states concerns about what she perceives as a proposal in the Draft EIR to develop only as much of the expansion areas as needed, while leaving remaining agriculture to deal with the consequences of adjacent development. The Draft EIR is not proposing that portions of the expansion areas should be left in agricultural use, but rather merely acknowledges that, depending upon the level of development that is proposed in the expansion areas in the future (if any), all of the expansion area land may not be needed to accommodate planned development. In such an instance, remaining land not used for development could potentially remain in agriculture, but could also be used for other purposes (such as schools, parks, or other civic spaces). It is true that if only a portion of the Serra area, for example, were used for urban development, the remaining growers within the Serra area would be further isolated and would likely experience greater levels of conflict with urban uses.

Response 11K

The commenter notes that the City's Right-to-Farm Ordinance provides exceptions when agricultural activity obstructs the use of a public park, square, street, or highway. This exception is noted. As discussed under Responses 11E and 11F, no extensions of roadways or bikeways through the Serra expansion area would be expected to occur until and unless that area is planned for development.



Response 11L

The commenter notes five minor typographical errors in the Draft EIR. These will be corrected in the Final EIR.



July 15, 2005

Kari Gialketsis, Principal Planner
City of San Buenaventura
501 Poli Street
Ventura, CA

12

DELIVERED VIA E-MAIL & FAXCIMILE

RE: San Buenaventura City General Plan EIR

Dear Ms. Gialketsis:

On behalf of the approximately 500 companies and their representative employees who make up the Greater LA/Ventura Chapter of the Building Industry Association of Southern California, thank you for the opportunity to comment on the City of Ventura's proposed 2005 General Plan and its accompanying Environmental Impact Report.

While the General Plan document is quite benign, we believe the "devil is in the details" of the almost 1000 page EIR. It is this document that will serve as the true guideline when questions or concerns arise. While we respect Ventura's efforts to seek the highest environmental standards that arise due to construction; we have concerns with some aspects of the proposed EIR. These concerns include the air quality standards, population growth, standards on public services, transportation and road construction, and utilities and services.

I. AIR QUALITY

The EIR uses numbers based on SCAG projections. The SCAG projections are lower than the city's; thus, every project becomes an unavoidable significant impact. The Air Quality thresholds (and population thresholds) should be consistent with the city's chosen alternative. The EIR should be revised once the city chooses its population limit so that development within that limit is not determined to create an unavoidable significant impact.

A

II. POPULATION AND HOUSING

The preferred environmental alternative, infill and intensification of reuse only without expansion areas, sets a limit of 8258 units of residential housing up until the year 2025. It is our thought that this number might be too low, not taking into account the maximum use of underdeveloped properties throughout the city.

B

III. PUBLIC SERVICES

It is in this section that we have the most concerns. The city has been using very high standards for parkland per 1000 residents, as well as for police and fire. The question should be asked "are these standards realistic?" Has the city ever met these standards during the previous general plan? If these arbitrary standards are carried over, then they should be evaluated against reality, and lowered where appropriate. This will avoid having every project in conformance with the plan have an unavoidable significant impact. These unattainable ratios will be the basis for new fees on development. The EIR must be made clear that new development does not pay for existing deficiencies, just the impacts of the new residents only. Parks take a significant role in this chapter.

C

The standard for a neighborhood park of 5 acres is arbitrary and outdated, again the same as in earlier General Plans. The BIA requests that the 5-acre standard be removed.

Fire services are another area in which the BIA has concern. All new residential construction requires fire sprinklers. This standard should be sufficient to help mitigate the need for additional fire personnel at least that of which is to be paid for by new development.

We are also concerned with the standards put forward on public schools. Is there a demographic analysis that takes into account the aging population?

IV. TRANSPORTATION AND CIRCULATION

We would like to request an addition to the EIR that states, "All future roadway, bikeway, and pedestrian path alignments are shown for illustrative purposes only. Exact alignments will be determined during project review." Some of these alignments are carried over from the 1975 plan, and may not reflect the most current topography or development which has since taken place. The city must maintain design flexibility, and avoid the duplicative process of a general plan amendment for road location on projects which conform to land use and other elements.

D

V. UTILITIES AND SERVICES

In this section there is a breakdown of new residential units and other construction by neighborhood. This breakdown is used for water and wastewater analysis only. The BIA feels the breakdown should be for illustrative purposes only; otherwise, a permanent breakdown will be adopted as part of the EIR, and will pre-ordain the RGMP process, and leave little discretion for decision makers.

E

While the General Plan update process has been quite lengthy, the BIA thanks the City of San Buenaventura for allowing us to be part of the discussion to date. As the City of Ventura focuses on streamlining their development processes, we welcome the opportunity to continue to be a part of the collective and collaborative processes which will someday result in an easier development process for our members to navigate.

Thank you once again for the opportunity to provide comments. Please feel free to contact me at 661-257-5042 or tdonlon@bialaventura.org if you have any questions or comments. Please note that in the last few weeks we have moved offices, we are now located at 28460 Avenue Stanford, Suite 110, Santa Clarita, CA 91355.

Sincerely,

Terra Donlon
Director of Government Affairs

Cc: Mr. Brian Brennan, Mayor
San Buenaventura City Council Members
Mr. Rick Cole, City Manager
Susan Daluddung, Community Development Director

Letter 12

COMMENTER: Terra Donlon, Director of Government Affairs, Building Industry Association

DATE: July 15, 2005

RESPONSE:

Response 12A

The commenter notes that the EIR uses numbers based on SCAG projections and suggests that the EIR should be revised once the City chooses a population limit so that future developments would not create unavoidably significant impacts. The population growth estimates included in the Draft EIR were directed by the City Council and are not purported to be a "limit". Because the projected citywide growth through 2025 based on the Council-directed growth rates exceeds the SCAG/Ventura County AQMP growth forecast for the City, any of the EIR scenarios could be found to be inconsistent with the AQMP. However, as noted in the Draft EIR and in the comment letter from the Ventura County Air Pollution Control District (Letter 27), the 2007 AQMP will include revised growth forecasts that will take into account the City's growth projections under the 2005 General Plan. As such, future developments that are consistent with the 2005 General Plan will likely be found to be consistent with the new AQMP.

Response 12B

The commenter states an opinion that the 8,258 residential units assumed to be added to the City through 2025 under Scenario 1 may be too low. This opinion is noted. The 0.88% average annual growth rate assumed for Scenario 1 represents the average annual rate of growth that has occurred in the City over the past 10 years (1994-2004) and as stated in 12A above, were directed by City Council to use as estimates.

Response 12C

The commenter disagrees with the standards for parks, fire service, and schools that are discussed in Section 4.11, *Public Services*. The park acreage standards presented in the Draft EIR are the currently adopted City standards, while the fire service standards are those provided by the Ventura Fire Department. Similarly, the projected number of new students associated with growth through 2025 is based on students per housing unit generation rates provided by the Ventura Unified School District. The Draft EIR differentiates between existing deficiencies based upon currently adopted standards and the demands for increased service associated with new development. New developments will be subject to existing park and school impact fees, which are intended to offset the demands associated with new developments rather than to alleviate existing deficiencies. Any new fire impact fees that the City may develop in the future would similarly be designed to have new developments offset the cost of providing facilities to serve the new development rather than to address existing deficiencies. It should be noted that existing impact fees for schools and parks, as well as any possible future impacts fees for other services (such as fire protection), can be used only for facilities and equipment, not for personnel.



Response 12D

The commenter requests that maps showing future roadway, bikeway, and pedestrian path alignments be amended to include a note indicating that the alignments shown are for illustrative purposes only and that final alignments will be determined during project review. These maps will be amended to include such a note in the Final EIR and General Plan.

Response 12E

The commenter requests that the breakdown of uses by location within the City in several tables in Section 4.13, *Utilities and Service Systems*, should include a note stating that the breakdown is for illustrative purposes only and that the actual amount of development within individual areas of the City may vary. The tables in Section 4.13 will be amended to include such a note in the Final EIR.



RANCHO CAÑADA LARGA

13

staff copy
submitted
6/25/05
copies given
to CC per
Mr. Bonsall

June 25, 2005

City of Ventura 2005 General Plan Update Draft E.I.R.
City Council & Planning Commission Joint Workshop#2
Review of the Draft E.I.R.

Re: **General Plan Scenario 5: Intensification/Reuse +
North Avenue + Western Canada Larga**

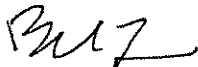
Dear Council Members & Commissioners:

Thank you for today's opportunity to address you with my comments
Concerning the City's 2005 General Plan Update Draft Environmental Impact Report.
Unfortunately, speaker time does not permit me to fully comment on all of the issues raised in
the analyses of General Plan Scenario 5. I will submit all of my written comments by the
conclusion of the 45-day review period July 18, 2005.

Today, I submit for your consideration a letter and maps concerning watershed flood
plain issues not addressed in the document's "Upper North Avenue District Housing"
Alternative. This Alternative is a variation of General Plan Scenario 5 relating to the Brooks
Campus expansion and the Petrochem Refinery residential reuse. The attached County G.I.S.
maps illustrate those sites to be substantially within the 100 year flood plain of Canada Larga
Creek.

I will limit my oral comments to 3 issues raised in the Environmental Impact Report
analyses of General Plan Scenario 5, which includes the Westernmost 120 acres portion of the
original 800 acre P.E.A. #1 Canada Larga. Those issues are Density, Guidelines for Orderly
Development and Farmland Conversion.

Thank you,



Shull Bonsall, Jr.
Rancho Canada Larga

VENTURA COUNTY



PUBLIC WORKS AGENCY
RONALD C. COONS
Agency Director

WATERSHED PROTECTION DISTRICT

June 23, 2005

Jeff Pratt
District Director

Peter Sheydayi
Design/Construction

Sergio Vargas
Planning/Regulatory

Tom Lagier
Operations/Maintenance

Lowell Preston, Ph.D.
Water Resources Division

Mr. Shull Bonsall, Jr.
Rancho Canada Larga
#1 Canada Larga Road
Ventura, CA 93001

Subject: SUMMARY OF CANADA LARGA CREEK FIELD TRIP ON JUNE 2, 2005

Dear Mr. Bonsall:

The Canada Larga watershed is located about 5 miles north of the City of Ventura and has a catchment area of about 12,311 acres (19.24 square miles). Current land usage of the watershed are mostly natural woodlands and grass lands with cattle grazing. Canada Larga Creek is one of the two largest tributaries of Ventura River. A preliminary hydrologic study indicates that the 100-year peak flood flow discharge at the confluence with Ventura River is about 13,386 cubic feet per second (cfs).

In January and February of 2005, two major storms struck Southern California and resulted in over-bank flooding of Canada Larga Creek (approximately 40-year return period), causing damages to properties, agriculture and infrastructures; especially at the lower reach of Canada Larga Watershed.

To better understand the issue in Canada Larga Watershed, the District engineers, Sergio Vargas, Denny Tuan and Yunsheng Su, visited the site with you on June 2, 2005. This letter summarizes the findings of that field trip:


1. Lower reach of the Canada Larga Watershed is subject to frequent flooding. It is caused not only by undersized channels and road crossings, but also by the excessive amount of debris and sediment.
2. The District has identified the needs to address the issues, and a project is proposed in our Integrated Watershed Protection Plan (20-year plan). However, the present benefit-cost ratio does not rank a higher priority than other urgently needed District facilities improvements.

Mr. Shull Bonsall
June 23, 2005
Page 2 of 2

3. You mentioned that the Brooks Institute Camp Expansion project is under planning downstream of HWY 33, and that a land development project might be planned upstream of HWY 33 in the future. Should there be funding opportunities due to future land developments, the District can provide information, mapping, and engineering expertise in a watershed-wise evaluation for solutions of flood control, water quality and habitat restoration.
4. You explained your concept for a potential detention/debris basin. However, before any conclusion is reached, watershed-wise hydrology, hydraulics, and sediment transport studies have to be conducted to evaluate the baseline (existing) and the proposed conditions.

We appreciate the opportunities to work with you. Please feel free to give me a call at 805-650-4077 if you have any questions.

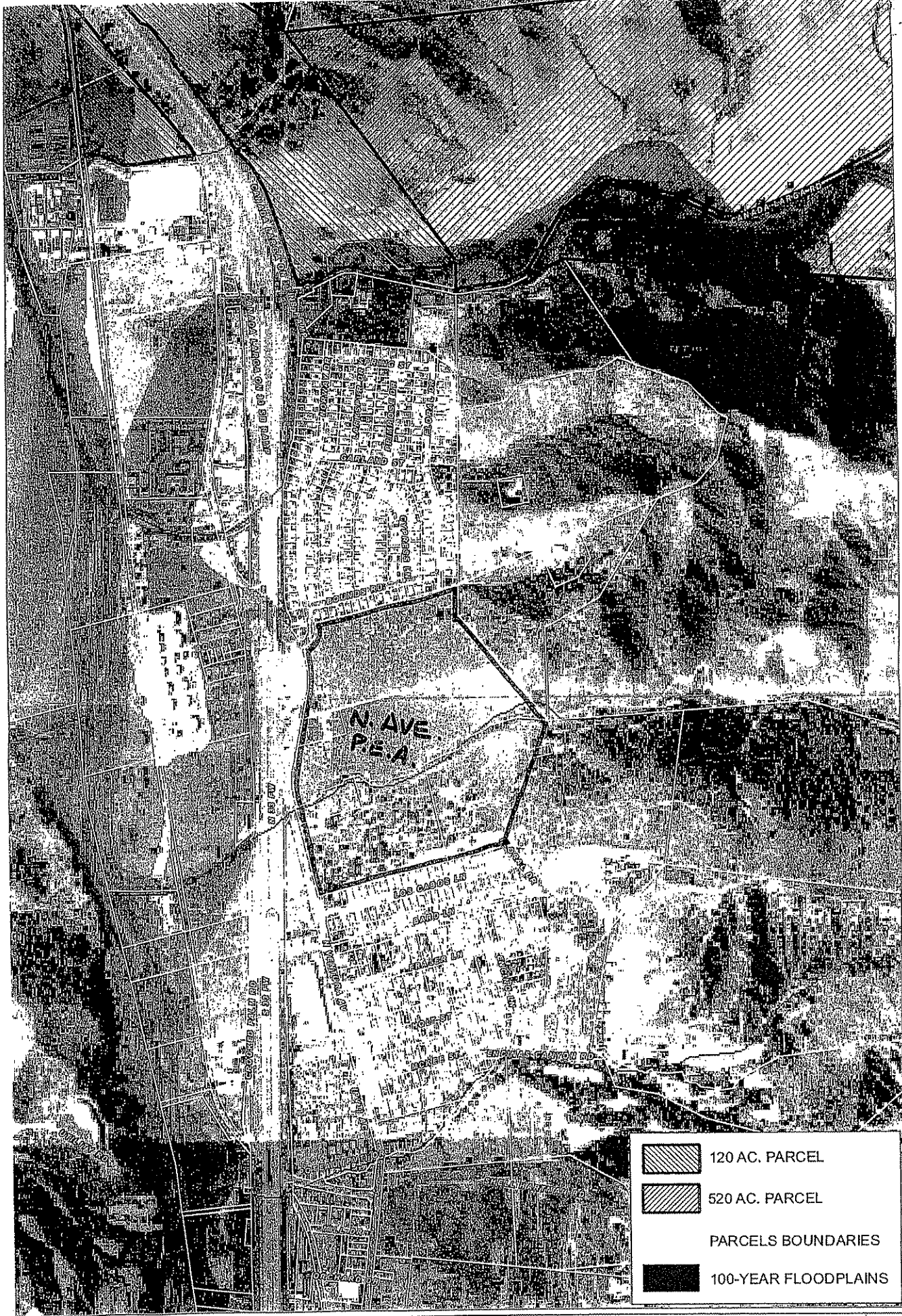
Sincerely,



Sergio Vargas, P.E.
Deputy Director

SV:ys:ahK:\PR\planning\Angela\letter-canada-larga-06-21-05 #2.doc

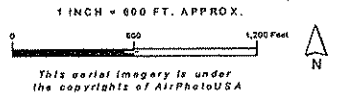
cc: Denny Tuan
Yunsheng Su

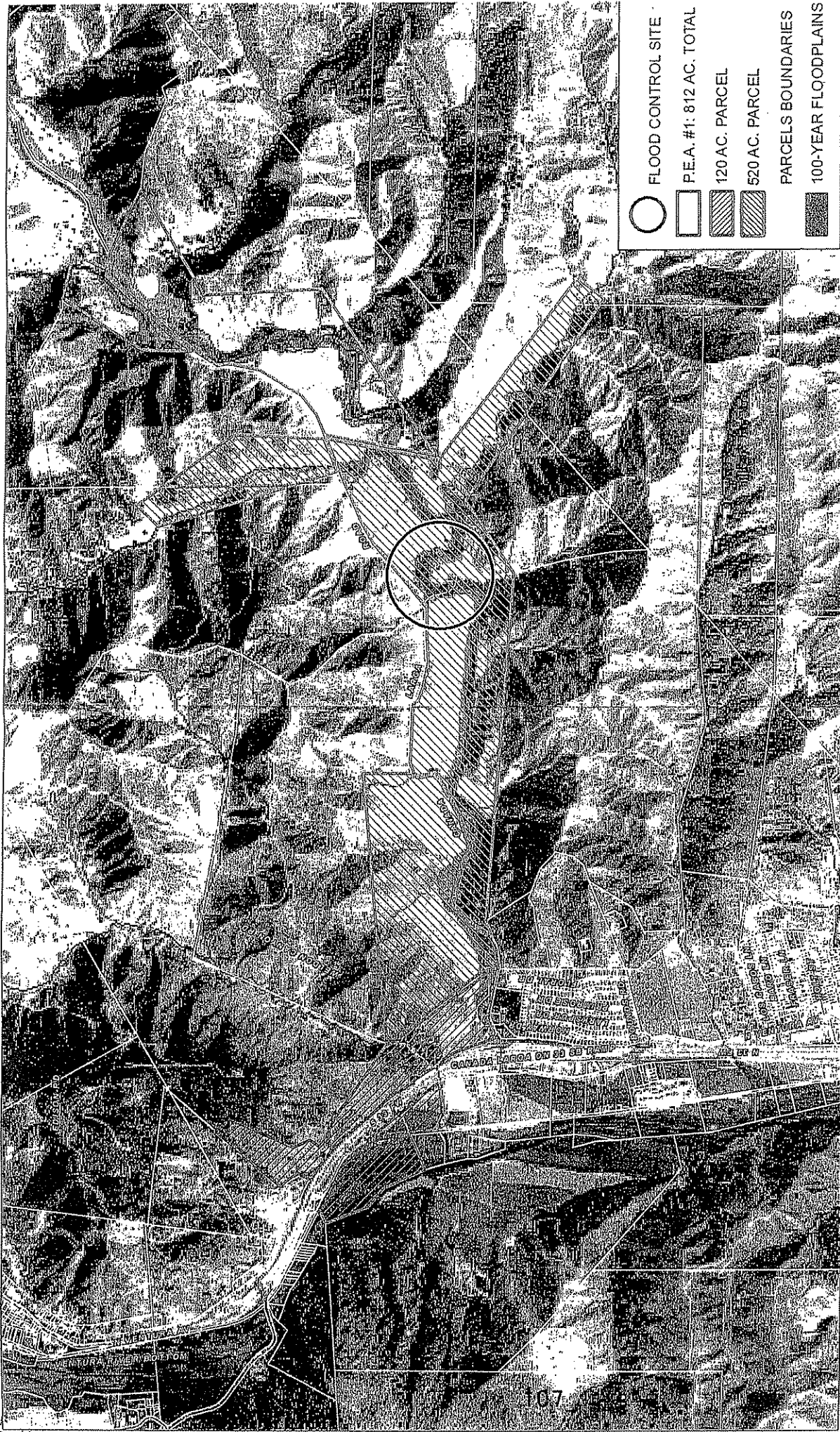


VENTURA COUNTY, CALIFORNIA
 RESOURCE MANAGEMENT AGENCY
 MAPPING SERVICES - GIS



U.S.A. PETROCHEM, BROOKS
 100 U.S. & CANADA LARGA P.E.A. #1
 AERIAL PHOTO, PARCELS & FLOODZONES





FLOOD CONTROL SITE

P.E.A. #1: 812 AC. TOTAL

120 AC. PARCEL

520 AC. PARCEL

PARCELS BOUNDARIES

100-YEAR FLOODPLAINS

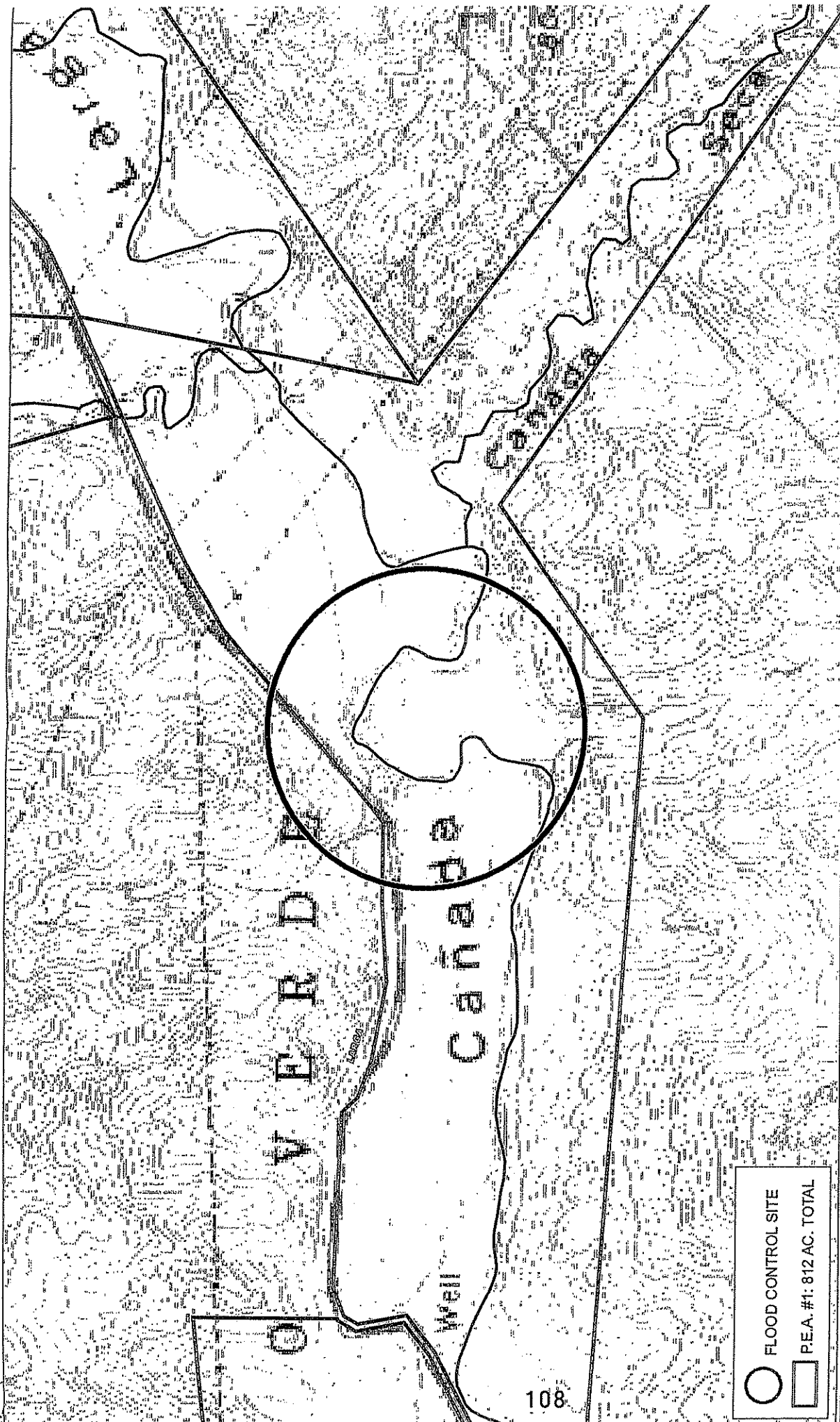
1 INCH = 1,000 FT.

0 500 1,000 FT.



This aerial imagery is under a
Source: AIRPETROCHEM, January 2003

U.S.A. PETROCHEM, BROOKS CAMPUS & CANADA LARGA P.E.A. #1
AERIAL PHOTO, PARCELS & FLOODZONES

VENTURA COUNTY, CALIFORNIA
 RESOURCE MANAGEMENT AGENCY
 MAPPING SERVICES - GIS



108

-  FLOOD CONTROL SITE
-  P.E.A. #1: 812 AC. TOTAL



VENTURA COUNTY, CALIFORNIA
 RESOURCE MANAGEMENT AGENCY
 MAPPING SERVICES - GIS



**FLOOD - SEDIMENT - DEBRIS CONTROL SITE
 CANADA LARGA CREEK**

1 INCH = 500 FT.



Source: Vertical and Station U.S.G.S.
 1:24,000 7.5 Minute Topographic Quadrangle
 Contour Interval: 25 feet



Letter 13

COMMENTER: Shull Bonsall, Jr., Rancho Cañada Larga

DATE: June 25, 2005

RESPONSE:

The commenter attaches a letter from the Ventura County Watershed Protection District, which addresses flooding issues in the Upper North Avenue district and notes that portions of the Brooks Institute campus and Petrochem refinery are within the 100-year flood zone. The commenter is correct that portions of the Upper North Avenue area is within the 100-year flood zone. This is discussed in Section 4.8, *Hydrology and Water Quality*. Any development within the 100-year flood zone would be subject to FEMA requirements as well as the requirements of the City's Floodplain Ordinance. In order to clarify the flooding potential as it relates to the Upper North Avenue District Housing alternative, the discussion under "Hydrology and Water Quality" for that alternative on page 6-15 will be amended to read as follows (new text is underlined):

Residential development within the Upper North Avenue District would be within the 100-year flood zone and would therefore be subject to the requirements of FEMA and the City's Floodplain Ordinance. Placing residential development within the Upper North Avenue district adjacent to the Ventura River would incrementally increase the potential for water quality impacts within the river. However, possible impacts could be addressed on a case-by-case basis through compliance with standard engineering practices and runoff control requirements. Overall, hydrology and water quality impacts would be somewhat greater than those associated with 2005 General Plan Scenario 5, but could be reduced to a less than significant level.



VENTURA AUDUBON SOCIETY, INC.

P.O. Box 24198 Ventura, CA 93002 www.VenturaAudubon.org



July 17, 2005

14

CITY OF
SAN BUENAVENTURA

JUL 18 2005

COMMUNITY DEVELOPMENT

Ms. Kari Gialketsis
City of San Buenaventura
Community Development Department
501 Poli St.
Ventura, CA 93001

Dear Ms. Gialketsis,

Thank you for the opportunity to comment on the Public Review Draft of the Ventura General Plan, May 24, 2005 and the associated Draft EIR. The Ventura Audubon Society has the following concerns.

The General Plan asserts that there is an intention to preserve the essential nature of our community. Specifically in Policy 1B it states that the City wishes to increase the area of open space protected from development impacts. The proposed expansion areas for development will significantly decrease the area of open space and we are opposed to this action. A

Agricultural open space does have some wildlife value. In the case of row crops; e.g. most of the proposed Olivas expansion, the wildlife value is very low, but in the other proposed expansion areas that contain orchards there is a medium level of wildlife value. Orchards provide cover and food, from associated insects, for many bird species. Virtually all of the proposed expansions are either in SOAR designated areas or are in designated Land Conservation Act Contracts and we feel that they should remain as open space.

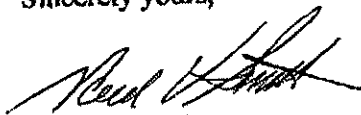
Action 1.8 states: "Buffer barrancas and creeks that retain natural soil slopes from development with a minimum of 50 feet of natural existing or restored vegetation." We feel that this may encourage removal of existing riparian forests (consisting of Cottonwood, Willow, White Alder and Sycamore trees) that are wider than 50 feet adjacent to watercourses. The loss of Riparian Forest is the cause of the significant decline of many bird species, e.g. Yellow-billed Cuckoo and Southwestern Willow Flycatcher that are dependent of this habitat. This action should be amended to require preservation of wider existing areas of Riparian Vegetation. B

Action 1.11 states: "Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible." We feel this should be amended to require a level of "no net loss" of either sensitive wetlands or 'natural' coastal areas. C

Policy 1C states: "Improve protection for plants and animals." Within this policy, Action 1.18 states: "Prohibit dredging during fish spawning and bird migration cycles." This action is sufficiently vague to render it not useful. Does it apply to inland or coastal dredging? Western Snowy Plovers and California Least Terns nest on local beaches outside of normal bird migration times of the year and would be adversely impacted by dredging operations during that time. Which fish species are to be protected? The Ventura Port District often discharges dredge material into the ocean at the mouth of the Santa Clara River during the winter. This would not affect Tidewater Gobys but may impact Steelhead Trout wishing to migrate up the river. D

We are thankful that the City of Ventura has an attitude of environmental concern that is translated into day to day concerns by City staff. We look forward to working with the City in the future to preserve and protect the existing wildlife habitats that make Ventura a desirable place to live and work. We look forward to receiving your written responses to our comments. Please feel free to contact me at (805) 644-9344 if you have questions about our comments.

Sincerely yours,



Reed V. Smith
Board Member, Science Chair
Ventura Audubon Society

Letter 14

COMMENTER: Reed V. Smith, Board Member, Science Chair, Ventura Audobon Society

DATE: July 17, 2005

RESPONSE:

Response 14A

The commenter states opposition to the inclusion of any of the expansion areas in the 2005 General Plan, noting that agricultural open space has some wildlife value. This opposition is noted. City staff are currently recommending adoption of the "Intensification/Reuse Only" scenario, which includes none of the expansion areas.

Response 14B

The commenter suggests that buffers around riparian areas should be larger than the 50 feet identified in General Plan Action 1.8. This opinion is noted. The 50-foot buffer is a minimum requirement for new development adjacent to riparian areas. City staff believe that this is an appropriate minimum buffer area given the urban/suburban nature of the Planning Area. The 50-foot buffer is consistent with that adopted by many cities throughout California. If a larger buffer is needed in specific locations in order to address potentially significant impacts to a riparian corridor, then such a buffer can be required on a case-by-case basis.

Response 14C

The commenter suggests amending General Plan Action 1.11 to require no net loss of wetland and coastal areas. In response to this comment, Action 1.11 will be amended to read as follows (new text is underlined):

Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or "natural" coastal areas.

Response 14D

The commenter suggests that Action 1.18 regarding the timing of dredging should be modified to be more specific as to what type of dredging is being addressed and when dredging may occur. In response to this comment, Action 1.18 will be replaced with the following:

Action 1.18: Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species.



RECEIVED

JUL 18 2005

Community Development
PLANNING DIVISION

15

14 July 2005

Ms. Kari Gialketsis
City of San Buenaventura
Community Development Department
501 Poli Street
PO Box 99
Ventura, CA 93002-0099

RE: SCAG Comments on the Draft Environmental Impact Report (DEIR) for the 2005 Ventura General Plan
SCAG No. I 20050363

Dear Ms. Gialketsis:

Thank you for submitting the Draft Environmental Impact Report for the 2005 Ventura General Plan to the Southern California Association of Governments (SCAG) for review and comment. SCAG's responsibility as the region's clearinghouse per Executive Order 12372 includes the implementation of California Environmental Quality Act (CEQA) §15125 [d]. This legislation requires the review of local plans, projects and programs for consistency with regional plans.

SCAG staff has evaluated your submission for consistency with the Regional Comprehensive Plan and Guide (RCPG), Regional Transportation Plan (RTP), and the Compass Growth Vision. The Draft EIR addresses SCAG's policies and forecasts appropriately and has provided sufficient explanation of how the project helps meet and support regional goals. Based on the information provided in the DEIR, we have no further comments. We would appreciate notification of the Final EIR, especially should a change in project scope occur.

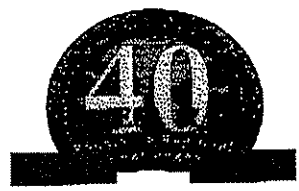
A description of the proposed Project was published in the June 1-15, 2005 Intergovernmental Review Clearinghouse Report for public review and comment.

If you have any questions, please contact me at (213) 236-1851. Thank you.

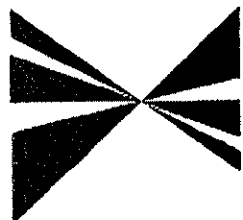
Sincerely,

Brian Wallace
Associate Regional Planner
Intergovernmental Review

DOCS # 112177v1



SOUTHERN CALIFORNIA



ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street
12th Floor
Los Angeles, California
90017-7475

(213) 236-1800
(213) 236-1825

www.scag.ca.gov

Officers: President: Toni Young, Port Huerneme •
First Vice President: Yvonne Burke, Los Angeles
County • Second Vice President: Gary Witt, San
Bernardino County • Immediate Past President:
Ron Roberts, Tennessee

Imperial County: Victor Carrillo, Imperial County
• Tom Finney, El Centro

Los Angeles County: Yvonne Burke, Los Angeles
County • Terri Vukobratovic, Los Angeles County •
Jim Aldinger, Manhattan Beach • Harry Baldwin,
San Gabriel • Paul Budwin, Corona • Tony
Cardenas, Los Angeles • Stan Ciullo, La Habra
Heights • Margaret Clark, Rosemead • Steve
Daniels, Paramount • Mike Dispensa, Palmdale •
Judy Dinslip, Inglewood • Rae Gabellch, Long
Beach • David Galin, Downey • Eric Garretti, Los
Angeles • Wendy Girard, Los Angeles • Hank
Gunnle, Cudahy • James Hahn, Los Angeles •
Janice Hahn, Los Angeles • Isadore Hall,
Compton • Keith W. Hunka, Azusa • Tom Labonge,
Los Angeles • Paula Lantz, Pomona • Martin
Ludlow, Los Angeles • Cindy Mirikawa-Ki, Los
Angeles • Paul Nowalka, Tustin • Pam
O'Connor, Santa Monica • Alex Padilla, Los
Angeles • Richard Parks, Los Angeles • Ian Perry,
Los Angeles • Ed Reyes, Los Angeles • Gino
Smith, Los Angeles • Tom Sykes, Walnut • Paul
Talbot, Alhambra • Stoney Tyler, Pasadena •
Ionia Reyes Urzuga, Long Beach • Antonio
Villaraigosa, Los Angeles • Dennis Washburn,
Calabasas • Jack Weiss, Los Angeles • Bob
Yousefian, Brentdale • Dennis Zize, Los Angeles

Orange County: Chris Kathy, Orange County •
Christine Barnes, La Palma • John Beauman,
Brea • Tim Bunn, Justin • Art Brown, Brea Park
• Richard Chavez, Anaheim • Debbie Cook,
Huntington Beach • Gillian DeYoung, Laguna
Niguel • Richard Dixon, Lake Forest • Marilyn
Pope, Irvine • Alanillos • Tod Kiedrzycki, Newport
Beach

Riverside County: Jeff Stone, Riverside County •
Thomas Buckley, Lake Elsinore • Bonnie
Stinkinger, Moreno Valley • Kim Lovelidge,
Riverside • Greg Petts, Cathedral City • Ron
Roberts, Temecula

San Bernardino County: Gary Witt, San
Bernardino County • Lynette Dale, Baislow •
Paul Farris, Montclair • Lee Ann Garcia, Grand
Terrace • Tim Jacep, Town of Apple Valley • Larry
McAlinn, Highland • Deborah Kohneman, Rialto
• Alan Wagner, Ontario

Ventura County: Judy Mikels, Ventura County •
Glen Herrera, Simi Valley • Carl Morehouse, San
Buenaventura • Toni Young, Port Huerneme

Orange County Transportation Authority: Ian
Carter, County of Orange

Riverside County Transportation Commission:
Robin Lowe, Hemet

Ventura County Transportation Commission:
Keith Millhouse, Moorpark

Letter 15

COMMENTER: Brian Wallace, Associate Regional Planner, Southern California Association of Governments

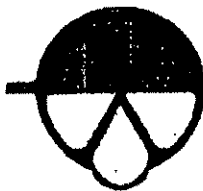
DATE: July 14, 2005

RESPONSE:

The commenter states that the Draft EIR appropriately addresses SCAG's policies and forecasts. No response is necessary.



16

*Ventura Citrus Properties, Inc*

2325 Vista Del Mar Dr.

Ventura, CA 93002

Kari Gialketsis
Principal Planner
Planning Department
501 Poli St.
Suite # 205
Ventura, CA 93002-0099

RE: Draft Environmental Impact Report #SCH2004101014
City of Ventura General Plan Amendment Update 2005

Dear Ms Gialketsis:

As an interested property owner, we have reviewed the Draft Environmental Impact Report (DEIR) and General Plan Update. Overall, we are quite impressed with the new direction the City is taking.

In reviewing the Land Use Section of both the DEIR and General Plan Update, we agree with the City's proposed land use designation for high density residential on our property.

We would like to make the following comment regarding the DEIR:

- Transportation and Circulation Element – Many of the Exhibits show specific alignments for proposed bikeways and streets. We believe that it would be appropriate to note within the DEIR that these alignments are for illustrative purposes only. We feel that the City should retain the flexibility to adjust these alignments and locations as projects are developed.

We hope that the City incorporates our comment in the Final Environmental Impact Report.

Sincerely,

William M. Borgers
Vice President

Cc Rick Cole – City Manager
Susan Daluddung – Community Development Director
Lisa Porras – City Planner
Rincon Environmental

Letter 16

COMMENTER: William M. Borgers, Vice President, Ventura Citrus Properties, Inc.

DATE: Not dated

RESPONSE:

The commenter suggests that maps depicting road and bikeway alignments be amended to clarify that the locations shown are for illustrative purposes and that final alignments will be determined during project review. These maps will be amended to include such a note in the Final EIR.



June 27, 2005

SUSAN DALUDDUNG

17

Memo of Buz Bonsall's 3-minute public comments at the June 25, 2005 City Council/Planning Commission Workshop #2

Re: City of Ventura 2005 General Plan Update Draft E.I.R.

- **Achieving the Vision**

Cañada Larga was the only one of what ultimately became 12 P.E.A.s to be specifically called out for in the March 2000 Vision document. Had the original 800 acre P.E.A. #1, Cañada Larga, been studied in this Draft E.I.R., there would be plenty of excess acreage for Open Space, Parkland and School land use which were found lacking in Scenario 5: Intensification/Reuse - North Avenue + Western Cañada Larga. All or part of that acreage is still available for those purposes.

A

- **Density**

Assigning 1700 housing units to the roughly 80 usable acres of the 120 Acre Western Cañada Larga Expansion Area is a totally unrealistic density for this semi-rural area, making for unrealistic impacts. I would not want 1700 units on the entire original 800 Acre P.E.A. much less on the reduced acreage. A 3-digit number would be more appropriate for the land in either case.

B

- **Guidelines for Orderly Development**

In the potential Class 1, Unavoidably Significant Impacts of "Guidelines for Orderly Development Inconsistency," my conversations with Everett Mallais and Kim Uhlich of L.A.F.CO. lead me to believe this is an error. They say Scenario 2 and 3 would have the same impacts if looked at the same way as Scenario 5 or there would be no inconsistency with all three Scenarios 2, 3 & 5. They will make their comments.

C

- **Farmland Conversion**

I refer you to Table 4.2-1 on Page 4.2-2. The 120 Acre Western Cañada Expansion Area has no Prime Farmland, Statewide Importance Farmland or Unique Farmland - 0 acres total. This is also true for the original 800 acre P.E.A. All but 15 unusable riverbed and flood plain acres of the Cañada Larga Expansion Area, 120 acres or 800 acres, does not require a City S.O.A.R. vote to be utilized. I would direct you to the Ventura County Office of Agricultural Commissioner's letter in the Appendix A commenting on the Revised Notice of Preparation quote: "In reviewing the alternative P.E.A.s under consideration we have the following observations: ... Alternative #3 appears to be most in keeping with all the stated policies and goals of both the City and the County of Ventura. This Scenario requires minimum expansion of Sphere of Influence. Limited removal of Prime Agricultural soils and Lands protected under S.O.A.R. and provides direction for growth to 2025."

D

In the revised NOP, the referenced Alternative #3 is now Scenario 5: Intensification/Reuse + North Avenue + Western Cañada Larga in this E.I.R. document. Cañada Larga has no Farmland Conversion by itself.

Thank you.

Buz

Letter 17

COMMENTER: Buz Bonsall, Rancho Cañada Larga

DATE: June 27, 2005

RESPONSE:

Response 17A

The commenter notes that the 800-acre Cañada Larga area includes sufficient acreage to accommodate open space, parks, and schools. It is correct that the 800 acres included in the original Cañada Larga area considered by the CPAC, Planning Commission, and City Council would likely include sufficient acreage to meet school and park demands associated with development of the area.

Response 17B

The commenter states an opinion that the 1,700 residential units assumed for the Western Cañada Larga expansion area included in EIR Scenario 5 is unrealistic. The density assumed in the Draft EIR was directed by the City Council. City staff agree that the density assumed is not realistic; therefore, an alternative that reduces the density for the Western Cañada Larga and North Avenue expansion areas as compared to Scenario 5 was included in Section 6.0, *Alternatives*. That alternative, known as the "Upper North Avenue District Housing" alternative would replace some of the development assumed for the Western Cañada Larga expansion area with additional development in the Upper North Avenue district.

Response 17C

The commenter suggests that the conclusion regarding an inconsistency of the Western Cañada Larga area with respect to the Guidelines for Orderly development is an error. In its comment letter on the Draft EIR (Letter 3), the Ventura LAFCO suggested that inclusion of the Western Cañada Larga within the City's sphere of influence at this time would be inconsistent with the Guidelines for Orderly Development since that area is not contiguous with the current City limit. The LAFCO also suggests that development of the North Avenue expansion area may be inconsistent with the Guidelines for Orderly Development since it is not contiguous with the City boundary and, therefore, may not be annexed at this time. The LAFCO notes that annexation of the Olivas area (which is included in Scenarios 2 and 3) would not conflict with the Guidelines for Orderly Development. It should also be noted that, in response to the LAFCO letter, portions of the EIR Project Description and Section 4.14 were re-written to clarify how and when boundary adjustments may occur in the future and how the General Plan relates to future boundary adjustments. Because no boundary adjustments are being sought by the City at this time and it is presumed that future boundary adjustments would be sought only at such time as they could be found to be consistent with applicable State and LAFCO policies, the impact with respect to consistency with LAFCO policy has been changed to Class III, less than significant, for all scenarios.



Response 17D

The commenter notes that the Western Cañada Larga expansion area does not include any important farmlands and that the Agricultural Commissioner's Office has stated an opinion that Scenario 5 appears to be most in keeping with the policies of the City and County (note that the current Scenario 5 was called Scenario 3 in the Notice of Preparation). As discussed in Section 4.2, *Agricultural Resources*, it is correct that the Western Cañada Larga expansion area does not include any farmland designated as Prime, Statewide Importance, or Unique.





USA PETROLEUM CORPORATION

905 Rancho Conejo Blvd. Newbury Park, CA 91320-1716
(805) 214-9200 FAX (805) 214-0925

18

July 18, 2005

CITY OF
SAN BUENAVENTURA

JUL 18 2005

COMMUNITY DEVELOPMENT

Ms. Kari Giulketsis, Principal Planner
City of San Buenaventura
Community Development Department
501 Poli Street
Ventura, CA 93002-0099

Subject: City of Ventura
2005 General Plan Draft Environmental Report

Dear Ms. Gilaketsis:

We appreciate the opportunity to provide you with our comments on the City's Draft Environmental Impact Report (DEIR) for the City's proposed 2005 General Plan. The DEIR is well written and comprehensive. A

We have focused our comments on the DEIR's analysis of the future development potential of the Upper North Avenue District (UNAD). The comments are offered in the spirit of ensuring that there is adequate flexibility in the General Plan's land use designation of "Industry" to allow a mixed-use project to be considered for the expansion of the Brooks Campus and adjacent area and to be found consistent with the City's 2005 General Plan. We are seeking to protect the potential that we believe exists for the City to realize numerous land use and economic objectives in the UNAD should it be annexed in the near future.

A conceptual plan, known as the *Village at Crooked Palm*, has been under development and would result in expansion of the Brooks Institute, the creation of an urban village, and the remediation and reuse of the former USA Petrochem site. With respect to this potential project in the UNAD, the City's Economic Development Strategy document (adopted on April 25, 2005) describes its potential to "...transform the upper North Avenue area from an industrial ghost town to a dynamic economic engine...." and proceeds to state that:

Setting the groundwork for project entitlement will be the City's primary focus for the next few years. Critical to the effort is site remediation, resolving outstanding land use issues that allow consistency with the General Plan update, and future annexation to the City (page 5).

To this end, the following comments reflect a desire to ensure that the groundwork is clearly established within the 2005 General Plan. We want to ensure that the opportunity is not lost to facilitate the City's future ability to consider an urban village concept within the UNAD and find it consistent with its newly adopted General Plan and the City's Economic Development Strategy.

Ms. Kari Gialketsis, Principal Planner
July 18, 2005
Page 2-

"Industry" Land-Use Designation

The proposed General Plan designates the land use for the UNAD as "Industry." With respect to the land use designations within the proposed General Plan, page 2-13 of the DEIR states that: *"For industrial parcels, industrial only projects would be allowed, but it is assumed that residential uses would be limited to work/live or live/work residences"*. This stated assumption is limiting and too restrictive to facilitate a future finding of General Plan consistency with the Economic Development Strategy for the Brooks campus and urban village land use concept currently under development. Residential use would not be limited to work/live units as there is also the extraordinary opportunity to create neighborhoods that would provide a variety of housing types to support Brooks' campus and the associated office, retail, cultural, and recreational uses.

Given these opportunities and land area available within the UNAD, a housing density consistent with the General Plan's "Neighborhood-Medium" providing for 9-20 dwelling units per acre, would be appropriate and should be considered for the UNAD.

The DEIR's assumptions regarding the limits of an *Industry* land use designation also runs counter to important planning objectives stated in the proposed 2005 General Plan and to the adopted goals of the Economic Development Strategy. For example, the proposed 2005 General Plan states:

Industrial sites that are fast converting to light industry, high tech manufacturing and assembly could become factory villages with green space, multiple types of housing, small scale retail to serve workers and spin-off businesses. (page 3-5)

The proposed General Plan also states in its description of corridors and districts:

One of the primary objectives for infill in Ventura is to produce mixed-use development that places everyday requirements in close proximity to dwellings. (page 3-7)

We therefore specifically request that the DEIR either broaden its assumptions of what land uses would be allowed in lands designated as *Industry* or that the land use designation for the UNAD be revised to Commerce or Residential (or a combination of all three) such that a mixed-use, urban village project could be processed and found to be consistent with the 2005 General Plan.

The document should also clarify how the existing Brooks Campus is a use consistent with the proposed land use designation of *Industry* or if the proposed plan will result in an existing use being inconsistent with the newly adopted General Plan.

Ms. Kari Gialketsis, Principal Planner
July 18, 2005
Page 3 -

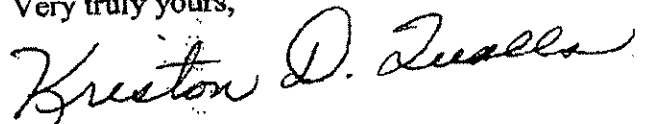
Alternatives Analysis

We note that a project concept similar to what is described above is included within the Alternatives Analysis (section 6.5 Upper North Avenue District Housing) as an alternative to Scenario 5 which is noted as having insufficient acreage to accommodate a mix of housing types or to accommodate parks, schools, or other public facilities. The DEIR analysis considers a mix of office, retail, student/rental housing and 750 other residences being developed on within the UNAD. The analysis also assumes that this level of development would reduce, commensurately, that which would otherwise be developed within the Western Cañada Larga and North Avenue sites. Beyond merely offsetting the intensity of development that might occur in these expansion areas, the DEIR description and analysis (beginning on page 6-13) should also clearly identify the other advantages resulting from developing the UNAD:

- Expanding Brooks' campus and creating jobs and new related growth opportunities in a mix-use urban environment consistent with the city's Economic Development Strategy.
- A brownfield site would be eliminated and reused.
- Development of the UNAD would meet the City's goal of utilizing existing urban infill sites before developing expansion areas.
- The development of the UNAD would be consistent with the County's Guidelines for Orderly Development by developing a site that is currently within the City's Sphere of Influence and contiguous with the City's boundary.

Thank you for your consideration of the foregoing comments. The UNAD is currently within the City's Sphere of Influence and will likely be considered for annexation in the near future. Given that the 2005 General Plan is intended to guide the City's land use decisions until 2025, it should provide the City's future decision-makers with the flexibility to consider exemplary projects and land uses on underutilized parcels that could potentially satisfy many of the City's economic, job creation, housing and community planning objectives.

Very truly yours,



Kriston D. Qualls
General Counsel

cc: Susan Daluddung, Community Development Director
Rob Rossi, Hollywood West LLC

Letter 18

COMMENTER: Kriston D. Qualls, General Counsel, USA Petroleum Corporation

DATE: July 18, 2005

RESPONSE:

Response 18A

The commenter notes that the 2005 General Plan includes various statements suggesting that mixed use development is encouraged within light industrial areas, but that the Draft EIR suggests that residential uses within Industrial-designated areas would be limited to work/live or live/work residences. It is true that various types of residences could be found to be compatible with light industrial development and that one of the 2005 General Plan objectives is to produce mixed use development where everyday requirements are in close proximity to residences. In response to this comment, the last sentence of the first paragraph of EIR page 2-13 will be amended to read as follows (new text is underlined):

For Industrial-designated parcels, industrial only projects would be allowed. Residential uses could include work/live or live/work residences, or traditional housing as part of mixed use development so long as residences are not subject to significant compatibility conflicts relating to such issues as aesthetics, noise, or health and safety that cannot be addressed through site planning.

Response 18B

The commenter suggests that the analysis of the "Upper North Avenue District Housing" alternative should be amended to acknowledge various environmental benefits of that alternative, including implementation of the City's economic development strategy, elimination of a brownfield site, emphasizing intensification/reuse, and consistency with the Guidelines for Orderly Development. The Draft EIR already implicitly acknowledges that development of the Upper North Avenue district would be consistent with City goals and objectives as well as the Guidelines for Orderly Development. In response to this comment, the discussion under "Hazards and Hazardous Materials" for the Upper North Avenue District Housing alternative will be amended to read as follows (new text is underlined):

Hazard impacts would be similar to those of 2005 General Plan Scenario 5. This alternative could potentially increase safety conflicts relating to the placement of residential development in proximity to oil production in the Upper North Avenue area. On the other hand, redevelopment of the Petrochem refinery site would eliminate an existing brownfield. Compliance with 2005 General Plan policies and standard safety requirements on new development would reduce impacts relating to hazardous materials to a less than significant level.



RANCHO CAÑADA LARGA

19

RECEIVED

JUL 18 2005

Community Development
PLANNING DIVISION

July 18, 2005

Kari Gialketsis, Principal Planner
City of San Buenaventua Community Development Department
PO Box 99
Ventrua, CA 93002-0099

RE: 2005 Ventura General Plan EIR Comments

Dear Kari:

CITY OF VENTURA DRAFT ENVIROMENTAL IMPACT REPORT JUNE 2005

Comments and Corrections by Buz Bonsall, owner of the 120 acre Western Cañada Larga Potential Expansion Area.

Pg. S-1 2nd ¶ "...Three Five "Expansion Areas" "

A

Fig. 2-1a & Fig. 2-1b "Planning Area" Boundaries inconsistent on maps at City Water Facility in Cañada Larga area.

B

Pg. 4.1-18 Photo 13 caption "... Portions of the hillside area fronting the freeway could potentially be graded has already been removed and graded for SR33 Freeway and could be regraded and developed if this expansion area is selected."

C
Regraded

Pg. 4.1-18 Photo 14: This photo depicts M2- Industrial zoned industrial land on the Westside of SR33 and does not represent the grazing land on the Eastside of SR33.

West D

Pg. 4.2-1 Legend "Row Crops" incorrectly depicted on Western most portion (West of bike path) of Western Cañada Larga Expansion Area

E

Pg. 4.4-24 Photo 3: Depicts a Caltrans SR33 Freeway 15+ acres hillside removal and grading project (Late 1969) with natural plant recovery.

F

Pg. 4.4-25 Scenario 5 paragraph, final sentence "the Western Cañada Larga area is the least most disturbed of the expansion areas (15+ acres of hillside removal and massive grading for the SR33 freeway in 1969)...."

G

Pg. 4.4-26 First paragraph reference to Photo 3: There is no native bunch grass or oak woodland present in photo 3. Line 5 "Santa Clara River" should be Ventura River.

H

RANCHO CAÑADA LARGA

Pg. 4.5-17 "Scenario 5" paragraph...." A portion of the mission aqueduct is located ~~within~~ outside to the south of Western Cañada Larga expansion area."

I

Pg. 4.11-51 Top of page final sentence ".....with that scenario." It should be noted that the owners of the Western Cañada Larga Expansion Area have over 6000 acres adjacent to the Arca for potential parkland. There is no shortfall of acres.

J

Pg. 6-20 Public Services: It should be noted there is a Ventura County Fire Department Station building on North Ventura Avenue next to the City's Water Treatment facility.

K

General Comment: As noted by the D.E.I.R. authors at Pg. 4.1-19 Scenario 5, 1700 housing units assigned to the reduced acreage (120 acres) of the original 800 acre Potential Expansion Area of Cañada Larga is "unrealistic", hence the unrealistic impacts in D.E.I.R. data (such as sewer plant capacity etc.) throughout the report.

L

Thank you for the opportunity to comment. If there are any questions regarding my comments, please feel free to contact me at 805-565-0629.

Sincerely,



Buz Bonsall
Rancho Cañada Larga

Letter 19

COMMENTER: Buz Bonsall, Rancho Cañada Larga

DATE: July 18, 2005

RESPONSE:

Response 19A

The commenter notes a typographical error in the Summary. This will be corrected in the Final EIR.

Response 19B

The commenter notes an inconsistency in the depiction of the Planning Area shown in Figures 2-1a and 2-1b. The Planning Area boundary shown in Figure 2-1a will be corrected in the Final EIR.

Response 19C

The commenter suggests a clarification of the caption accompanying Photo 13 in Section 4.1 of the EIR to note that the area shown was previously graded as part of the SR 33 construction. The caption will be amended as suggested by the commenter in the Final EIR.

Response 19D

The commenter correctly notes that the area shown on Photo 14 in Section 4.1 is designated Industrial. The caption accompanying that photo will be revised in the Final EIR to read as follows:

Agricultural land adjacent to the Western Cañada Larga expansion area looking south from SR 33. This area is within the Upper North Avenue District and is currently designated Industrial.

Response 19E

The commenter notes that the area west of the bike path within the Western Cañada Larga expansion area is not in row crop production, as shown on Figure 4.2-1. Figure 4.2-1 will be corrected in the Final EIR to show that area as "Grazing/Livestock" land.

Response 19F

The commenter notes that the area shown in Photo 3 in Section 4.4, *Biological Resources*, was previously graded as part of the SR 33 construction. This comment is noted, though no change to the photo caption is necessary.



Response 19G

The commenter states an opinion that the Western Cañada Larga area is the most disturbed among the expansion areas. Even though much of the area in question has been disturbed historically by past grading activity, the open lands of the Western Cañada Larga area maintains higher biological resource value than the irrigated agricultural lands associated with the other expansion areas. Therefore, from a biological resource perspective, it would be considered the least disturbed.

Response 19H

The commenter notes that Photo 3 on Figure 4.4-4 does not depict native bunch grass or oak woodland. The commenter also notes that the reference to the Santa Clara River on the fifth line of page 4.4-26 should be to the Ventura River. The reference to the Santa Clara River will be corrected in the Final EIR. Although Photo 3 does not depict the habitats mentioned by the commenter, the statement to which the commenter refers merely notes that the Western Cañada Larga has the potential for such habitats. Site specific surveys of the area would be needed to determine whether such habitats actually are present. Such surveys would appropriately be conducted in conjunction with the environmental review of any specific development project for the area.

Response 19I

The commenter requests a clarification of the location of the Mission Aqueduct, as discussed on page 4.5-17. The Mission Aqueduct is known to be in the North Avenue area, but actual location of the Mission Aqueduct is not known with certainty. In response to this comment, the sentence noted by the commenter will be revised to read as follows (new text is underlined):

A portion of the Mission Aqueduct is located in the vicinity of the Western Cañada Larga expansion area.

Response 19J

The commenter notes that acreage is available for parks within Rancho Cañada Larga. This comment is noted, though the areas mentioned by the commenter are not within the Western Cañada Larga expansion area discussed in the Draft EIR.

Response 19K

The commenter notes that there is a County Fire Department station next to the City's water treatment facility. This comment is noted, though the City would need to provide fire protection service in the event that properties within the North Avenue area are annexed and developed.

Response 19L

The commenter states an opinion that the development total assumed for the Western Cañada Larga expansion area are unrealistic. Please see Response 17B.



VENTURA UNIFIED SCHOOL DISTRICT



THE POINSETTIA CITY BY THE SEA

20

July 18, 2005

Lisa Y. Porras, Senior Planner
Community Development Department
City of San Buenaventura
P.O. Box 99
Ventura, CA 93002

RECEIVED

JUL 16 2005

PLANNING DIV.

Dear Ms. Porras:

Thank you for the opportunity to review and provide input to the Draft Environmental Impact Report for Ventura's General Plan. The following are our comments pertaining to the K-12 Educational School Facilities.

- 1) Attached is a sample copy of the District's letter to the City dated September 18, 2003 concerning the Draft Comprehensive Plan Update and Draft Issue and Alternative Report. It seems these comments were not addressed on the Draft EIR Report. Also attached is a letter to the Planning Commission concerning public school classroom capacity and proposed residential development dated October 10, 2003. A
- 2) Figure 4.11-3 shows the locations of school facilities and administration facilities within the planning areas operated by Ventura Unified School District (VUSD). There have been some changes. The District no longer owns the Arcade District office site. It was sold last year. The Santa Clara District office site is currently in escrow and the Transportation Department only occupies this site. The administration staff that once occupied the Arcade and Santa Clara office sites has been relocated to the newly remodeled Education Service Center, (formerly Kinko's Corporate Office). Education Service Center is located at 255 West Stanley Avenue. Please make these changes to Figure 4.11-3. B
- 3) The Draft Environmental Impact Report did not take into consideration the relationship between commercial and industrial development projects and school facility needs. Economic opportunities as a result of the development of commercial and industrial space attract new households to the community. C

Commercial and industrial development along with residential development has an impact on school enrollment. New jobs require a larger labor force while in turn, causes new housing to be built to increase the housing supply. The families in these new houses will have their children enrolled in the local school district. This enrollment growth, a joint result of the commercial, industrial and residential development impacts the facility capacities of our District. In conclusion, this type of new development will cause a need for school facilities in Ventura Unified School District. Please note besides residential development, new commercial and industrial development projects are also subject to school impact fees.

City of San Buenaventura
July 18, 2005
Page 2 of 4

- 4) On page 4.11-37, it states, "One alternative to developing new schools would be to expand existing schools". Existing District facilities will be pressed beyond capacity solely with the projected student enrollment from new residential development. Our facilities have minimal space remaining to accommodate projected enrollments from new development. D

Both classrooms and support space are needed to house additional students. As classrooms are added to schools, overcrowding becomes greater in the multi-purpose facility, library, administration office and other support areas. Without additional core space, the current standards of support space will suffer. As result of the implementation of class size reduction in grades Kindergarten through third grades several years ago, it maximized the space at several elementary school sites. Also, parking facilities at our sites will be impacted. Schools such as Balboa Middle, Loma Vista Elementary, Mound Elementary and E.P. Foster Elementary already have inadequate parking facilities that, in turn, impact adjacent neighborhoods.

Ventura Unified School District considers a school overcrowded when it operates at 90 percent of capacity. Using this standard, 18 of the District's schools are overcrowded. Students are being transferred to less crowded schools and are unable to attend a school in their neighborhood. The enrollment projection indicated in the Draft EIR will continue to grow and exceed available school space. One of the goals in the Districts master plan is to construct a new middle school in the east end of the City in the Wells Road area. This will help accommodate students generated from the housing development that has occurred in the east end in the last 6 years.

The remaining student capacity at this district's elementary, middle and high school is of the greatest short-term concern, while the new schools will be required to meet long-term student population progression. In addition many of the existing schools are in older neighborhoods. In these areas, minimal vacant land is available for expansion.

- 5) In relation to Impact PS-3, page 5.17, we disagree with the statement "less than significant for all scenarios." We consider the impact to school facilities as unavoidably significant for all scenarios. The implementation of the project will result in a potentially significant impact. We request that a School Facility Availability Ordinance a Memorandum of Understanding be adopted by the City Council as a proposed residential development should be approved only in confirmation with this ordinance. This involves the City encouraging the school district and developer to engage in early discussions about the nature and scope of the proposed projects, possible fiscal impact and mitigation measures. It is my understanding a similar measure was adopted by the City Council and spearheaded by the past Councilman, Mr. Steve Bennett that was Resolution NO. 97-98 E
- 6) In addition to SB 50 as mitigation measure and the above noted resolution. We recommend that the following objectives and policies be included to address education issues and impacts to public schools within the project scenarios. F

City of San Buenaventura
 July 18, 2005
 Page 3 of 4

Objective: Accommodate the growth of all educational facilities.

- Policy: Provide an adequate level of infrastructure and services to accommodate campus growth at all educational levels.
- Policy: Work with the school district to locate school sites where infrastructure already exists to minimize costs to the school district in new school construction.
- Policy: Include school district staff in the review and input of annexation proposals to guide campus site selection and desirable design elements.
- Policy: Streamline the permitting process for educational facilities as practicable

Objective: Emphasize smart growth principles through all steps of the land development process.

- Policy: Ensure well-planned infill development Citywide, allow for increased density in selected areas along established transportation corridors.

The policies listed above will significantly lessen impacts directly related to the Project. We request that individual development proposals will comply with proposed City standards and practices regarding review of the adequacy of educational facilities. These proposed standards and practices include:

- Use the CEQA review process to evaluate impacts of future development on local schools.
- Ensure the payment of SB 50 school impact fees by project proponents as necessary.

We do concur to some degree with the mitigation measures listed on page S-17 and S-18 but need additional enforcement by the City to implement the above noted recommended objectives and policies.

- 7) The Draft EIR indicates the overall acreage needed to accommodate new school facilities has ranges for each potential expansion scenario. This range does not match the Assumed Expansion Area Acres by Use on Table 2-8, page 2-35. For example, Scenario 2, page 4.11-38 indicates a range from about 38 to 103 acres, but when you compare this to Table 2-8, it shows 110 acres for a school scenario. Please make the necessary corrections G
- 8) No land use designation is indicated on the expansion area maps to accommodate future school sites. H

City of San Buenaventura
July 18, 2005
Page 4 of 4

- 9) On page 4.11.40 Significance after Mitigation states: "Continue collection of State-mandated school impact fees would fund the construction of new school facilities that would be required to accommodate projected increases in school enrollment and would reduce school impacts to a less than significant level for any of the six scenarios." However, the cost of school facility needed by the district to accommodate students related to new development projects is greater than the fees which may be levied against respective type of new development projects. This statement is supported by Development Impact Fee Justification Study dated July 3.2003. As you are aware, construction cost to built public outlay projects continue to increase dramacily in the state of California. I
- 10) We request that the consultant provide a detail methodology how they determined the projected 2025 student enrollment and school acres needed listed on Tables 4.11-14 and 4.11-15. Please confirm that the California Department of Education's usage standard was used to determine the square footage needed per student generated from development. J

In conclusion, the City should consider suitable school capacity when they approve development. It is the overall benefits to the City that adequate and school facilities are established with helps contribute to the quality of education in the community.

We would like to meet with the consultants and City Staff to discuss our comments. Please call me to schedule this meeting at 289-7981, extension 1010. Thank you.

Sincerely,



Jorge B. Gutierrez
Director of Facilities Services

JBG:tm

cc: Dr. Trudy Arriaga, Superintendent
Joseph Richards, Jr., Assistant Superintendent Business Services

October 10, 2003

City of San Buenaventura
Planning Commission
P.O. Box 99
501 Poli Street
Ventura, CA 93002

Dear Commissioners:

This letter is concerning the K-12 Educational School Facility issues related to the Draft Comprehensive Plan Update and Draft Issues & Alternatives Report. For your information, I have been a member of the Comprehensive Plan Advisory Committee for the past two years. During my tenure, I have tried to provide vital input into the development of the plan as well as its impact on public school facilities.

I would like you to consider the comments I addressed to the City of Ventura Planning Department concerning the Draft Plan (see attached).

Further, I have attached a copy of Resolution No. 97-98: "A Resolution of the City Council Amending the Land Use Land Plan Element of the Comprehensive Plan Regarding Public School Classroom Capacity and Proposed Residential Development". I recommend that this resolution be incorporated into the Comprehensive Plan.

If you have any questions, please do not hesitate to call me at 289-7981, extension 1010. I appreciate your time and consideration in this matter.

Sincerely,

Jorge Gutierrez
Director of Facilities, Maintenance and Operations

JG:tm

Attachments

Cc: Joseph Richards, Jr., Assistant Superintendent Business Services

VENTURA UNIFIED SCHOOL DISTRICT



September 18, 2003

City of San Buenaventura
City Planning Department
Attn: Lisa Porras, Associate Planner
P.O. Box 99
Ventura, CA 93002

Dear Ms. Porras:

Thank you for the opportunity to review and provide input on the draft Comprehensive Plan Update and Draft Issues and Alternatives Report. Below are our comments pertaining to the K-12 Educational School Facilities.

PUBLIC SERVICES

On page 11, under Public Services, a statement was made that; "... public schools overcrowding has been alleviated with the recent opening of Foothill Technology High School ..." This statement is incorrect. The Foothill Technology High School helped relieve the student overcrowding at the high school level, but did not alleviate the total problem.

It was indicated that District middle schools have sufficient space. Again, this is not an accurate statement. Based on the Districts' 2002-03 Classroom Usage Report, Anacapa Middle School is at 99% student capacity; and Balboa Middle School, located in the east end of the city, is at 91% student capacity.

Last year, Balboa middle school's enrollment was 1454. The District prefers student enrollment at the middle school level to be around 1200. This school contains the largest student population among the four middle schools in the District. Also, of the 55 classrooms on site, 12 are portable, which means 22% of the class space is relocateable. The student population continues to grow every year as a result of housing developments that have occurred in the past 10 years in the east end of the city. Although portables have been placed at Anacapa and Balboa middle schools, the core facilities, such as cafeterias, have not been expanded.

The elementary schools in the west side of the city, which include E.P. Foster and Sheridan Way, are at 100% capacity. There are 22 classrooms at E.P. Foster Elementary School of which 13 are portable classrooms. This means 59% of the classroom space at E.P. Foster is relocateable; Sheridan Way Elementary School's relocateables make up 38% of classroom space.

The Public Services section relating to public schools do not portray a true picture of overcrowding conditions facing Ventura Unified School District. We recommend the data previously provided to the consultant working on the Comprehensive Plan should be expanded to include the above-noted information at the elementary, middle and high schools level.

City of San Buenaventura

September 17, 2003

Page 2 of 3

PUBLIC SERVICES ISSUES

We request that the Public Services Issues on Page 12 concerning schools be expanded to add the following pertinent issues:

1. Crowding problem will still arise as more relocateables are added to existing school sites;
2. Need to replace and upgrade aging portable classrooms;
3. Need to expand support spaces such as libraries, restrooms, cafeterias and multi-purpose rooms in same proportion to classrooms to alleviate school overcrowding;
4. Constraints - Opportunity to expand existing campuses is limited by the physical size of the school sites and by the capacities of existing permanent facilities; and
5. Explore the feasibility of the City adopting a School Facility Availability Ordinance.

In respect to the School Facility Availability Ordinance, this type of ordinance may have been adopted by the City Council, several years ago, which was spearheaded by past Councilmen, Steve Bennett. As a proposal, residential development should be approved only in confirmation with the School Facility Availability Ordinance. This involves the City encouraging the school district and developers to engage in early discussions about the nature and scope of proposed projects and possible fiscal impact and mitigation measures.

HOUSING DEMAND – Section 3.1.1

The Population and Housing section does not reflect the school age population (5-17 years) in the City of Ventura. We request a figure be prepared which show the school age population from 1970 to 2025. This figure requested will show the magnitude of growth at different periods of time during the duration of the General Plan. Also, will rising birth rates result in increased enrollment from older homes?

SCHOOLS – Section 3.1.2

We would like to meet with the consultants to determine their methodology in determining land needed for new schools. Our projections used by the State Department of Education are different than what is proposed for land needed at each school grade level. The projected school needs should comply with the State Services Land Standards for the number of students per classroom and laboratory, recommended size of parcel for a given number of students, and the number of pupils per acre. Services level standards measure the physical attributes of educational facilities and their ability to provide a given level of educational benefit.

COMMERCIAL AND INDUSTRIAL SITES – Section 3.2.4

We would like to know if the consultant took into consideration the relationship between commercial and industrial development and schools impact. For example, in a case of a business moving to a new facility from an existing building in the city, it is assumed that on average, the older facility will be occupied by a new business enterprise with the same number of employees as the business that moved out. It is the growing capacity of the community to accommodate employment that result in residential growth and increased school demand.

City of San Buenaventura

September 17, 2003

Page 3 of 3

SCHOOLS – Section 5.7

We disagree with the statement "the acreage estimate could be reduced in various ways, including more intensive use of existing schools, reducing the acreage requirement of new schools". The schools in our district are at or near capacity. With the District's implementation of class size reduction at K-3 grade level, additional relocateable classrooms were placed at elementary school sites, and at the same time, support space such as libraries and cafeterias were not expanded. With the additional classroom space added in the past ten years, there exists a lack of available open space to address future growth without impacting playground and support space.

The recommendation to reduce the acreage requirements of new schools will impact the District's ability to meet the Department of Education State Services Standards. By not meeting these standards, the District will not provide a quality level of educational environmental benefits to support curriculum and the learning process. Also, it will perpetuate overcrowding conditions for students and staff at impacted school sites.

At the top of page 93, it states "... no land within the existing City/SOI is specifically designed for new schools" ... except for the 10-acre elementary school PEA #2 (North Avenue). We feel there is sufficient property within PEA #2, #7, #8 and #9 to designate as new school sites. We recommend that the 100-acres required for new schools be address in the General Plan. Also, this plan fails to address the financial measures to pay for the new schools as a result of population growth.

We would like to meet with the consultants and City staff to discuss the possible 20-acre site Pacific View Mall (North Site) and the 35-acre area south of DeAnza Middle School.

Should you have any questions, please do not hesitate to call me at 289-7981, extension 1010.

Sincerely,



Jorge B. Gutierrez
Director of Facilities, Maintenance and Operations

JBG:tm

Cc: Dr. Trudy Arriaga, Superintendent
Joseph Richards, Jr., Assistant Superintendent Business Services

Letter 20

COMMENTS: Jorge B. Gutierrez, Director of Facilities, Maintenance and Operations,
Ventura Unified School District

DATE: July 18, 2005

RESPONSE:

Response 20A

The commenter references letters submitted to the City in 2003 and suggests that the Draft EIR does not address comments included in those letters. The Draft EIR incorporates relevant information contained in the referenced letters. In addition, consultant staff contacted the VUSD several times during the preparation of the Draft EIR in the first half of 2005 and received current enrollment and other data from the VUSD during that time period as well.

Response 20B

The commenter notes two changes to the locations of VUSD facilities that should be reflected on EIR Figure 4.11-3. Figure 4.11-3 will be amended in the Final EIR to reflect the new location of the VUSD Education Service Center on Stanley Avenue.

Response 20C

The commenter states an opinion that the Draft EIR does not take into account the relationship between commercial/industrial development and school enrollment. As suggested by the commenter, the generation of new jobs in the community is expected to contribute to population growth. However, the population and housing growth estimates discussed in the Draft EIR include all new housing and population growth anticipated for the Ventura Planning Area, including people who relocate to the area to fill new jobs. As discussed under Impact PH-4 in Section 4.15, *Population and Housing*, the City is projected to maintain a balance of jobs and housing through 2025 under any of the six land use scenarios studied in the Draft EIR. Therefore, the effect of job growth on school enrollment has been accounted for in the Draft EIR. As the commenter notes, non-residential developments would continue to be required to pay State-mandated school impact fees.

Response 20D

The commenter notes that a number of VUSD schools are already at or near capacity, that existing facilities have minimal space to accommodate projected enrollment increases, and that minimal vacant land is available in many existing neighborhoods. The commenter also notes that the VUSD is planning to construct a new middle school in the Wells Road area.

The comments with respect to school enrollment and capacity, and available land for new schools are consistent with the discussion under Impact PS-4 in Section 4.11, Public Services. Table 4.11-4 shows that projected 2025 enrollment exceeds the capacity of VUSD schools at the elementary, middle, and high school levels, while the discussion under "Scenario 1 -



Intensification/Reuse Only” acknowledges that there is “limited land that could be used for the development of new school facilities.” In response to this comment, the following sentence will be added at to the last paragraph on page 4.11-11:

One of the goals in the VUSD master plan is the construction of a new middle school in the Wells Road area.

Response 20E

The commenter states disagreement with the conclusion that impacts to schools would not be significant under CEQA and requests that the City adopt a “school availability ordinance” or memorandum of understanding in which residential development would only be approved following developer discussions with the VUSD and development of appropriate mitigation measures. The opinion with respect to the significance of school impacts is noted. As acknowledged in the Draft EIR, projected school enrollment exceeds the capacity of VUSD schools and, under some EIR scenarios, limited land is available for the development of new schools. However, as noted in the Draft EIR, pursuant to Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees “...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization.” As the State legislature has made this determination, the City has no authority to make a determination that payment of State-mandated fees would not mitigate impacts.

The Draft EIR includes two recommended actions that would at least in part address the request for coordination between developers, the City, and the VUSD. These are listed below.

PS-3(a) School Coordination. The following action should be added to the 2005 General Plan:

- Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development.

PS-3(b) Expansion Area Schools. The following action should be added to the 2005 General Plan if any land use scenario that includes an expansion area is adopted:

- Require expansion area specific plans or community plans to be prepared in coordination with the Ventura Unified School District and set aside land needed for new school facilities.

Response 20F

The commenter suggests several additional policies/ actions for inclusion in the 2005 General Plan. The actions listed in Section 4.11 of the DEIR and under Response 20E partially address these suggestions. The City will continue to cooperate with the VUSD to identify new school sites in areas where residential growth is anticipated to occur. Chapter 3 of the 2005 General Plan addresses “smart growth,” which is one of the



primary emphases of the General Plan. The City will be required by law to continue to use the CEQA process to evaluate the impacts of local development on schools and collect State-mandated school impact fees on behalf of the VUSD.

Response 20G

The commenter notes that the acreage assumed for schools within expansion areas does not match the acreage needed to meet the demands of individual EIR land use scenarios. These acreages are not intended to match. The commenter notes that the school acreage assumed for the expansion areas under Scenario 2, for example, is 110 acres, while the projected overall demand for acreage ranges from about 38-103 acres. This suggests that the expansion areas included in Scenario 2 provide more than enough acreage to meet overall demand associated with buildout of that scenario. Thus, inclusion of the expansion areas could help accommodate students generated by intensification and reuse development.

Response 20H

The commenter notes that the expansion areas do not include land use designations to accommodate schools. As noted in Section 2.0, *Project Description*, the City is not proposing to re-designate any of the expansion areas at this time. The Draft EIR considers these areas as possible future expansion areas. It is anticipated that any future development proposal for any of the expansion areas would involve a Specific Plan that would include provisions for schools.

Response 20I

The commenter notes that the costs of school construction are greater than that provided by State-mandated fees. As discussed in Section 4.11 and in Response 20E, State law dictates that payment of the State-mandated fees constitutes full and complete mitigation under CEQA.

Response 20J

The commenter requests an explanation of the methodology used to project school enrollment and school acreage requirements. This methodology is described in Section 4.11, *Public Services*. To estimate growth in student enrollment, the projected number of new housing units was multiplied by the students-per-household rates provided by the VUSD. To estimate the acreage of new schools needed, the following methodology was used:

- The current school capacity totals were subtracted from the projected number of new students (these totals are shown in the second column of Table 4.11-15)
- These totals were divided by the projected number of students per school (shown in the third column of Table 4.11-15) to determine the number of new schools needed (shown in the fourth column of Table 4.11-15)
- The number of schools needed were multiplied by the number of acres per school, from the California Department of Education recommended school size, to determine the amount of school acreage needed (shown in column 5 of Table 4.11-5)



GIBSON, DUNN & CRUTCHER LLP

LAWYERS

A REGISTERED LIMITED LIABILITY PARTNERSHIP
INCLUDING PROFESSIONAL CORPORATIONS

333 South Grand Avenue Los Angeles, California 90071-3197
(213) 229-7000
www.gibsondunn.com

CEstolano@gibsondunn.com

July 15, 2005

21

Direct Dial
(213) 229-7753
Fax No.

Client No.

Kari Gialketsis
Principal Planner
City of San Buenaventura
Community Development Department
501 Poli Street
P.O. Box 99
Ventura, CA 93002-0099

Re: *Comments on City of Ventura 2005
General Plan Draft Environmental Impact Report*

Dear Ms. Gialketsis:

I am submitting these comments regarding the Draft Environmental Impact Report ("DEIR") for the City of Ventura 2005 General Plan ("General Plan") on behalf of my client, Mariano Rancho, LLC. Mariano Rancho owns approximately 215 acres of vacant property within the City of Ventura ("City"), located north of Poli Street/Foothill Road and zoned R-1-7. As a longstanding member of the Ventura community, Mariano Rancho shares the City's interest in supporting responsible and sustainable planning for the future of the community.

To that end, we have reviewed the General Plan, the DEIR for the General Plan and the City of San Buenaventura 2000-2006 Housing Element ("Housing Element") to ensure that the documents are accurate and consistent. Our comments touch on apparent inconsistencies between the Housing Element and the General Plan, difficulties in tracking housing unit allocations and corresponding traffic impacts for particular areas across the three documents, characterization of the habitat conditions on the Mariano Rancho property and the Ventura hillside areas generally, and the need to clarify the status of linear parks delineated in the General Plan.

LOS ANGELES NEW YORK WASHINGTON, D.C. SAN FRANCISCO PALO ALTO
LONDON PARIS MUNICH BRUSSELS ORANGE COUNTY CENTURY CITY DALLAS DENVER

GIBSON, DUNN & CRUTCHER LLP

Kari Gialketsis

July 15, 2005

Page 2

I. Apparent Inconsistency Between the General Plan Projected Housing Growth Distribution and the Housing Element**A**

A general plan must be integrated and internally consistent among and within each element. Government Code § 65300.5. The housing element is one of seven mandated elements in the general plan. Gov. Code § 65302. Although it must be updated every five years, rather than the longer time frame permitted for updating general plans, the housing element must still be consistent with the overall general plan. Gov. Code § 65888

In Ventura's case, the City adopted the most recent Housing Element in April 2004, while the multi-year General Plan updating process was underway. The Housing Element contains certain assumptions about development potential which should be carried through to the General Plan. In particular, in its analysis of availability of sites for housing, the Housing Element states that 2,050 housing units can be developed on vacant lots in Ventura, of which 486 units may be developed on vacant sites zoned R-1-7.¹ Appendix D of the Housing Element provides a complete inventory of vacant sites, including parcel number, zoning and acreage. Mariano Rancho's property (740010015 R-1-7) is listed as 215.40 acres with "constraint" acreage of 71.97. Assuming this very conservative constraint estimate is accurate (which cannot be confirmed without the benefit of a project-specific analysis for the site), by applying the maximum density of 6 units per acre and the 70% of lot maximum density assumption used in the Housing Element, the unit potential derived for the Mariano Rancho property in the Housing Element is:

$$71.97 \text{ acres} \times 6 \text{ DU/acre} \times 70\% = 302 \text{ dwelling units.}$$

Turning to the General Plan DEIR, Table 2-5 summarizes Projected Housing Growth Distribution for the 20-year planning period of the General Plan under all scenarios by growth area. The General Plan proposes to focus most of the new growth into the specified Growth Districts/Corridors; these areas account for 3,950 units in all scenarios. The Mariano Rancho property is not located within one of these nine Growth Districts/Corridors. The DEIR projects another 2,650 units to be built within the proposed smaller Sphere of Influence and existing areas designated for urban uses, of which 700 units are projected to be built on vacant and underutilized parcels outside the Growth Districts/Corridors. (DEIR p. 2-32.) Appendix C to the DEIR breaks these 700 infill units down further into 250 units projected to be developed on underutilized sites and 450 units projected to be built on vacant property. Note 3 to the tables in Appendix C explains that these tables assume that "all vacant land outside the districts and corridors will be developed in accordance with the proposed land use designations."

Taken together, it is difficult to reconcile the assumptions in the Housing Element with those in the General Plan. Specifically, how do the 486 units assumed for just the R-1-7 zoned areas in the Housing Element compare to the 450 units projected for all non-Growth District/Corridor vacant property in the General Plan EIR? Using the Housing Element methodology and assuming the property is developed in accordance with its zoning, the Mariano Rancho's 302 units alone would account for 67% of all the units projected to be built

¹ Adopted City of San Buenaventura 2000-2006 Housing Element, April 2004, pp. 4-1, Chart 4-1 on p. 4-2.

GIBSON, DUNN & CRUTCHER LLP

Kari Gialketsis
July 15, 2005
Page 3

on vacant properties designated for urban uses outside the Growth Districts/Corridors and within the city limits. Additional clarification of how the Housing Element assumptions relate to the General Plan's Projected Housing Growth is necessary to confirm that the General Plan is internally consistent as required by state law.

II. The Circulation Element Update Traffic Study Does Not Track the Housing Element Assumptions

B

The need for clarification extends to the issue of how Appendix E to the DEIR, the Comprehensive Plan Circulation Element Update Traffic Study ("Traffic Study"), accounts for the trips that would be generated by the growth assumed in both the Housing Element and the land use element of the General Plan. Attached to this comment letter is a communication from Paul W. Wilkinson, of the traffic engineering firm Linscott Law & Greenspan, noting the difficulties he had confirming that the permitted development assumed in the Housing Element was carried over to the development potential tabulation input to the General Plan and the Traffic Study. Mr. Wilkinson's analysis is hereby incorporated into this comment letter by reference.

In particular, we request that the General Plan and Traffic Study be amended to include a Traffic Analysis Zone ("TAZ") Exhibit and a trip table (development summary and trip forecast) that presents a development and trip making forecast for every TAZ that is consistent with all elements of the General Plan. Such TAZ and trip table exhibits would enable planners, property owners and community members to more clearly assess the traffic impacts of the growth assumptions and provide a basis for comparing site specific analyses to the General Plan's overall growth and circulation goals, policies and actions.

III. Characterization of the Habitat on the Mariano Rancho Property and Hillside Areas Overstate Potential Impacts

C

Figure 4.4-1 on page 4.4-3 of the DEIR maps the habitat types found within the planning area of the General Plan. The map depicts a substantial portion of the Mariano Rancho property and nearly all of the hillside property as containing coastal sage scrub habitat. A note on Figure 4.4-1 states that the vegetation cover types were derived from Landsat Thematic Mapper satellite imagery. We understand that at the analytical level of a General Plan detailed site characterizations are impractical and inappropriate. However, more detailed studies of the area indicate that Figure 4.4-1 vastly overstates the extent of coastal sage scrub in the Mariano Rancho and hillside areas. As a result, we would expect that as part of a site-specific analysis, some of the potential impacts identified, such as BIO-2 potential adverse affects on sensitive habitats, BIO-3 potential affects on special-status plants and animals and BIO-4 potential affects on ecological connectivity through wildlife corridors, would not be found or would be avoided.

GIBSON, DUNN & CRUTCHER LLP

Kari Gialkatsis
July 15, 2005
Page 4

IV. Status of Designated Linear Parks Should be Clarified

Figure 4.11-4² Parks and Recreational Facilities on page 4.11-15 of the DEIR, depicts a linear park network that includes a linear park running through the Mariano Rancho property and portions of the hillside areas. The Final EIR should clarify that these linear parks do not currently exist, have not been offered for dedication to the City and that the City has not presently offered to purchase the land for these parks.

In addition, the text at page 4.11-20 acknowledges that the "[r]esources available for constructing the linear park and trail system are acquired through conditions placed on developers who plan to build in areas within the linear park network." This approach to building the linear park therefore appears to presume the development of the hillside property in order to obtain the exactions necessary to dedicate and construct the linear park through the hillside portion of the City. This appears to be at odds with the General Plan's overall goal of focusing future development on non-hillside areas.³ Therefore, the DEIR and the General Plan should be revised to either remove the linear park network designations from the hillside areas or include a statement that the linear parkland in this area may be acquired through purchase of the property or the permitting of limited development in the area to obtain the parkland through dedications.

Finally, the linear park system proposed for the hillside area in Figure 4.11-4 does not appear to have been delineated with consideration of the natural topography of the area. We suggest that text be added to the General Plan and DEIR stating that the final alignment of the Mariano Rancho and hillside linear parks may be revised to account for topography, habitat and other considerations.

We appreciate the opportunity to comment on the General Plan DEIR and look forward to reviewing the final document in the coming weeks.

Very truly yours,



Cecilia V. Estolano

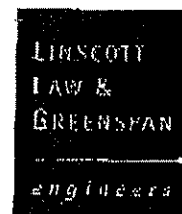
CVE/cve
Attachment

cc: Mr. Alan L. Dobbins

10679958_1.DOC

² The DEIR labels this Parks and Recreational Facilities map as Figure as 4.11-2, however this appears to be a typographical error as page 4.11-5 contains another Figure 4.11-2 (Wildfire Risk Areas) and the text of the DEIR refers to the Parks and Recreational Facilities map as Figure 4.11-4 (see page 4.11-14).

³ DEIR, p. 2-14.



July 15, 2005

Ms. Cecilia V. Estolano
GIBSON, DUNN & CRUTCHER, LLP
333 South Grand Avenue
Los Angeles, CA 90071-3197

LLG Reference: 2-05-2685-1

**Subject: Review of General Plan and Related City Documents
Mariano Rancho Property
Ventura, California**

Dear Ms. Estolano:

At your request, we've reviewed several documents prepared by the City of Ventura as part of its General Plan update process. Those documents include the following:

- City of San Buenaventura, *Ventura General Plan, Public Review Draft*, May 24, 2005;
- City of Ventura, *2005 General Plan: Draft Environmental Impact Report*, SCH #2004101014, June 2005;
- City of San Buenaventura, *Comprehensive Plan Circulation Element Update Traffic Study*, May 2005, Appendix E;
- *Adopted, City of San Buenaventura, 2000-2006 Housing Element*, April 2004.

These documents were reviewed with the intent of tracking the "placeholder" within each for the Mariano Rancho property, which lies generally northeast of Downtown, north of Poli Street and Foothill Road, and south of the "Hillsides" open space area illustrated in the Draft General Plan Diagram (follows page 16 of the *Public Review Draft of the General Plan*). The intent of that tracking was to confirm that the permitted development on the property as outlined in the City's *Adopted 2000-2006 Housing Element* was carried over to the development potential tabulation input to the *General Plan Public Review Draft*, which in turn was specifically input to the *Circulation Element Update Traffic Study*.

Such a process would normally ensure that a future housing development proposal on a specific site, when consistent with the *Housing Element* assumptions for that site, would also be consistent with the City's circulation planning for the site area. This consistency would be most conveniently indicated when the trip table for the Traffic Analysis Zone (TAZ) of the *Circulation Element Update* traffic studies indicates a unit count, attributable to that specific site, which exactly (or very nearly equals) the

Engineers & Planners
Traffic
Transportation
Parking

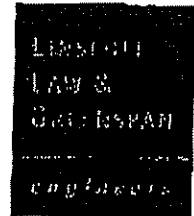
LinScott Law &
GreenSpan, Engineers
1680 Corporate Drive
Suite 122
Costa Mesa, CA 92626
714.841.1507 F
714.641.0139 F
www.llgengineers.com

Practices
Costa Mesa
San Diego
Las Vegas

Philip M. LinScott, PE (1984-2005)
Jack M. Greenspan, PE
William A. Law, PE (Ret)
Paul W. Wilkinson, PE
John R. Keeding, PE
David S. Shender, PE
John A. Roatman, PE
Clara M. Look-Jaeger, PE
Richard E. Barreto, PE

An AECOM Company Founded 1988

Ms. Cecilia V. Estolano
July 15, 2005
Page 2



unit count permitted by the *Housing Element* (and by extension the *General Plan* Land Use component, since the *Housing Element* and *General Plan* are supposed to be consistent).

Unfortunately, as the following discussion will reveal, we are not able to make that finding of internal consistency between the *Housing Element* "placeholder" for the site, and the traffic analyses that support the *Circulation Element Update*. It may be possible that they are, but we doubt it. Having been unable to reconstruct that consistency from document to document, we recommend that the question be posed to the City as part of the public review process, ensuring that that which is called for on the Mariano Rancho property within the *Housing Element* is indeed represented in the circulation planning and impact studies conducted by the City.

Adopted City of San Buenaventura 2000-2006 Housing Element (April 2004)

Chart 4-1 of this report (page 4-2, which is also Page 124 in the electronic version) identifies the residential development potential on vacant sites in the City. The Mariano Rancho falls within the R-1-7 zoning designation, where the maximum density is 6 units per acre. The chart indicates that there are 56 parcels within this category, with vacant acreage totaling 111.7 acres, and with a development potential (at 70% of maximum density) of 486 dwelling units. (As an aside, the math here may be in error: $111.7 \times 6 \times 70\% = 469$ dwelling units).

Looking to Appendix D of this report, all of the assessor's parcel numbers that resulted in the Chart 4-1 summary are indicated, sorted to either underutilized or vacant sites (the later includes the Mariano Rancho). Looking to the "vacant sites" summary, the zoning designation, parcel acreage, and "constraint" acreage (presumably useable acreage) are indicated. As we understand it, the Mariano Rancho is APN 740010015 R-1-7, for which the total site acreage is 215.40, and the "constraint" acreage is 71.97. Taking the later, and the methodology underlying Chart 4-1, the unit potential of the Mariano Rancho would be as follows:

$$71.97 \text{ AC} \times 6 \text{ DU/AC} \times 70\% = 302 \text{ dwelling units.}$$

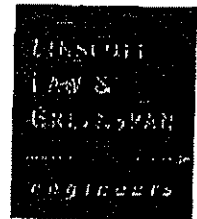
Using our terminology, this constitutes the future development "placeholder" we would expect to be carried to the other documents discussed below.

City of San Buenaventura, Ventura General Plan, Public Review Draft, May 24, 2005

Continuing our focus on the Mariano Rancho as a future residential development site, with as many as 302 dwelling units per the adopted *Housing Element*, Table 2 (pages 14 and 15) of the *General Plan Public Review Draft* presents the development potential for both residential and non-residential categories throughout the City. The *Draft* indicates, "Table 2 provides estimates of the amount of development that could reasonably be expected to occur in the city, sphere of influence, and potential expansion areas based on the densities and intensities allowed under each planning designation". These estimates

N:\2600\3-052685-1\Mariano Rancho Property.doc

Ms. Cecilia V. Estolano
July 15, 2005
Page 3



are sorted to "districts" and "corridors" (both of which are identified in the Draft General Plan Diagram following page 16 of the *Draft*), as well as "sphere of influence (SOI) / other infill" and "planned and pending developments" which, in our reading are not located on any figure of the *Draft*. In reviewing Table 2, it appears that Mariano Rancho is not represented among any of the described sub areas or projects. Thus while a development total of 302 units is the inferred unit potential of the site in the *Adopted Housing Element*, those units appear not to be included in any of the land use scenarios considered in the *Draft*, or its companion EIR *Draft*.

It is worth noting that among all four categories and their sub areas, Table 2 indicates an added development potential of 8,318 DU in the City, and this total appears to presume no development on the Mariano Rancho.

City of San Buenaventura, Comprehensive Plan Circulation Element Update Traffic Study, May 2005, Appendix E

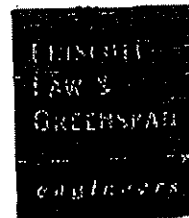
From this document, it is evident that the Mariano Rancho is located within Sub Area 17 of the traffic analysis (Figure 3-1, Page 3-5). It will be noted that the report presents six figures using this base, one for each of six land use scenarios studied by the consultant. While the ADT pie chart varies among those six figures, Sub Area 17 includes the Mariano Rancho and the much larger surrounding area that includes the "Hillsides" area plus those intervening undeveloped sites between the "Hillsides" on the north and Poli Street and Foothill Road on the south.

Table 3-1 (page 3-4) of this report identifies the growth by land use type for the 17 sub areas of the study. A total of 435 dwelling units are identified for Sub Area 17 in Table 3-1. While this table refers specifically to Scenario 1 (of six) analyzed in the study, the 435 added unit ("total growth") total in Sub Area 17 is the same for all six scenarios. While 435 is clearly greater than the 302 unit development potential for Mariano Rancho inferred from the *Adopted Housing Element*, there is no way to tell from the studies we have if Mariano Rancho is included at any specific DU count.

Further, it is worth noting from Table 3-1 that the total growth potential for housing units among all 17 sub-areas of the traffic study is 8,539 dwelling units. For other scenarios, this total amount varies between 11,241 and 11,255 units, but the added unit count in Sub Area 17 remains constant at 435 units. Referring back to the discussion on Table 2 of the *General Plan Public Review Draft*, the development potential throughout the study area was estimated at 8,318 units. All six scenarios of the traffic study presume a greater unit total (meaning the traffic forecasts and findings are conservative...a good thing), but again we cannot isolate the specific development "placeholder" for Mariano Rancho.

JUL 18 2005 3:30PM GDC LA 7

Ms. Cecilia V. Estolano
July 15, 2005
Page 4

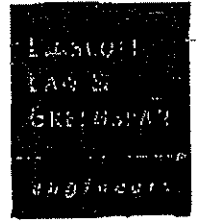


Conclusion

Given all of the above, we conclude that:

1. The *Adopted Housing Element* intended a total development of 302 residential units on Rancho Mariano.
2. The *General Plan Public Review Draft* identified a development potential of 8,318 residential units throughout the General Plan study area. Mariano Rancho does not appear to be part of that summary at any total, including the 302 units inferred by the *Adopted Housing Element*.
3. Mariano Rancho is included within Sub Area 17 of *The Comprehensive Plan Circulation Element Update Traffic Study*. That sub area is much larger than the footprint of Mariano Rancho. The projected housing growth in Sub Area 17 is 435 units regardless of the scenario evaluated. While 435 exceeds the 302 unit development total per the *Housing Element*, it still is not clear if the traffic study recognized / established a 302 unit "placeholder" for Mariano Rancho in circulation planning for the City.
4. In our experience, the ability to track, or "map", the development totals of a specific development proposal against prior land planning and circulation studies prepared at the city-wide level is an indispensable tool in reviewing and processing those eventual development applications. The documents we have do no allow us to conclude a consistency between the *Adopted Housing Element*, the *General Plan Public Review Draft*, and *The Comprehensive Plan Circulation Element Update Traffic Study* for the Mariano Rancho property.
5. While we've come to this conclusion as we tried to create this "map" for Mariano Rancho, we are concerned that virtually any future development proposal in the City could have the same difficulty, creating unnecessary trauma for the decision maker, staff, community and applicant. We recommend that such a mapping correlation process be framed now, as part of this General Plan review process, to avoid those unnecessary difficulties in the future. Such a framework may require refinement to these studies, or from a circulation perspective, might be relatively easily solved through a straight forward reconciliation process that presents a specific Traffic Analysis Zone (TAZ) exhibit and identifies a trip table (development summary and trip forecast), that for every TAZ, presents a development and trip making forecast that is deemed consistent with the selected Scenario of the General Plan adoption.

Ms. Cecilia V. Estolano
July 15, 2005
Page 5



We have welcomed the opportunity to provide this investigation. Please call us if you have any questions.

Sincerely,
Linscott, Law & Greenspan, Engineers

Letter 21

COMMENTER: Cecilia V. Estolano, Gibson, Dunn & Crutcher, LLP, on behalf of Mariano Ranch, LLC

DATE: July 15, 2005

RESPONSE:

Response 21A

The commenter states concerns about what are perceived as inconsistencies between the housing growth projections contained in the Housing Element and the 2005 General Plan EIR. The Housing Element and the 2005 General Plan EIR use different methodologies to project possible growth because they have different purposes. The purpose of the analysis in the Housing Element was to demonstrate the ability to meet the City's housing needs; therefore, the numbers provided in the Housing Element illustrate the maximum development potential based upon the current zoning. The Draft EIR, on the other hand, is attempting to provide a "realistic" estimate of how much growth will actually occur through 2025 rather than illustrate the maximum amount of development that could occur theoretically. The growth factors upon which the Draft EIR analysis is based represent historic growth rates over the past 10 years (0.88% annually) and the past 20 years (1.14% annually). Theoretically, any of the land use scenarios considered in the Draft EIR could accommodate substantially more growth if all of the designations shown on the land use map(s) were built out to their maximum. However, it is unlikely that such growth would actually occur within the 20-year timeframe of the 2005 General Plan.

It is important to note that the EIR is an informational document, not a policy document, and that the growth numbers presented in the Draft EIR are assumptions developed for analytical purposes only. City and consultant staff attempted to distribute the future growth through the City in a manner consistent with the General Plan land use designations, Council direction, and current growth patterns in the City. However, the actual amount of growth that may occur in any given area may be higher or lower than that presented in the Draft EIR and a deviation from the number of projected units for any specific area would not represent an inconsistency with the General Plan.

Finally, it is also important to note that the proposed land use designation for the Mariano Ranch property about which the commenter is concerned (Low Density Residential) affords the same development potential as the current 1989 Comprehensive Plan designation (a maximum of 8 units per acre). Therefore, the development potential of the property has not changed.

Response 21B

The commenter attaches an analysis from a traffic engineering firm and requests that the traffic study include a traffic forecast for every traffic analysis zone that is consistent with all elements of the General Plan. A table such as that described by the commenter would not be useful and would more likely be the source of substantial confusion. As discussed under Response 21A, the maximum development potential estimates shown in the Housing Element and the



projections of growth over the next 20 years contained in the Draft EIR are not the same, nor are they intended to be as the two documents are intended to serve different purposes. It should again be noted that the development potential of the Mariano Ranch property about which the commenter is concerned would not change under the 2005 General Plan.

Response 21C

The commenter states an opinion that the biological resource analysis in the Draft EIR overstates the extent of coastal sage scrub in the Mariano Ranch area and individuates that biological resource impacts can likely be avoided if that area were to develop. The Draft EIR is intended to provide a conservative estimate of possible future impacts. It is correct that site-specific analysis of individual properties may reveal that biological resource impacts may be lower than suggested in this program level document. In any event, the City concurs with the opinion that biological resource impacts can be avoided or mitigated, as evidenced by the fact that the Draft EIR concludes that proposed General Plan policies would reduce biological resource impacts to a less than significant level.

Response 21D

The commenter notes that the Final EIR should clarify that linear parks shown in the hillside areas do not currently exist and, if they are to be developed, would need to be acquired through property acquisition or permitting of limited development to obtain parkland through dedications. The commenter also suggests that text be added to the figure depicting linear parks be amended to include text indicating that the alignments shown are conceptual and subject to change based upon site-specific conditions. The commenter is correct that linear parks in these areas would need to be acquired or obtained through dedications. A note will be added to the EIR and General Plan maps indicating that the linear park locations are conceptual.



DTR Engineering

David J. Rose
Stephen B. Thompson

CIVIL ENGINEERING & SURVEYING

July 18, 2005

22

RECEIVED
JUL 18 2005
PLANNING DIV.

Ms. Lisa Y. Porras
City of San Buenaventura
Community Development Department
501 Poli Street
P.O. Box 99
Ventura, CA. 93002-099

Subject: General Plan Update

"Dear Ms. Porras,

My firm's review of the City draft EIR evaluating the effects on the environment of the new City General Plan is summarized as follows:

1. It does not appear to evaluate current and future potential redevelopment within the City and its ultimate effect on traffic, air quality, noise, etc
2. It selects an already underutilized use of City lands, both within the City limits and Sphere of Influence boundaries, leading to Scenario No.1, but doesn't take into account natural population increases less deaths in addition to minor proposed housing increases. Use of antiquated SCAG guidelines fails to account for natural increases nor for redevelopment of such areas as the Harbor, Mid-Town and Ventura Avenue North to Canada Larga.
3. The most appropriate population scenario should assume a rate of housing at 1.14% rather than 0.88%.
4. It would be a burden on staff and costly to choose a population level that will be regularly exceeded, thus causing need for General Plan amendments, most of which would require complex and convoluted election campaigns. Using the SCAG population numbers is not being current and automatically causes almost every project to exceed City population and require a General Plan Amendment.
5. General Plan Amendments in Ventura are expensive and problematic.
6. As to one of our projects, Westwood Communities' Parklands, we assume that its location is considered infill in the new General Plan despite the need to annex it to the City.

A

B

C

D

E

F

7. At S-11, Biological Resources, Impact BIO-1: A specific standard of 50 feet of setback from barrancas appears inconsistent with a Form Based Code approach in the New General Plan. Buffers from barrancas should be adaptable depending on (1) whether the barranca edge is where scenic retail or housing may be located, (2) the layout of contiguous parallel pedestrian and bike paths, etc. As an example, the buffer for Parklands is planned at 40 feet on each side of Brown Barranca. Where a barranca runs through a project area and not along one side, the amount of the buffer becomes doubled, impacting not only the adaptation of the barranca into the plan but keeping quite a bit of land out of use.

8. At S-18, Public Services, Impact PS-3: We bring to your attention that a new school is not planned for the Parklands.

9. At 4.11-18, City Park Facilities: Please recognize that the amount of acreage and size of public parks needs greater flexibility upon adoption of a Form Based Code approach to residential development. Our understanding of New Urbanism Parks calls for multiple parks of smaller acreage, dispersed through a proposed residential project. An example of this is our Parklands project, which has a proliferation of smaller than 5 acre parks, including tot lots, informal pitch and hit parks, etc.

10. In the sections on Circulation and connecting streets, we strongly urge that not all connecting streets be required to be straight alignments between existing termini and entry into secondary and primary public streets. As an example, because of the strong desires of the residents west of Parklands, the east-west connector to Wells Road is designed to connect, but not in a straight run. This alignment was urged by the neighbors to the project as a means of keeping future trips from running through their home streets. Thus, we are urging that you provide street standards which allow for a convoluted, but nevertheless actual connection without having to leave an existing or proposed residential neighborhood.

Respectfully submitted,



David J. Rose
DTR Engineering

Chuck Cohen
Weston Benshoof Rochefort Rubalcava & MacCuish

Letter 22

COMMENTER: David J. Rose, DTR Engineering

DATE: July 18, 2005

RESPONSE:

Response 22A

The commenter states an opinion that the Draft EIR does not appear to evaluate the effects of current and future redevelopment. The Draft EIR evaluates the impacts of potential citywide growth through 2025, including intensification/reuse (including redevelopment of properties) and, in some instances, expansion of the City. As noted in Section 2.0, *Project Description*, approximately 8,300 housing units are assumed to be added to the City through intensification and reuse over the next 20 years and each of the analysis subsections in Section 4.0, *Environmental Impact Analysis*, evaluates the impacts associated with such intensification/reuse development. Traffic, air quality, and noise issues are discussed in detail in Sections 4.12, 4.3, and 4.10, respectively. Traffic impacts are further discussed in the full traffic study included in Appendix E.

Response 22B

The commenter states an opinion that the use of SCAG guidelines fails to account for natural population increases or the redevelopment of various areas. It is not clear to which SCAG guidelines the commenter is referring. The Draft EIR analysis discusses SCAG policies in Sections 4.14 and 4.15. However, as discussed in the Draft EIR, the population projections used in the Draft EIR exceed SCAG forecasts for the City; therefore, the City is not relying on SCAG's guidelines with respect to projected population growth through 2025. With respect to redevelopment, each of the Draft EIR land use scenarios anticipates the development of approximately 8,300 housing units in the City through intensification and reuse, including a substantial number of units in the Harbor, Midtown, and Ventura Avenue areas. Finally, both of the growth rates used in the Draft EIR (0.88% annually and 1.14% annually) are higher than the natural growth rate for the area, which is generally estimated at about 0.6% annually.

Response 22C

The commenter states an opinion that the 1.14% annual average growth rate is more appropriate than the 0.88% growth rate. These numbers were directed by City Council to be used as reasonable growth estimates over the next 20 years.

Response 22D

The commenter states an opinion that using SCAG population projections that are not current causes almost every project to exceed the City's population projections and therefore require a General Plan amendment.



The Draft EIR does not rely on SCAG forecasts. It merely acknowledges that the population projections used in the Draft EIR exceed SCAG growth forecasts for the City. Individual projects would not require a General Plan amendment merely because the City's population projections exceeds SCAG's forecast. The more likely scenario is that SCAG will update its forecasts to reflect the City's current growth projections following adoption of the 2005 General Plan. Similarly, it is anticipated that the Ventura County APCD will update its growth forecasts for Ventura in the 2007 AQMP that is currently in preparation.

Response 22E

The commenter notes that General Plan amendments are expensive and problematic. This comment is noted; however, as discussed above, exceedance of SCAG population forecasts would not necessitate a General Plan amendment for individual projects.

Response 22F

The commenter assumes that the Westwood Communities Parklands' project is considered infill even though the site requires annexation. The site is within the current Sphere of Influence and designated for urban use; therefore, its development would be included in the Intensification/Reuse Only scenario.

Response 22G

The commenter notes that the 50-foot buffer from riparian areas can affect large amounts of land and suggests that requiring such a buffer is inconsistent with a Form Based Code approach. This concern is noted. It is not clear why such a requirement would be inconsistent with a Form Based Code approach. Buffers can be adaptable depending upon circumstances, but the 50-foot buffer has been determined to provide the minimum distance needed to effectively protect riparian habitat and associated wildlife movement corridors. This minimum distance is consistent with that adopted by a number of communities in the southern California region.

Response 22H

The commenter notes that the Parklands project does not include a new school. This comment is noted. The developer will be required to pay State-mandated school impact fees.

Response 22I

The commenter notes that the size and acreage of parks needs greater flexibility under a Form Based Code approach. City staff agree with this statement generally and will continue to seek various means of meeting park and recreational demands associated with new development on a case-by-case basis. In addition, language has been added to the General Plan under Policy 6A as follows:

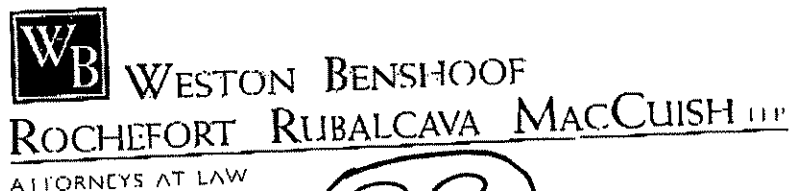
Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.



Response 22]

The commenter suggests that not all connecting streets should be required to provide straight alignments between existing termini and entries into public streets. Specific alignments of new road extensions will continue to be reviewed on a case-by-case basis. The alignments shown in the Draft EIR and traffic study are conceptual only and will need to be adjusted to reflect on the ground conditions as part of individual project review.





23

July 18, 2005

(805) 230-2301
ccuhen@wbocounsel.com

CITY OF
SAN BUENAVENTURA

JUL 18 2005

COMMUNITY DEVELOPMENT

Ms. Kari Gialketsis, Principal Planner
Community Development Department
City of Ventura
501 Poli Street
Ventura, CA 93001

Re: City of Ventura Draft Environmental Impact Report, SCH # 2004101014

To Whom It May Concern:

I am responding to the extraordinary above captioned Draft EIR. I am certain that you have already been told that it works better than weights in the gym. While totally impressed, it doesn't mean that I don't have some concerns and comments.

Initially, I offer a concern about Scenario 1 and the population limited therein and related to an outdated SCAG maximum number for the City. During the course of the CPAC update, at least three population alternatives were announced, including a recommendation of the Planning Commission to peg the new number based on a ratio of 1.14% per year rather than 0.88%. Scenario 1 is very restrictive, and one could assume that the annual birth rate produces a greater number of new Ventura residents, at least by a factor of 1+%, than the number which die or leave the community for other reasons. It essentially omits or doesn't provide for at least some new residents attracted to this beautiful, now vibrant city.

I was unable to find a population allowance for redevelopment, particularly along major streets in mid-town, The Avenue and the Harbor.

While the General Plan is silent on population, the EIR is likely to be relied on by persons generally opposed to new projects, and it will be used as a supportable statistical basis to declare a new project as not being consistent with the General Plan as it relates to population, and its concomitant effects on traffic, air quality, etc., regardless of the absence of a formal cap in its text.

Community Development Department
 City of Ventura
 July 18, 2005
 Page 2

The foregoing analysis of the population base leads me to the more important, costly and time consuming concern that, while there is an implicit flexibility of dealing with added population, the current text could require worthwhile and well located applications to go through an amendment to the General Plan due to its reliance on the known unrealistic SCAG projection, which is already less than actual.

It is my understanding that the new General Plan is a precursor to the City adopting a Form Base Code approach to all new development. The initial application is taking shape in Downtown and was recently informally applied to the School District's Hails property under contract to The Olsen Company. Should my premise be correct, the EIR should be similarly oriented, and not include hard edge archaic current zoning standards. In that regard, it should be a prospectively designed General Plan.

To illustrate the foregoing, please consider:

Public Services:

Park Area: Ventura is a mature City with existing park and recreation areas, which have been added to over the years as needed. One outstanding feature of the City is its beaches, which provide a recreation amenity non-coastal cities would die for. Yet, it appears that the EIR is calling for the same green park acreage as is required in non-coastal cities. A review of Tables 4.11-8, 4.11-9 and 4.11-10 find sufficient park acreage aggregating from the three categories examined in those Tables. On the larger scale, Ventura is addressing active sports parks. In a Form Base Code setting, minimum 5 acre parks are arbitrary and likely questionable or unnecessary. More apropos would be an EIR statement to the effect that new projects require new ideas, dimensions and types of common recreation, specially in light of more attached housing, smaller lots and less private on-site recreation area. Thus, in my opinion, rigid park requirements are out of touch with the new planning paradigm. B

Fire Facilities: The standards discussed in the EIR relate to a different, earlier time when fire fighters were primarily engaged in fire protection and fire fighting rather than as now, with a change of emphasis to serving as paramedics. There will always be a necessary role for fire personnel to keep our C

 WESTON BENSHOFF
 ROCHFORD RUBALCAVA MACCUISH LL
 ATTORNEYS AT LAW

Community Development Department
 City of Ventura
 July 18, 2005
 Page 3

cities safe and to do prevention. But old standards do not take into full consideration the requirements of the State Uniform Building Code, improved construction materials, e.g. roofing, and methods, e.g. interior sprinklers, wall construction treatment, etc. Thus, the issue is whether the EIR should comment generally rather than specifically on such facilities and crew numbers.

Biological Resources at page S-11: The specificity of the buffer area in Action 1.8 related to rivers, creeks and barrancas is too binding. Each of such natural settings need be protected, and protection provided from potential overflows to nearby development. But to specify an arbitrary set back of 50 feet is to, in my opinion, miss the point of the Form Base Code, which enables a recognition of greater integration, not based on arbitrary dimensions or distances, of such natural features with new projects to enhance the aesthetic, recreation and socialization character of such new projects. Thus, non intrusive bike and walking paths—not subject to effects of spillover—as well as detention/retention areas used for passive recreation could be forced away from the top of banks where the full experience of being close to water courses is best enjoyed. Similarly, the matter of proximity of restaurants or even residences to such water courses should be left to topographic and site design and safe and thoughtful construction methods, all of which would go through rigorous review to reach a more spontaneous, natural and random product. Such creativity should be rewarded and not preempted by language in the FEIR or the General Plan.

Public Schools: PS-3 is a positive example of dealing with a generic matter of placement of new schools as need arises.

Noise:

Impact N-1: By specifying a sound wall in the EIR pursuant to Action 7.28, other values such as views of the Santa Clara River could be unintendedly obscured and subordinated. Such a sound issue could be addressed on a specific project look and not clutter the EIR and General Plan.

Utilities and Service Systems:

Impact U-2(b): It is observed that the reference to sanitation capacity in this subsection specifies Ojai Valley Sanitary District capacity. It is found that the language in this subsection hands jurisdiction or development veto

Community Development Department
City of Ventura
July 18, 2005
Page 4

power to that special district to the detriment of the City maintaining final authority and options. If it is necessary to specify the subject District, you might consider adding language, to wit: "only when the Ojai Valley Sanitary District has adequate capacity for projected wastewater flows or there is other mitigation approved by the City Engineer."

Population and Housing:

Impact PH-2: The finding of Significance after Mitigation in the third column of Table S-1 would not be required but for the tie-in of all Scenarios 1-6 to the SCAG population projection.

H

Transportation and Circulation:

Policy 3E and Action 3.17 are other positive examples of, in this case, dealing with road alignments and dimensions in a Form Based Code mode, wherein there is flexibility to provide for connectivity of existing to new roadways in a manner which enhances walkability and direct access without overburdening existing neighbors, e.g. design for Parklands' street system, particularly connecting the existing neighborhood street on the west boundary to Wells Road, but not necessarily in a straight alignment.

I

Congratulations on a heroic effort and documented study.

Very truly yours,



Charles W. Cohen

WESTON BENSHOOF
ROCHEFORT RUBALCAVA & MacCUISH
LLP

CWC/cc

Letter 23

COMMENTER: Charles W. Cohen, Weston, Benshoof, Rochefort, Rubalcava & MacCuish, LLP

DATE: July 18, 2005

RESPONSE:

Response 23A

The commenter states an opinion that the 0.88% population growth rate considered in the Draft EIR is overly restrictive. The commenter also states concerns about reliance on SCAG population projections and what he believes is the lack of a "population allowance" for the Midtown, Ventura Avenue, and Harbor areas. Finally, the commenter states an opinion that the EIR should not include "hard edge archaic zoning standards."

The opinion with respect to the appropriate population growth rate for the City is noted. As noted in the Draft EIR, the 0.88% average annual growth rate assumed for Scenario 1 represents the average over the past 10 years, while 1.14% growth rate assumed for Scenarios 2-6 represents the average over the past 20 years. It is important to note that the growth rates assumed in the Draft EIR are not intended to be growth caps. Rather, they are estimates used for analytical purposes that are intended to provide a realistic picture of likely conditions in 2025.

As part of the overall anticipated growth, the Draft EIR relies on certain assumptions about where future growth might occur and assigns growth to areas throughout the City, including the Midtown, Ventura Avenue, and Harbor areas. However, as with the overall population growth assumptions in the Draft EIR, the assumed amount of growth for individual areas within the City are not meant to be growth caps for those areas. Any of the districts, corridors, or neighborhood centers could theoretically accommodate substantially more growth than assumed in the Draft EIR based on the land use designations. However, it is not realistic to assume that all areas of the City would build out to the maximum theoretical degree over the next 20 years.

In response to several comments on the Draft 2005 General Plan and Draft EIR, the table in the 2005 General Plan will be revised to eliminate the detailed estimates of future growth by geographic location. The Final 2005 General Plan will include a table that summarizes growth projections by general category (districts/ corridors, neighborhood centers, other) in order to eliminate confusion about whether the growth projections for individual areas used for the EIR analysis constitute growth caps for those areas.

The Draft EIR does not rely on SCAG forecasts. It merely acknowledges that the population projections used in the Draft EIR exceed SCAG growth forecasts for the City. Individual projects would not require a General Plan amendment merely because the City's population projections exceeds SCAG's forecast. The more likely scenario is that SCAG will update its forecasts to reflect the City's current growth projections following adoption of the 2005 General



Plan. Similarly, it is anticipated that the Ventura County APCD will update its growth forecasts for Ventura in the 2007 AQMP that is currently in preparation.

It is correct that the City intends to adopt a Form Based Code subsequent to approval of the 2005 General Plan. However, it is not clear which zoning standards to which the commenter is referring. The Draft EIR analysis does not rely on current zoning standards.

Response 23B

The commenter states concerns about the use of current City park standards in the Draft EIR and suggests that the EIR is "calling for the same green park acreage as is required in non-coastal cities." The commenter also states an opinion that the use of rigid park requirements is not appropriate. The opinion regarding park standards is noted. The Draft EIR uses current City park acreage standards to estimate future demand for parks. However, it is true that acreage is only one component of park demand. In addition, as noted in the Draft EIR, the estimate of existing park acreage does not include beaches, schools, or regional park and open space facilities located outside the Planning Area. All of these facilities offset the "shortfall" of parks identified in the Draft EIR and will continue to do so in the future. The City will continue to seek creative ways of meeting the park and recreational needs of the community, which likely will involve some variation from the adopted standards in some instances. In addition, language has been added to the General Plan under Policy 6A as follows:

Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.

As noted in the Draft EIR, the continued collection of park fees and use of these funds to develop new parks and recreational facilities would reduce park-related impacts to a less than significant level.

Response 23C

The commenter states an opinion that the standards for fire protection service discussed in the Draft EIR are inappropriate given the current emphasis on paramedics. The commenter also suggests that the EIR should comment on fire service more generally, rather than providing information about specific personnel and facility needs. These opinions are noted. The information regarding current fire service needs was obtained directly from the Ventura Fire Department as part of the Draft EIR preparation. Therefore, it is presumed that the needs identified in the Draft EIR reflect the current Department needs.

Response 23D

The commenter states an opinion that the 50-foot riparian area setback specified in the Draft EIR is unnecessarily binding, noting that in certain circumstances a less restrictive setback may be adequate. This opinion is noted. The City will retain flexibility in how the setback requirement is to be applied. However, the recommended 50-foot buffer provides the minimum determined to be needed to maintain the biological integrity of "natural" riparian areas.



Response 23E

The commenter states agreement with the manner in which school impacts is addressed in the Draft EIR. No response is necessary.

Response 23F

The commenter states an opinion that the need for sound walls would be more appropriately addressed as part of a specific project than as part of the General Plan. This opinion is noted. The action mentioned by the commenter is intended to address existing noise issues for current residences located adjacent to area freeways. Project-specific analysis of future development proposals would not address this existing condition.

Response 23G

The commenter suggests a revision to Mitigation Measure U-2(b) to provide additional flexibility for the City. In response to this comment, Measure U-2(b) is revised to read as follows (new text is underlined):

U-2(b) *Ojai Valley Sanitary District Capacity. The following action shall be added to the 2005 General Plan if Scenario 5 or any other scenario that includes both the North Avenue and Western Cañada Larga expansion areas is selected:*

- *Allow development within the North Avenue expansion area or Western Cañada Larga expansion only when the Ojai Valley Sanitary District has adequate treatment capacity for projected wastewater flows or other mitigation is approved by the City Engineer.*

Response 23H

The commenter notes that the unavoidably significant impact relating to population projections is due to the comparison to SCAG growth forecasts. This is correct. However, it should be noted that the unavoidably significant impact does not prevent the City from approving the 2005 General Plan, nor does it mean that future individual projects would be inconsistent with the General Plan. The City merely needs to acknowledge the discrepancy between the forecasts and adopt a Statement of Overriding Considerations setting forth the reasons the project's benefits outweigh the impact. It is anticipated that SCAG will update its population forecasts for the City in response to new projections provided by the City following approval of the General Plan Update.

Response 23I

The commenter states agreement with the approach taken in General Plan Policy 3E and Action 3.17. No response is necessary.



RESOURCE MANAGEMENT AGENCY
county of ventura

24

4:50pm

Planning Division
Christopher Stephens
Director

July 18, 2005

Post-It® Fax Note	7671	Date	7-18-05	# of pages	28
To	K. Gialketsis	From	C Morehouse		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Kari Gialketsis, Principal Planner
Community Development Department
City of San Buenaventura
501 Poli Street, P.O. Box 99
Ventura, CA 93002-0099

FAX #: (805) 653-0763

SUBJECT: Draft EIR for Comp. Plan Update

SAN BUENAVENTURA

JUL 18 2005

COMMUNITY DEVELOPMENT

Thank you for the opportunity to review and comment on the above subject document. Attached are the comments that we have received resulting from an intra-county review of the projects.

Any responses to these comments should be sent directly to the commenter, with a copy to Carl Morehouse, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Carl Morehouse at (805) 654-2476.

Sincerely,


Christopher Stephens
County Planning Director

Attachment

County RMA Reference Number 04-086-2

Letter 24

COMMENTER: Christopher Stephens, County Planning Director, County of Ventura
Resource Management Agency

DATE: July 18, 2005

RESPONSE:

The commenter notes that comments from individual departments at the County of Ventura are attached to his letter. Responses to individual department comments are included in the responses to Letters 25-28.



**County of Ventura
Planning Division
MEMORANDUM**

25

TO: Carl Morehouse
B.S.

FROM: Bruce Smith, Manager
General Plan Section

DATE: July 18, 2005

SUBJECT: Draft Environmental Impact Report for Update of Comprehensive Plan (City of San Buenaventura)

The Ventura County Planning Division has reviewed the Draft Environmental Impact Report (DEIR) for the Update of the City of San Buenaventura Comprehensive Plan. While the EIR itself appears to adequately address the impacts of the Comprehensive Plan Update, we offer the following comments relative to conflicts with the County General Plan with respect to Saticoy and the North Ventura Avenue Area:

Conflict with Saticoy Area Plan

The City's proposed Comprehensive Plan indicates that the residential neighborhood between Nardo Street and Rosal Lane is designated as "Medium Density Residential (9-12 dwelling units per acre)". The area south of Rosal Lane is designated as "Industrial" by the Comprehensive Plan.

The Ventura County Saticoy Area Plan designates the Rosal Lane area as "2-Family Residential" which is consistent with the City's Plan, but the County's residential designation extends further south 225 feet into the area designated by the City as "Industrial". This conflict between the City and County plans creates an 8.5-acre "no-man's land" which is not developable because the City is unable to extend water service for a residential land use which is inconsistent with the Comprehensive Plan and the County cannot approve industrial development on land zoned and planned for residential development. The area cannot be annexed to the City as it is not currently contiguous to the existing City limits. The County plan designation has been in place since at least 1967. Land use in this "no man's land" area is largely vacant, but includes two or three residential units south of Rosal Lane at Alelia Avenue, and one small commercial property fronting on Los Angeles Avenue. We presume that the City does not intend a conflict and that the Comprehensive Plan map may reflect a mapping error. We ask that the City evaluate this conflict with the County's plan and determine whether or not a boundary adjustment is appropriate at this time.

Carl Morehouse Memorandum
DEIR for City of Ventura Comprehensive Plan Update
July 18, 2005
Page 2

Conflict with North Ventura Avenue Area Plan

In 1982 and 1984 the City and County jointly adopted an area plan for the North Ventura Avenue area. Policies of the joint plan required that future City and County amendments should be processed and approved by both jurisdictions to avoid conflicts between City and County plans for the area. Although there were minor differences between the City and County plans for the North Ventura Avenue area in formatting and terminology even when first adopted, the City plan has evolved over time and now evidences significant land use conflicts with the County Area Plan. The principal differences appear to be that the former "Floodplain" area is now largely designated as "Agriculture"; a portion of the former "Floodplain" area (the unincorporated portion of the City's wastewater treatment plant site) has been designated as "Industrial" and large areas formerly designated as "Oil Extraction Industrial" have been re-designated as "Industrial", "Agricultural" or "Open Space". While we have no particular concerns with most of the land use amendments the City has approved over time, we are concerned that the two plans are no longer in sync, resulting in confusion and unnecessary complications for applicants for discretionary applications. We suggest that the City direct its staff to work with the County to identify and eliminate where feasible conflicts between the City and County plan either by amendment of the County Plan, the City Plan or both, as appropriate.

We also suggest that the proposed "Industrial" designation of the unincorporated portion of the City treatment plant may be inappropriate because of the potential flood hazard. We suggest a designation of "Public and Institutional" would better serve as a land use designation for this site.

Thank you for the opportunity to review the Draft EIR and Comprehensive Plan Update.

B

Letter 25

COMMENTER: Bruce Smith, Manager, General Plan Section, County of Ventura Planning Division

DATE: July 18, 2005

RESPONSE:

Response 25A

The commenter notes a discrepancy between the General Plan land use map and the County's Saticoy Area Plan for properties along the south side of Rosal Lane. This discrepancy is addressed as part of the "Intensification/Reuse + Minor Map Clean-Up" alternative studied in Section 6.0, *Alternatives*. City staff are recommending revision of the General Plan land use map to provide a "Residential Medium Density" designation for the properties in question. It should also be noted that one of the property owners submitted a comment letter (Letter 5) correcting the APNs listed in the Draft EIR. Those numbers will be corrected in the Final EIR.

Response 25B

The commenter suggests that City and County staff work together to resolve discrepancies between the City and County plans for the North Ventura Avenue area. The commenter also suggests that the "Industrial" designation for the unincorporated portion of the City's treatment plant may be inappropriate because of the potential flood hazard in the area. City staff will continue to work with County staff regarding the planning of the North Ventura Avenue area. With respect to the water treatment plant site, it is presumed that the commenter is referring to the area immediately north of the treatment plant. That area is already designated "Industrial" in the current Comprehensive Plan. Therefore, the "Industrial" designation represents no change. Any development within the 100-year flood zone would need to comply with FEMA requirements as well as the requirements of the City's Floodplain Ordinance.



26



**VENTURA COUNTY
WATERSHED PROTECTION DISTRICT
PLANNING AND REGULATORY DIVISION**
800 South Victoria Avenue, Ventura, California 93009
PAUL CALLAWAY, Permit Manager - 805 654-2011

DATE: July 14, 2005
TO: CARL MOREHOUSE
FROM: PAUL CALLAWAY
SUBJECT: Comments to the DEIR for the Ventura's General Plan Update
RMA 04-086-2

We have reviewed the DEIR and have the following comments on our areas of concern

PERMIT SECTION:

In section 4.8 the DEIR discusses ways to mitigate the increase in peak runoff due to the increase in impervious area from the proposed future development scenarios. In reviewing the proposed mitigation measures to make the effect less than significant we found that these measures are acceptable but we think that developments and re-developments in the areas adjacent to our jurisdictional channels should be conditioned, as an additional possible mitigation measure, to dedicated right of way to meet the future needs of the Watershed Protection District (District), and to build and dedicate to the District improvements that will address the deficient facilities along and in those channels. These right of way needs will depend on the type of channel the city would like to see in these areas such as a soft environmentally friendly channel which would require a larger right of way compared to the District's preferred channel which is a vertical walled concrete channel with access road.

A

ENVIRONMENTAL SERVICES SECTION:

The Environmental Services Section of the District has reviewed the DEIR dated June 2005, and has the following comments.

B

The lands and land use changes that are evaluated in the DEIR, including project alternatives, may include impacts on engineered drainages, debris or detention basins, rivers or streams, and adjacent 100-year floodplains that are owned by the District or subject to the District's jurisdiction.

The proposed plan and the policies therein, present an opportunity for the District to work cooperatively with the City of Ventura to set aside undeveloped floodplains for the purpose of providing "soft" solutions to flood control and to maintain rivers and streams

In their natural state. These public trust resources are amenities that improve the quality of life in the City of Ventura and its Sphere of Influence.

Section 4.8 of the DEIR identifies flooding and flood mitigation measures for developable areas within the 100-year floodplain under each land use scenario. In addition, several Actions (Actions 1.10, 1.14, 5.2) described in this section indicate that the City will pursue removal concrete and renovation of flood control facilities for the purpose of creating "soft" flood control facilities (e.g., natural stream, wetlands, etc.) and greenbelts.

In most cases, natural channels generally require a much wider floodplain than engineered structures. However we note that the proposed plan does not present any land use goals, policies or actions that would limit development in the floodplains or encourage dedication of floodplain for such purposes. Further, policies that limit the use of variances that would allow development in the 100-year floodplain should also be considered and included in the adopted plan.

The DEIR also describes mitigation measures for development in 100-year floodplains in the various land use scenarios. These include structural or building solutions that elevate finish floors, and/or Letters of Floodplain Map Revision from FEMA. In light of the plan goals for soft solutions to flood control, these mitigation measures are incongruous. If the City intends to restore and maintain natural streams for flood control purposes over the life of the plan, land use policies which promote this approach to flood control and dedication of floodplain right-of-way must be adopted, applied, and enforced.

Establishing and strengthening protective policies for floodplains in this plan update is valuable. As history illustrates, over time, continued encroachment into the floodplain by urban development in cities and in unincorporated areas results in substantial flooding problems, which then require traditional flood control improvements. Moreover, the pressure for additional tax-payer funded flood control projects in natural rivers and streams will increase.

K:\WQ\Environmental Services\EIR Reviews\City of Ventura Comp Plan_DEIR.DOC

If you have any questions on this matter please feel free to call me at 805-654-2011

Very Truly Yours,

Paul Callaway, P.E.
Manager, Permit Section
Planning and Regulatory Division

K:\WQ\Environmental Services\EIR Reviews\City of Ventura Comp Plan_DEIR.DOC

Letter 26

COMMENTER: Paul Callaway, Ventura County Watershed Protection District

DATE: July 14, 2005

RESPONSE:

Response 26A

The commenter suggests that the EIR should include an additional mitigation measure requiring the dedication of right-of-way for future Watershed Protection District needs for developments adjacent to jurisdictional channels. In response to this comment, Mitigation Measures HWQ-2 will be amended to read as follows (new text is added):

HWQ-2 *Additional Drainage Actions. The following actions shall be added to the 2005 General Plan to address existing storm drain system deficiencies:*

- *Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City.*
- *Adopt assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist (e.g., Downtown district, Ventura Avenue corridor, and Harbor district).*

The following actions are recommended to minimize the impact of future development on the local storm drain system and implement City goals regarding sustainable infrastructure:

- *As feasible, require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff. Such methods may include, but are not limited to, (1) the use of pervious paving material within parking lots and other paved areas to facilitate rainwater percolation; and (2) construction of retention/detention basins to limit runoff to pre-development levels and to encourage infiltration into the groundwater basin.*
- *Where deemed appropriate, require new developments adjacent to Ventura County Watershed Protection District channels to dedicate necessary right-of-way to meet future District needs.*

Response 26B

The commenter reiterates the need for dedicated right-of-way adjacent to District drainage channels and suggests that the General Plan should strengthen land use policies to direct development away from floodplains rather than providing for structural solutions to flooding issues. Please see Response 26A. Also, the proposed 2005 General Plan is primarily intended to direct development away from drainages and focus on intensification and reuse within the



already urbanized areas of the City and contains many policies and statements that enforce this intent. In the event that any structural solutions are considered, the City will discuss them with the Watershed Protection District.



27

JUL 15 2005

**VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT**
Memorandum

TO: Carl Morehouse, Planning

DATE: July 13, 2005

FROM: Alicia Stratton AS

SUBJECT: Request for Review of Draft Environmental Impact Report for the Update of 1989 Comprehensive Plan, City of Ventura (Reference No. 04-086-2)

The proposed project involves the update of the 1989 Comprehensive Plan, which serves as the blueprint for the development of the City. Each of the Comprehensive Plan elements other than the Housing Element (an update of which was approved earlier this year) will be updated with goals, policies, and objectives that reflect the current needs and preferences of the community. The land use map will also be updated.

The City intends to emphasize infill development and reuse of developed lands within the current Sphere of Influence over the life of the Comprehensive Plan Update (through 2025), and has identified a number of growth districts and corridors where infill/reuse is to be focused. However, as part of the Comprehensive Plan update, the City is also considering inclusion of certain areas outside the current Sphere of Influence for future development.

We wish to submit the following comments on the draft environmental impact report:

1. Table 4.3-1 on Page 4.3-2 should be revised to reflect that the federal one-hour ozone standard has been revoked, effective June 15, 2005 (see attached). The corresponding paragraph discussing the table should be revised accordingly (Pages 4.3-2 and 4.3-3). A
2. The discussion on Current Ambient Air Quality on Page 4.3-5 should be revised to include data from the APCD air quality monitoring station at Emma Wood near Ventura. Data from this monitoring station is representative of air quality in the coastal areas of Ventura; data from the El Rio monitoring station is more representative of the inland portions of Ventura. The Emma Wood station only monitors ozone levels. B
3. The discussion of the 1994 Air Quality Management Plan (AQMP) in Section 4.3.1 Setting (d) on Page 4.3-5 should include this statement following the last sentence of the fifth paragraph: "To that end, the APCD is currently developing a new AQMP, which will be completed in 2007. The 2007 AQMP will contain C

strategies for attainment of the new eight-hour federal ozone standard by 2010. It will also incorporate updated projections of population, dwelling units and motor vehicle emissions."

4. The second paragraph on Page 4.3-14 should be revised to state that: "The Ventura County AQMP provides recommendations for reducing emissions from transportation-related sources by reducing vehicle use or improving traffic flow. These techniques are referred to as Transportation Control Measures (TCMs)." D
5. The Mitigation Measures discussion on Page 4.3-20 should be expanded to include this additional measure: "Require other air pollutant mitigation measures found feasible at the time of project approval." E

If you have any questions, please call me at 645-1426 or email me at alicia@vcapcd.org.

EPA National Ambient Air Quality Standards (NAAQS)



U.S. Environmental Protection Agency

Air & Radiation

Recent Additions | Contact Us | Print Version Search:
[EPA Home](#) > [Air & Radiation](#) > National Ambient Air Quality Standards (NAAQS)

- [Air & Radiation Home](#)
- [Where You Live](#)
- [Basic Information](#)
- [Indoor Air](#)
- [Transportation/Fuels](#)
- [Nonroad Equipment](#)
- [Acid Rain](#)
- [Ozone Depletion](#)
- [Climate Change](#)
- [Visibility](#)
- [Toxic Air Pollutants](#)
- [Radiation](#)
- [Grants & Funding](#)
- [Publications](#)
- [What You Can Do](#)
- [Tools & Technical Info](#)
- [AIRNow](#)
- [Emissions Trading](#)
- [Air Data & Maps](#)
- [Green Vehicles](#)
- [TTN - Technology Transfer Network](#)

National Ambient Air Quality Standards (NAAQS)

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. **Primary standards** set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. **Secondary standards** set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They are listed below. Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

National Ambient Air Quality Standards

Pollutant	Primary Stds.	Averaging Times	Secondary Stds.
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ¹	None
	35 ppm (40 mg/m ³)	1-hour ¹	None
Lead	1.5 µg/m ³	Quarterly Average	Same as Primary
Nitrogen Dioxide	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM ₁₀)	50 µg/m ³	Annual ² (Arith. Mean)	Same as Primary
	150 µg/m ³	24-hour ¹	
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual ³ (Arith. Mean)	Same as Primary
	65 µg/m ³	24-hour ⁴	
Ozone	0.08 ppm	8-hour ⁵	Same as Primary
Sulfur Oxides	0.03 ppm	Annual (Arith. Mean)	-----
	0.14 ppm	24-hour ¹	-----
	-----	3-hour ¹	0.5 ppm (1300 µg/m ³)

¹ Not to be exceeded more than once per year.

² To attain this standard, the 3-year average of the weighted annual mean PM₁₀ concentration at each monitor within an area must not exceed 50 µg/m³.

³ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations

EPA National Ambient Air Quality Standards (NAAQS)

Page 2 of 2

from single or multiple community-oriented monitors must not exceed 15.0 ug/m³.

⁴ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 65 ug/m³.

⁵ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

[Frequently Asked Questions](#) | [Technical Information](#)

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

Last updated on Tuesday, July 12th, 2005
URL: <http://epa.gov/air/criteria.html>

Letter 27

COMMENTER: Alicia Stratton, Ventura County Air Pollution Control District

DATE: July 13, 2005

RESPONSE:

Response 27A

The commenter suggests revising Table 4.3-1 to reflect the fact that the federal one-hour ozone standard was revoked on June 15, 2005. That table and the corresponding text will be revised accordingly in the Final EIR. This minor text change will not affect any EIR findings or conclusions.

Response 27B

The commenter suggests that the discussion of ambient air quality on page 4.3-5 should be revised to include data for the Emma Wood monitoring station. In response to this comment, the following table will be added to EIR Section 4.3-3 and the accompanying text will be revised accordingly. Subsequent tables will be renumbered.

**Table 4.3-3
Ambient Air Quality Data for the Emma Wood Monitoring Station**

Pollutant	Air Pollution Data		
	2002	2003	2004
Ozone, ppm - maximum hourly concentration (ppm)	0.078	0.094	0.093
Number of days of state exceedances (>0.09 ppm)	0	3	1
Number of days of federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - maximum 8-hour concentration (ppm)	0.069	0.078	0.082
Number of days of federal exceedances (>0.08 ppm)	0	0	1

Source: ARB, Air Quality Data Statistics; available at <http://www.arb.ca.gov/aqd/aqdpag.htm>.

Response 27C

The commenter suggests the addition of a sentence about the 2007 AQMP. In response to this comment, the following will be added to the end of the first paragraph under subsection d (Air Quality Management Plan):

To that end, the APCD is currently developing a new AQMP, which will be completed in 2007. The 2007 AQMP will contain strategies for attainment of the new eight-hour



federal ozone standard by 2010. It will also incorporate updated projections of population, dwelling units, and motor vehicle emissions.

This minor text changes does not affect the EIR findings or conclusions.

Response 27D

The commenter suggests a clarification with respect to AQMP programs to reduce vehicle use and improve traffic flow. In response to this comment, the first two sentences of the first full paragraph of page 4.3-14 will be replaced with the following:

The Ventura County AQMP provides recommendations for reducing emissions from transportation-related sources by reducing vehicle use or improving traffic flow. These techniques are referred to as Transportation Control Measures (TCMs).

This minor text change does not affect the EIR findings or conclusions.

Response 27E

The commenter suggests an additional mitigation measure. In response to this comment, the first bullet point of Measure AQ-2 will be revised to read as follows (new text is underlined):

- *Require air quality analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval.*



28



PUBLIC WORKS AGENCY
 TRANSPORTATION DEPARTMENT
 Traffic, Advance Planning & Permits Division
MEMORANDUM

DATE: June 23, 2005

TO: Resource Management Agency, Planning Division
 Attention: Carl Morehouse

FROM: Nazir Lalani, Deputy Director *NL*

SUBJECT: Review of Document 04-086-2, Draft EIR
 Update of the 1988 Comprehensive Plan for the City of Ventura
 Project involves updating the 1988 plan through the year 2025 with the current goals, policies and objectives that reflect the current needs and preferences of the community. The plan will also consider inclusion of certain areas outside the current Sphere of Influence for development.
 Project Applicant/ Lead Agency: City of San Buenaventura

The Public Work Agency - Transportation Department has reviewed the revised the Draft Environmental Impact Report (DEIR) to update the City of Ventura Comprehensive Plan, which serves as a blue print for development in the City. Our comments are the same as in our memo dated November 1, 2004 and are as follows:

The EIR should address the following comments:

1. Road improvements associated with all six scenarios along the major transportation corridors should match those shown in Appendix 8.3 of the County's General Plan Update DEIR. A copy of Appendix 8.3 is attached. The major corridors include Victoria Avenue, Olivas Park Drive, Harbor Blvd, Ventura Avenue, Foothill Road, Telegraph Road, Hwy 118 and Hwy 232. This would include bicycle and pedestrian facilities. A
2. On Page S-1, the DEIR makes reference to North Avenue, Olivas Park, Serra, Western Canada Larga and Poinsettia areas. A map should be provided to indicate the limits of these areas. B
3. Page 4.12-10 "Presently, two trains in both AM and PM operate the entire length of the route between Ventura and Union Station." There are three Metrolink trains that operate currently along this stretch. The EIR should make this correction. C
4. As noted in our memo on the Notice of Preparation of the DEIR, dated January 20, 2005, in accordance with the Ventura LAFCO Commissioner's Handbook, section 3.2.1, cities shall annex entire roadway sections adjacent to territory proposed to be annexed and shall include complete intersections. The EIR should require conditions for annexing county roadway section adjacent to the development, when the proposed expansion areas are developed. D

5. As noted in our memo on the Notice of Preparation of the DEIR, dated January 20, 2005 the updated 2025 comprehensive plan should address annexing of unincorporated islands in the County such as Montalvo, and developed areas immediately adjacent to the City limits such as Saticoy and existing development on North Ventura Avenue. E
6. One of the alternatives being considered by the Comprehensive Plan Update includes annexation and development of the Canada Larga arca. As demonstrated by the 2005 winter storms, this area is prone to major damage by flooding. The EIR should address this issue. F
7. Ventura Avenue south of Shell Road is subject to severe flooding during winter storms. Annexation of this area by the City should address the need to provide an adequate storm drain system. G
8. All of the scenarios are associated with major intersection and road segment improvements that will be needed to mitigate the traffic growth generated by the land use changes. The EIR should address how these improvements are to be funded. H
9. The cumulative impacts of the development of this project when considered with the cumulative impact of all other approved (or anticipated) development projects in the County will be potentially significant. To address the cumulative adverse impacts of traffic on the County Regional Road Network, the appropriate Traffic Impact Mitigation fees should be paid to the County when development occurs. With payment of the Traffic Impact Mitigation Fees, the Level of Service and safety of the existing roads would remain consistent with the County's General Plan. I

Our review of this project is limited to the impacts this project may have on the County's Regional Road Network.

Please call me at 654-2080 if you have questions.

Attachment: Appendix 8.3

F:\transport\LandDev\Notl_County\04-0086 VEN-2.doc

8.3 Summary of Traffic Model Results

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 3-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous All plus Hwy 918 & 34 and Santa Clara 2-lanes				
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exst. GP No. of Lanes	Exst. GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS		
US 101	Central Avenue to Del Norte Blvd.	hwy	145,000	F	176,330	F	8	F	10	D	8	175,800	E	8	175,600	E	8	176,200	F
US 101	State Route 1 to Johnson Drive	hwy	180,000	F	202,300	F	10	D	10	D	10	202,300	D	10	202,300	D	10	202,400	D
US 101	State Route 33 to Santa Barbara County Line	hwy	72,000	D	91,000	F	6	C	6	C	6	91,000	C	6	91,000	C	6	91,900	C
State Route 1	Los Angeles County Line to Las Posas	1	10,700	A-C	14,000	A-D	4	A	4	A-D	4	14,000	A-D	4	14,000	A-D	4	14,000	A-D
State Route 1	Roses Road to Las Posas	hwy	48,800	A	16,000	A	4	A	4	A	4	16,000	A	4	16,000	A	4	16,000	A
State Route 1	Huerfano Road to Esting Road (Outward city limits)	hwy	18,800	A	23,000	B	4	A	4	A	4	23,000	A	4	23,000	A	4	23,000	A
State Route 23 North	Thousand Oaks City Limit to Moorpark City Limit	hwy	60,000	C	80,000	D	4E	D	4E	D	4E	80,000	D	4E	80,000	D	4E	80,000	D

Appendices

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP			Improvements to meet LOS standards			Hwy 101 6-lanes through cities			Santa Rosa and Micropark Roads 2-lanes			Previous All, plus Hwy 118 & 34 and Santa Clara 2-lanes		
			Current ADT	Current LOS	2020 ADT	2020 LOS	Estm. GP No. of Lanes	2020 ADT	Exist GP. LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
State Route 23 North	Micropark city limits to Bardosdale Avenue	III	6,400	E	14,200	E	2	14,200	E	2	13,800	E	2	14,000	E	2	14,000	E	2	12,400	E
State Route 23 North	Bardosdale Avenue to Filmore City Limits	II	8,700	D	13,300	E	2	13,300	E	2	13,400	E	2	13,600	E	2	13,600	E	2	13,400	E
State Route 33	US 101 to Stanislaus Avenue	Iwy	n/a	n/a	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C
State Route 83	Stanislaus Avenue to Shell Road	Iwy	n/a	n/a	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C
State Route 83	Shell Road to Canada Laiga Road	Iwy	n/a	n/a	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C
State Route 33	Canada Laiga Road to Castlere Vista Road (end of Ojal Freeway)	Iwy	n/a	n/a	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C	4	50,200	C
State Route 33	End of Ojal Freeway to Creek Road	II	25,500	F	27,000	F	4	27,000	F	4	27,000	B	4	27,000	B	4	27,000	B	4	27,000	B
State Route 33	Creek Road to Santa Ana Boulevard	II	22,500	F	24,000	F	4	24,000	F	4	24,000	B	4	24,000	B	4	24,000	B	4	24,000	B
State Route 33	Santa Ana Boulevard to State Route 150 West	II	22,500	F	24,000	F	2	24,000	F	2	24,000	E	2	24,000	E	2	24,000	E	2	24,000	E

Appendage

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 189 8-lanes through cities		Santa Rosa and Macpark Roads 2-lanes		Provides All, plus Hwy 116 & 34 and Santa Clara 2-lanes			
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
State Route 33	State Route 150 West to Ojai City Limit	I	19,400	E	24,300	E	2	24,300	E	2	24,300	E	2	24,300	E	2	24,300	E
State Route 33	El Roblar City (Ojai City Limit) to La Loma Avenue	II	9,300	D	12,600	E	2	12,600	C	2	12,600	C	2	12,600	C	2	12,600	C
State Route 33	La Loma Avenue to Santa Barbara Co. Line	II	9,300	D	12,600	E	2	12,600	C	2	12,600	C	2	12,600	C	2	12,600	C
State Route 34	Rice Avenue (Oxnard City limits) to Pleasant Valley Road	I	15,000	D	21,000	E	2	21,000	B	4	21,000	B	4	21,000	B	4	21,000	B
State Route 34	Pleasant Valley Road to Las Posas Road	I	15,000	D	18,000	E	2	18,000	A	4	18,000	A	4	18,000	A	4	18,000	A
State Route 34	Las Posas Road to Pleasant Valley Road (Carmelito City Limit)	I	10,400	D	18,000	E	2	18,000	A	4	18,000	A	4	18,000	A	4	18,000	A
State Route 34	Carmelito City limits to State Route 118	I	15,200	D	21,200	E	2	21,200	B	4	21,100	B	4	21,800	B	2	19,800	E

Appendices

Draft Final Subsequent Environmental Impact Report for Focused General Plan Update

Road Name	Road Limits	Road Classification	Existing			2020 Forecast		Existing GP		Improvements to meet LOS standard			Hwy 101 6-lanes through cities			Santa Rosa and Moorpark Roads 2-lanes			Previous ADT plus Hwy 118 & 34 and Santa Clara 2-lanes		
			Current ADT	Current LOS	Current No of Lanes	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	Exist GP, LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT
State Route 118	Ventura City Limits to State Route 232	I	38,500	D	4	50,000	E	4	E	6	50,000	C	6	50,000	C	6	50,000	C	6	50,000	C
State Route 118	State Route 232 to Rose Avenue	I	20,900	E	2	27,000	E	4	B	4	27,000	B	4	27,000	B	4	27,000	B	2	17,000	E
State Route 118	Rose Avenue to Santa Clara Avenue	I	20,800	E	2	27,000	E	4	B	4	27,000	B	4	27,000	B	4	27,000	B	2	17,000	E
State Route 118	Santa Clara Avenue to Bradley Road	I	14,500	D	2	22,800	E	2	E	4	22,600	B	4	23,000	B	4	23,500	B	2	22,800	E
State Route 118	Bradley Road to State Route 34	I	14,500	D	2	22,800	E	2	E	4	22,600	B	4	23,000	B	4	23,500	B	2	22,800	E
State Route 118	State Route 34 to Balcom Canyon Road	I	18,600	E	2	33,100	F	4	C	4	33,100	C	4	21,900	B	4	34,600	C	2	32,600	F
State Route 118	Balcom Canyon Road to Gilman Canyon Road	I	18,000	E	2	30,000	F	4	C	4	35,000	C	4	35,000	C	4	37,000	C	2	31,000	F
State Route 118	Gilman Canyon Road to Moorpark City Limits	I	18,000	E	2	30,000	F	4	C	4	35,000	C	4	35,000	C	4	37,000	C	2	31,000	F

Appendices

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP			Improvements to meet LOS standard			Any 101 & lanes through cities			Santa Rosa and Moorpark Roads 2-lanes			Previous All plus Hwy 118 & 34 and Santa Clara 2-lanes			
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	Exist GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes
State Route 116	Moorpark city limits to Los Angeles Co. Line	hwy	111,000	D	140,400	F	6	140,400	F	6	141,400	F	6	141,000	F	6	143,000	F	6	141,100	F	6
State Route 126	Ventura city limits to Santa Paula city limits	hwy	50,000	C	62,100	C	4	62,100	C	4	62,150	C	4	61,800	C	4	62,200	C	4	62,100	C	4
State Route 126	Santa Paula city limits to Old Telegraph Road	I	32,000	C	40,800	D	4	40,800	D	4	40,300	D	4	40,300	D	4	40,300	D	4	40,500	D	4
State Route 126	Old Telegraph Road to Fillmore city limits	I	32,000	C	40,800	D	4	40,800	D	4	40,300	D	4	40,300	D	4	40,300	D	4	40,500	D	4
State Route 126	Fillmore city limits to Los Angeles county line	I	20,800	B	33,000	C	4	33,000	C	4	33,000	C	4	33,000	C	4	33,000	C	4	34,000	C	4
State Route 150	Santa Barbara county line to Burnham Road	III	2,900	C	3,500	D	2	3,500	D	2	3,500	D	2	3,500	D	2	3,500	D	2	3,500	D	2
State Route 150	Burnham Road to SR 33 West	I	8,200	C	10,000	C	2	10,000	C	2	10,000	C	2	10,000	C	2	10,000	C	2	10,000	C	2
State Route 150	Ojai city limits to Santa Paula city limits	III	5,800	D	7,000	E	2	7,000	E	2	7,000	E	2	7,000	E	2	7,000	E	2	7,000	E	2

Road Name	Road Limits	Road Classification	Existing			2020 Forecast		Existing GP		Improvements to meet LOS standard		New 101 & Janias through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous All plan Hwy 116 & 34 and Santa Clara 2-lanes	
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	Exist. GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT
Bradley Road	State Route 118 to Birkom Canyon Road	II	2,100	B	4,700	C	2	C	2	4,900	C	2	5,000	C	2	4,700	C
Briggs Road	State Route 126 to Telegraph Road	I	n/a	n/a	4,500	B	2	B	2	4,500	B	2	4,500	B	2	4,500	B
Briggs Road	Telegraph Road to Foothill Road	I	n/a	n/a	2,000	A	2	A	2	2,000	A	2	2,000	A	2	2,000	A
Bristol Road	Union Pacific RR to Ventura city limits	II	10,000	D	14,000	E	2	E	2	14,000	D	2	14,000	D	2	14,000	D
Broadway	Stockton Road to Grimes Canyon Road	I	2,800	B	3,300	B	2	B	2	3,300	B	2	3,300	B	2	3,300	B
Broadway	Grimes Canyon Road to Highway 23	I	3,600	B	4,500	B	2	B	2	4,500	B	2	4,500	B	2	4,500	B
Burnham Road	Santa Ana Road to State Route 150	II	2,300	B	3,200	B	2	B	2	3,200	B	2	3,200	B	2	3,200	B
Cañon Yucca	Thousand Oaks city limits to Cañon Yucca (north end)	II	3,000	B	3,600	B	2	B	2	3,600	B	2	3,600	B	2	3,600	B

Appendices

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 8-lanes through cities		Santa Rosa and Macpark Roads 2-lanes		Previous AM, plus Hwys 118 & 34 and Santa Clara 2-lanes	
			Current ADT	Current LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
State Route 232	Osmond City Limits to Central Ave	I	20,000	B	25,000	B	25,000	B	24,700	B	4	25,000	B	4	25,200	B
State Route 232	Central Ave to State Route 118	I	21,600	B	27,700	B	27,700	B	26,700	B	4	27,700	B	4	32,400	C
Alhambra Ranch Road	Thousand Oaks Boulevard to Victory Boulevard	I	0	0	25,200	B	25,200	B	25,200	B	4	25,200	B	4	25,200	B
Balcon Canyon Road	State Route 118 to Bradley Road	III	1,300	B	2,000	B	2,000	B	2,000	B	2	2,000	B	2	2,000	B
Balcon Canyon Road	Bradley Road to South Mountain Road	III	1,300	B	1,700	B	1,700	B	1,700	B	2	1,700	B	2	1,700	B
Bardsdale Avenue	Seape St to State Route 23	III	n/a	n/a	2,000	B	2,000	B	3,000	B	2	3,000	B	2	3,000	B
Bonshawd Road	212th rd to Wendy Dr to Thousand Oaks city limits	I	19,000	A	22,600	B	22,500	B	22,500	B	4	22,500	B	4	22,500	B
Box Canyon Road	Los Angeles Co line to Santa Susana Pass Road	III	4,800	D	6,700	E	6,700	E	6,700	C	2	6,700	C	2	6,700	C

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Key 101 B-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous All plus Hwy 118 & 34 and Santa Clara 2-lanes	
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist. GP No. of Lanes	Exist. GP, LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT
Carrizo Dos Rios	Calle Arroyo to Lynn Road	II	2,000	B	2,400	B	2	B	2,400	B	2	2,400	B	2	2,400	B
Canada Larga Road	Ventura Av to State Route 33	II	8,000	D	8,600	D	2	D	8,600	D	2	8,600	D	2	8,600	D
Castles Vista Road	Ventura Av to Santa Ana Road	III	2,600	B	3,500	B	2	B	3,500	B	2	3,500	B	2	3,500	B
Carretti Road	Las Posas Road to Lewis Road	I	2,000	A	18,000	F	2	A	18,000	A	4	18,000	A	4	18,000	A
Center School Road	Lewis Road to Fairway Dr to State Route 118	II	1,500	A	2,700	B	2	B	2,700	B	2	2,700	B	2	2,700	B
Central Avenue	State Route 232 to Rose Avenue	I	9,800	C	13,800	D	4	A	13,800	D	2	13,800	D	2	13,800	D
Central Avenue	Rose Avenue to Santa Clara Avenue	I	9,800	C	13,800	D	4	A	13,800	D	2	13,800	D	2	13,800	D
Central Avenue	Santa Clara Av to Carmelillo city limits	I	18,100	E	22,000	E	4	B	22,000	B	4	22,000	B	4	22,000	B
Channel Islands Blvd	Osward city limits to Rose Av	I	18,100	E	22,500	E	2	E	22,500	B	4	22,500	B	4	22,500	B
Creek Road	State Route 33 to Ojai city limits	II	1,900	B	2,800	B	2	B	2,800	B	2	2,800	B	2	2,800	B
Doris Avenue	Victoria Av to Oxnard city limits	II	4,800	C	8,100	D	2	D	8,100	D	2	8,100	D	2	8,100	D

Appendix

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 B-Janes Through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous Alt. plus Hwy 118 & 24 and Santa Clara 2-lanes		
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exst. GP No. of Lanes	2020 ADT	Exst. GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT
El Roblar Drive	La Luna Av to State Route 33	I	8,400	C	9,800	D	9,800	C	2	9,800	C	2	9,800	C	2	9,800	C
Fairway Drive	Valley Vista Dr to Center School Road	I	6,800	B	6,400	C	6,400	C	2	6,400	C	2	6,400	C	2	6,400	C
Fifth Street West	Harbor Blvd to Oxnard city limits	I	5,500	B	7,000	C	7,000	C	2	7,000	C	2	7,000	C	2	7,000	C
Foodhill Road	Ventura city limits to Wells Road	III	2,200	C	4,600	D	4,600	D	2	4,600	D	2	4,600	D	2	4,600	D
Foodhill Road	Wells Road to Santa Paula city limits	III	1,400	B	3,200	C	3,200	C	2	3,200	C	2	3,200	C	2	3,200	C
Gonzales Road	Harbor Blvd to Oxnard city limits	I	4,800	B	6,400	C	6,400	C	4	6,400	C	2	6,400	C	2	6,400	C
Gardner Canyon Road	State Route 118 to Broadway	II	2,800	B	5,000	C	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C
Gulberson Road	State Route 23 to Torrey Road	II	600	A	1,000	A	1,000	A	2	1,000	A	2	1,000	A	2	1,000	A
Harbor Boulevard	W. Fifth Street (Oxnard city limits) to Gonzales Road	I	17,400	E	24,400	E	24,400	B	4	24,400	B	4	24,400	B	4	24,400	B

Appendices

Draft Final Subsequent Environmental Impact Report for Focused General Plan Update

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 8-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous 2-lanes Hwy 118 & 34 and Santa Clara 2-lanes	
			Current ADT	Current LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Harbor Boulevard	Gonzales Road to Oliver Park Drive (Ventura city limits)	I	17,400	E	24,400	E	24,400	B	24,400	B	4	24,400	B	4	24,400	B
Howe Road	Torrey Road to Torrey Road	II	500	A	500	A	500	A	500	A	2	500	A	2	500	A
Hueneme Road	Edison Drive (Oxnard city limits) to Rosa Avenue	I	10,800	D	17,900	E	17,900	A	17,900	A	4	17,900	A	4	17,900	A
Hueneme Road	Rosa Avenue to Rice Avenue	I	10,800	D	17,900	E	17,900	A	17,900	A	4	17,900	A	4	17,900	A
Hueneme Road	Rice Avenue to State Route 1	I	10,200	D	18,600	E	18,600	E	18,200	A	4	18,700	A	4	18,700	A
Hueneme Road	State Route 1 to Wood Road	I	10,200	D	18,600	E	18,600	E	18,200	A	4	18,700	A	4	18,700	A
Hueneme Road	Wood Road to Las Posas Road	I	10,200	D	18,600	E	18,600	E	18,200	A	4	18,700	A	4	18,900	A
Hueneme Road	Las Posas Road to West Potrero Road	I	10,200	D	18,600	E	18,600	E	18,200	A	4	18,700	A	4	18,900	A
Kanan Road	Los Angeles Co line to Undero Cyn Road	I	21,600	B	20,000	B	20,000	B	20,000	B	4	20,000	B	4	20,000	B

Reed Eljal Subsequent Environmental Impact Report for Focused General Plan Update

Appendices

261

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Key 101 8-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous ABC plus Rwy 118 & 34 and Santa Clara 2-lanes			
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exisit GP No. of Lanes	2020 ADT	Exisit GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Laguna Road	Pleasant Valley Road to Wood Road	I	n/a	n/a	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B
Laguna Road	Wood Road to Las Posas Road	I	n/a	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B	
Laguna Road	Las Posas Road to Huemama Road	I	n/a	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B	2	2,500	B	
La Luna Avenue	State Route 150 to El Roblar Drive	II	3,900	B	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C
La Luna Avenue	El Roblar Drive to State Route 33	II	3,900	B	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C
Las Posas Road	State Route 1 to Huemama Road	I	7,000	C	9,300	C	2	9,300	C	4	9,300	A	4	9,300	A	4	9,300	A
Las Posas Road	Huemama Road to Laguna Road	I	13,600	D	17,700	E	2	17,700	E	4	17,600	A	4	17,700	A	4	17,700	A
Las Posas Road	Laguna Road to Road to Cartwell Road	I	13,600	D	17,700	E	2	17,700	E	4	17,600	A	4	17,700	A	4	17,700	A
Las Posas Road	Cartwell Road to Fifth Street	I	13,600	D	17,700	E	2	17,700	E	4	17,600	A	4	17,700	A	4	17,700	A

Appendix

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 8-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous All, plus Hwy 119 & 34 and Santa Clara 2-lanes			
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist GP No. of Lanes	Exist GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	
Las Posas Road	Fifth Street to Carmelito city limits	I	20,000	E	30,600	F	2	30,600	F	4	28,700	C	4	30,600	C	4	30,600	C
Lewis Road	Huamane Road to CSUCCI	I	9,400	C	7,300	C	2	7,300	C	2	7,300	C	2	7,300	C	2	7,300	C
Lewis Road	CSUCCI to Carmelito City Limit	I	9,400	C	30,000	F	4	30,000	G	4	30,000	C	4	30,000	C	4	30,000	C
Lockwood Valley Road	State Route 33 to Kern Co line	II	725	A	1,000	A	2	1,000	A	2	1,000	A	2	1,000	A	2	1,000	A
Moorpark Road	Santa Rosa Road to Tierra Rejada Road	I	14,000	D	20,200	E	2	20,200	E	4	20,100	B	4	20,200	E	2	20,200	E
Old Telegraph Road	State Route 126 to Fillmore city limits	II	3,300	B	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C	2	5,000	C
Ohras Park Drive	Harbor Blvd to Telephone Road	I	12,600	D	18,500	E	2	18,500	E	4	18,500	A	4	18,500	A	4	18,500	A
Ohras Park Drive	Telephone Road to Victoria Avenue	I	12,600	D	18,500	E	2	18,500	E	4	18,500	A	4	18,500	A	4	18,500	A
Ohras Park Drive	Victoria Avenue to Seaborg Avenue	I	12,600	D	18,500	E	2	18,500	E	4	18,500	A	4	18,500	A	4	18,500	A

Appendices

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		Hwy 101 8-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous Alt. plus Hwys 118 & 34 and Santa Clara 2-lanes			
			Current ADT	Current LOS	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	Exist. GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Patterson Road	Teel Club Road to Doris Av	II	600	A	1,500	A	2	1,500	A	2	1,500	A	2	1,500	A	2	1,500	A
Pleasant Valley Road	Oxnard city limits to Wood Road	I	11,800	D	30,000	F	4	30,000	C	4	28,000	B	4	30,000	C	4	30,000	C
Pleasant Valley Road	Wood Road to Las Passes Road	I	13,400	B	34,000	F	4	34,000	C	4	32,000	C	4	34,000	C	4	34,000	C
West Potrero Road	Huerfano Road to Oaks city limits	III	2,600	C	5,300	D	2	5,300	D	2	5,300	D	2	5,300	D	2	5,300	D
East Potrero Road	Thousand Oaks city limits to Lake Sherwood Drive	II	n/a	n/a	13,200	D	2	13,200	D	2	13,200	D	2	13,200	D	2	13,200	D
East Potrero Road	Sherwood Dr to Thousand Oaks city limits	II	7,300	D	10,200	D	4	10,200	D	4	10,200	D	4	10,200	D	4	10,200	D
Rice Avenue	Huerfano Road to State Route 1	I	n/a	n/a	28,000	B	2	28,000	E	4	28,000	B	4	28,000	B	4	28,000	B

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		They 101 2-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous AR, plus Hwy's 119 & 34 and Santa Clara 2-lanes	
			Current ADT	Current LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Rice Avenue	State Route 1/Pleasant Valley Road to Channel Islands Boulevard	I	27,500	B	31,800	B	31,800	B	32,200	D	31,800	D	31,800	D	31,800	D
Rice Avenue	Channel Islands Boulevard to Woodley Road	I	27,000	B	41,800	D	41,800	B	42,200	D	41,800	D	41,800	D	41,800	D
Rice Avenue	Woodley Road to State Route 34	I	27,500	B	41,500	D	41,800	B	42,200	D	41,800	D	41,800	D	41,800	D
Rose Avenue	Outward city limits to Central Av	I	9,800	A	17,000	A	17,000	A	17,000	A	17,000	A	17,000	A	17,000	A
Rose Avenue	Central Av to State Route 119	I	8,000	C	15,200	D	15,200	D	15,200	D	15,200	D	15,200	D	15,200	D
Rose Avenue	Huerfano Road to Outward City Limit	I	0	n/a	18,000	A	18,000	A	18,000	A	18,000	A	18,000	A	18,000	A
Santa Ana Boulevard	Santa Ana Road to State Route 33	I	1,000	A	3,000	A	3,000	A	3,000	A	3,000	A	3,000	A	3,000	A
Santa Ana Road	Casillas Vista Road to Santa Ana Blvd	I	1,300	A	2,800	B	2,800	B	2,800	B	2,800	B	2,800	B	2,800	B

Appendices

Road Name	Road Limits	Road Classification	Existing			2020 Forecast		Existing GP			Improvements to meet LOS standard			New 181 8-lanes through cities			Santa Rosa and Moorpark Roads 2-lanes			Previous All. plus Hwy 116 & 24 and Santa Clara 2-lanes		
			Current ADT	Current LOS	Current No. of Lanes	2020 ADT	2020 LOS	Exist. GP No. of Lanes	2020 ADT	Exist. GP LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Santa Ana Road	Santa Ana Blvd to State Route 150	II	1,300	A	2	2,800	B	2	2,800	B	2	2,800	B	2	2,800	B	2	2,800	B	2	2,800	B
Santa Clara Avenue	Overland city limits to Central Av	I	10,400	D	2	20,100	E	4	20,100	B	4	20,900	B	4	19,200	B	4	21,900	B	4	20,100	E
Santa Clara Avenue	Central Av to State Route 118	I	10,500	D	2	23,700	E	4	23,700	B	4	23,400	B	4	23,600	B	4	24,100	B	4	20,000	E
Santa Rosa Road	Carrañillo city limits to East Las Posas Road	I	24,700	E	2	25,000	E	4	25,000	C	4	21,000	B	4	20,000	B	2	21,000	E	2	21,000	E
Santa Rosa Road	East Las Posas Road to Moorpark Road	I	24,700	E	2	25,000	E	4	25,000	C	4	21,000	B	4	20,000	B	2	21,000	E	2	21,000	E
Santa Susana Pass Road	Shil Valley city limits to Libac Ln	II	6,100	C	2	8,500	D	2	8,500	D	2	8,500	D	2	8,500	D	2	8,500	D	2	8,500	D
Saspe Street	South Mountain Road to Pasadena Av	II	1,200	A	2	2,000	B	2	2,000	B	2	2,000	B	2	2,000	B	2	2,000	B	2	2,000	B
South Mountain Road	Santa Paula city limits to Balcom Canyon Road	II	2,200	B	2	4,500	C	2	4,500	C	2	4,400	C	2	4,600	C	2	4,600	C	2	4,500	C
South Mountain Road	Balcom Canyon Road to Saspe St	II	2,200	B	2	2,900	C	2	2,900	C	2	2,800	C	2	2,000	C	2	2,000	C	2	2,000	C

Road Name	Road Limits	Road Classification	Existing		2020 Forecast		Existing GP		Improvements to meet LOS standard		May 101 8-lanes through cities		Santa Rosa and Moorpark Roads 2-lanes		Previous All-pipe Hwy's 118 & 34 and Santa Clara 2-lanes		
			Current ADT	Current LOS	2020 ADT	2020 LOS	2020 ADT	Exist GP-LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS
Stockton Road	Bloom Canyon Road to Broadway	II	700	A	1,000	A	1,000	A	2	1,000	A	2	1,000	A	2	2,000	B
Teal Cmb Road	2020 feet to 612 feet west of Ventura Road	II	2,700	B	3,500	B	3,500	B	2	3,500	B	2	3,500	B	2	3,500	B
Telegraph Road	Ventura city limits to Santa Paula city limits	I	5,400	B	8,000	C	8,000	C	2	8,000	C	2	8,000	C	2	8,000	C
Telegraph Road	Santa Paula city limits to Hillcock Dr	I	3,100	B	8,000	B	8,000	B	2	8,000	B	2	8,000	B	2	8,000	C
Telephone Road	City Park Drive to Transport Street	I	n/a	n/a	8,000	B	8,000	B	2	8,000	B	2	8,000	B	2	8,000	C
Thana Refugia Road	Moorpark city limits to Simi Valley city limits	I	13,800	A	22,000	A	22,000	A	4	23,200	A	4	23,600	A	4	23,600	A
Torrey Road	Gutherson Road to State Route 126	III	300	A	450	B	450	B	2	450	B	2	450	B	2	450	B
Valley Vista Drive	Carnellio city limits to Fairway Dr	II	6,800	C	6,800	C	6,800	C	2	6,800	C	2	6,800	C	2	6,800	C
Ventura Avenue	Ventura city limits to Castles Vista Road	I	7,500	C	12,000	D	12,000	D	2	12,000	D	2	12,000	D	2	12,000	D

Appendices

267

Draft Final Subsequent Environmental Impact Report for Focused General Plan Update

Road Name	Road Limits	Road Classification	Existing			2020 Forecast		Existing GP			Improvements to meet LOS standard			Hwy 101 & Janes through cities			Sarda Roca and Moorpark Roads 2-lanes			Previous AM, plus Hwy's 118 & 34 and Sarda Clara 2-lanes		
			Current ADT	Current LOS	Current No of Lanes	2020 ADT	2020 LOS	Exist GP No. of Lanes	2020 ADT	2020 LOS	Exist GP, LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT	2020 LOS	No. of Lanes	2020 ADT
Victoria Avenue	Oxnard city limits to Gonzales Road	1	35,300	C	4	55,000	E	4	55,000	E	6	55,700	C	6	55,000	C	6	55,100	C	6	55,100	C
Victoria Avenue	Gonzales Road to Citrus Park Drive	1	37,200	C	4	60,000	F	6	60,000	C	6	69,000	C	6	60,000	C	6	60,000	C	6	60,000	C
Wendy Drive	Bonfield Road to Thousand Oaks city limits	1	15,100	D	2	23,000	E	4	23,000	B	4	23,000	B	4	23,000	B	4	23,000	B	4	23,000	B
Woodley Road	Oxnard city limits to Rice Av	1	9,500	C	2	13,000	D	2	13,000	D	2	13,000	D	2	13,000	D	2	13,000	D	2	13,000	D

LOS is based on thresholds from Figure 4.2.2 in the Ventura County General Plan

Letter 28

COMMENTER: Nazir Lalani, Deputy Director, County of Ventura Public Works Agency,
Transportation Department

DATE: June 23, 2005

RESPONSE:

Response 28A

Road improvements associated with all six scenarios along the major transportation corridors such as Victoria Avenue, Olivias Park Drive, Harbor Boulevard, Ventura Avenue, Foothill Road, Telegraph Road and Highways 118 and 23 match those shown in Appendix 8.3 of the County's General Plan update DEIR as stated by the commenter. Following adoption of the 2005 General Plan (and the Circulation Element), the City will discuss the changes in land use and circulation resulting from the General Plan Update with the County. The discussion will compare inconsistencies in roadway classifications in the City's Circulation Element with those in the County's General Plan to some of the minor roadways. Since the traffic analysis carried out for the General Plan Update uses the most recent long-range traffic data for circulation planning purposes, it can thereby provide a technical basis for evaluating those differences. An agreement can then be reached as to where future changes to the County's General Plan may be appropriate to establish consistency.

Response 28B

The commenter requests clarification with respect to the locations of the potential expansion areas considered in the Draft EIR. These areas are depicted on Figure 2-4 through 2-8 of Section 2.0, *Project Description*.

Response 28C

The commenter notes that three Metrolink trains operate between Ventura and Union Station in Los Angeles rather than the two trains noted in the Draft EIR. This will be corrected in the Final EIR. This minor text change will not affect the EIR findings or conclusions.

Response 28D

The commenter states an opinion that the EIR should include conditions for annexing County roadway sections adjacent to expansion areas at such time as those areas are developed. The scenario being recommended by City staff is the "Intensification/Reuse Only" scenario with some minor map clean-up. Because no expansion areas are being recommended at this time, the condition suggested by the commenter is not applicable. If and when any of the expansion areas are considered for annexation, appropriate conditions regarding annexation of adjacent roadways will be made part of the annexation.



Response 28E

The commenter suggests that the City should consider annexation of unincorporated islands such as Montalvo and developed areas adjacent to the City limits, such as in Saticoy and the North Avenue area. Annexation of these areas is one of City's goals for the 2005 General Plan. Portions of several of the districts and corridors that are to be the focus of future development are within the Saticoy and North Avenue areas.

Response 28F

The commenter notes that portions of the Western Cañada Larga area are subject to flooding. Flooding issues are addressed in Section 4.8, *Hydrology and Water Quality*. Portions of that expansion area are within the 100-year flood zone. As noted in Response 27D, City staff are not recommending inclusion of the Western Cañada Larga area as a potential expansion area on the 2005 General Plan land use map.

Response 28G

The commenter notes that Ventura Avenue south of Shell Road is subject to severe flooding. The area to which the commenter refers is within the North Avenue District, which the City anticipates annexing and making one of the focal points for future industrial development. Flooding issues along that stretch of Ventura Avenue will be addressed as that area redevelops.

Response 28H

The commenter states an opinion that the EIR should address how future roadway improvements are to be funded. Subsequent to adoption of the 2005 General Plan, the City will undertake a revision to its traffic impact fee program. As part of that revision, the cost of planned improvements and development impact fees will be determined.

Response 28I

The commenter states that potentially significant cumulative impacts to the County road network can be mitigated by requiring developers to pay the County's Traffic Impact Mitigation Fees. The City will continue to require developers to pay the County's Traffic Impact Mitigation Fees, in accordance with the City's agreement with the County.





RECEIVED

JUL 19 2005

Community Development
PLANNING DIVISION

29

July 18, 2005

Ms. Kari Gialketsis, Principal Planner
City of Buenaventura
Community Development Department
501 Poli Street
Ventura, CA 93002

RE: CITY OF VENTURA GENERAL PLAN DEIR

Dear Ms. Gialketsis:

Thank you for the opportunity to review and provide input to the Draft Environmental Impact Report (DEIR) for the proposed update to the General Plan of the City of Ventura. We appreciate the opportunity to review the plan and the associated environmental report because it provides us the opportunity to better coordinate our planning and development of the electrical facilities needed to provide services to the existing and future residents and businesses in the city.

Although the proposed General Plan document and its DEIR did not have any specific discussions about electrical facilities, whether existing or planned, we believe that future development projects deemed consistent with the proposed document may have impacts on SCE facilities and thus may require detailed environmental evaluation. For example, the General Plan proposes the widening of many roads and arterials. Such activities may require the construction or relocation of SCE facilities, and those SCE actions may themselves have environmental consequences cognizable under the California Environmental Quality Act (CEQA). If those environmental consequences are properly identified and adequately addressed in the development documents and CEQA approval process, SCE may not be required to pursue the mandatory CEQA review through

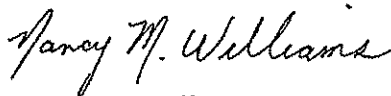
the California Public Utilities Commission (CPUC) and its General Order 131-D process (the CPUC being the CEQA "lead agency" for SCE projects unless one of the exemptions in G.O. 131-D applies).

We are hopeful that the City will continue to require the evaluation of site-specific environmental impacts of subsequent non-exempt development proposals in compliance with CEQA, including mandatory noticing and public review requirements. This will allow SCE and other affected stakeholders the opportunity to work with the City to address relevant environmental issues and recommend viable mitigation measures.

If any of the subsequent development proposals implementing the General Plan affect SCE facilities, it is essential that their environmental impacts are adequately addressed. This is particularly true for projects that do not fit into any GO 131-D exemptions and would otherwise require CEQA review by the CPUC, a process that could delay project implementation.

We look forward to working with you as you update your General Plan, and on its implementation upon adoption. SCE does have the capacity to continue to serve the existing and future developments in the city, and we are committed to working with the City, project proponents and developers to facilitate the design and subsequent construction of relevant facilities to serve all proposed projects. If you have any questions or seek clarifications, please contact me at 805 654-7226. Thank you.

Sincerely Yours



Nancy M. Williams

Region Manager

Letter 29

COMMENTER: Nancy M. Williams, Region Manager, Southern California Edison

DATE: July 18, 2005

RESPONSE:

The commenter notes that SCE has the capacity to continue to serve existing and future developments in Ventura, but notes that certain projects that may be accommodated under the 2005 General Plan (road widenings, for example) may require the construction or relocation of SCE facilities. As the commenter notes, the City will undertake project-specific environmental reviews for individual projects accommodated under the 2005 General Plan. Any impacts to SCE facilities, including potential secondary effects associated with the relocation of facilities, will be addressed as part of future project-specific environmental documents.



July 26, 2005

Kari Gialketsis, Principal Planner
City of San Buenaventura
Community Development Department
501 Poli Street
P.O. Box 99
Ventura, CA 93001-0099

30

DELIVERED VIA E-MAIL AND FAX

RE: City of San Buenaventura 2005 General Plan Draft EIR

Dear Ms. Gialketsis:

On behalf of HOME (Housing Opportunities Made Easier) thank you for the opportunity to comment on the City of Ventura's proposed 2005 General Plan and its accompanying Draft Environmental Impact Report, dated June 2005. HOME is a volunteer-based alliance of non-profit organizations, area business leaders, elected officials and concerned citizens who have as a common goal, working together to create a more receptive environment for the development of high-quality workforce housing in Ventura County. HOME's mission is to facilitate community engagement and support for proactive solutions to create a greater diversity in housing choices.

HOME supports smart growth strategies, which include mixed-use, higher density, and pedestrian/transit oriented development by concentrating growth, when possible, on infill sites and by the revitalization of older, underutilized, or deteriorating properties and areas of the community located near transit, or within walking/biking distance of jobs and services. We applaud Ventura's leadership in this area, and encourage you to continue your efforts to streamline the development process for these types of properties. We do, however, have several concerns regarding the assumptions, and the implementation feasibility of the 2005 General Plan. HOME offers the following comments for your consideration:

- A) The Project Objectives section of the DEIR lists the Ventura Vision Goals, which have been translated into the required General Plan Elements. While we appreciate this creative approach to integrating the community's priorities (as expressed in the "Ventura Vision" document) into the City's General Plan Update, we are concerned that the General Plan does not contain enough specificity, in some areas, to successfully implement the Vision. We understand that, following the Ventura Vision, the 2005 General Plan is "the second in a series of three connected documents that will guide future conservation and change in the City" (DEIR 1-2). However, until the City completes the third step in this process, the form-based Development Code, which will provide the regulatory structure for implementation of the 2005 General Plan, it may prove difficult to successfully, and efficiently implement some of the General Plan Policies.

We encourage the City to create greater clarity in how development proposals will be reviewed and regulated, until stage three (new form-based Development Code) is adopted. Numerous General Plan Action items, including 3.11, 3.17, and 3.18, indicate the City's intent to re-write its zoning ordinances and development codes to better facilitate its intensification/reuse strategy. HOME encourages the City to expedite this process, and to make clear and decisive policy decisions as to how it will respond to proposed development projects, which are submitted during the period prior to the adoption of the new codes. Without the adoption of the form-based Development code, it would appear that it will be all but impossible to process a new proposed development.

Infill Development is already inherently risky, and can often be more costly and difficult to complete, due to existing site issues, constraints, and perceived conflicts with existing uses. In order to: "Utilize infill development to accommodate the targeted number and type of housing units described in the Housing Element" (Action 3.11), it is incumbent upon the City to work diligently to remove regulatory obstacles and barriers to realization of this goal.

- B) Alternatives:** While we recognize that, for the reasons mentioned in the DEIR, the "No Project" Alternative is not realistic, we disagree with the assertion that since "this alternative assumes that no further development occurs in the City..." then "environmental conditions do not change" (DEIR S-4). HOME recognizes that while this statement may be "technically accurate" based on the definitions and guidelines for environmental review under CEQA, it is "functionally inaccurate", in that development does not, in and of itself, dictate population growth; nor will the lack of it allow the City to avoid the environmental impacts created by a failure to plan for realistic projections of future population growth. HOME strongly advocates the reform of this type of "one-sided" view of the environmental review process, as implemented under CEQA. In order to facilitate the production of workforce housing, while also protecting our natural and existing built environment, we must begin to clearly and objectively assess both the positives and negatives of our land use decisions, including the negative impacts which may be caused from a failure to adequately plan for the future housing needs of our workforce, and all of Ventura's residents. B
- C) Population Growth Projections:** The Intensification/Reuse Only Scenario assumes an annual population growth rate of 0.88%, while all of the other Scenarios are based on a projected rate of 1.14%. While the 0.88% annual rate reflects Ventura's actual growth rate for the past 10 years (1994-2004), we believe that this growth rate was uncharacteristically low for that timeframe, due in part to the 1990s recession, which hit the construction industry hard. We believe that the 1.14% growth rate, which is much closer to the Countywide rate of 1.2%, and reflects the City of Ventura's most recent (2000-2005) actual growth rate of 1.0%, is a more realistic projection of growth that will actually occur, and for which the City should plan. It appears as though the 0.88% growth rate was selected largely due to concerns regarding the potential to exceed SCAG and/or AQMP growth projections, even though these limitations are discounted elsewhere in the DEIR as being outdated. This "two-sided" argument, both for and against adherence to these growth projections, could likely be used by "no growth" advocates to challenge future development approvals. C
- D) Our Well Planned Community:** In order to satisfy State requirements, every General Plan must include policies for the seven required "elements", including the Land Use Element, which "establishes the general distribution and intensity of land uses, including housing, commerce, industry, open space, education and public facilities." (2005 GP page 11) D

The proposed 2005 General Plan includes a number of "over-arching goals for the City of Ventura", including: "Our Well Planned and Designed Community", which has been incorporated into the Land Use, Housing, and Community Design Elements. Table 2-1 of the DEIR (page 2-11), gives the following "Examples of Topics Covered" under these General Plan Elements: "Development patterns, neighborhoods, visual character, urban design, demographics, housing needs, affordability, constraints on production." And yet, the 2005 General Plan offers this description of the General Plan Chapter, called "Our Well Planned Community ... Our goal is to protect our hillsides, farmlands, and open spaces; enhance Ventura's historic and cultural resources; respect our diverse neighborhoods; reinvest in older areas of our community; and make great places by insisting on the highest standards of quality in architecture, landscaping and urban design."

While the items expressed in this section may certainly be valid goals for the City to pursue, HOME questions the appropriateness of including them in the "Land Use Element" of the General Plan. It seems to us, that many of these priorities are more appropriately expressed elsewhere in the Plan,

(i.e. the Conservation, Open Space, and/or Culture Elements). The Land Use Element should focus on such things as development patterns and urban design, not conservation issues. While the 2005 General Plan clearly defines infill as a priority, and refers to planning tools such as form-based codes that the City intends to adopt in the future, we are concerned that the City currently lacks the regulatory structure that will allow it to implement its planning goals, and land use policies. Chapter 3 of the 2005 General Plan effectively describes the City's vision, but provides limited details as to how, or when, it will adopt and/or revise the existing codes and programs (like the RGMP-Action 3.18) in order for this vision to be realized. It is not enough for the City to simply "insist on the highest standards of quality in architecture, landscaping and urban design", it is incumbent upon the City to provide the development community with the proper tools and regulatory structure, to facilitate quality development.

One further concern regarding the Land Use Element is in the area of open space, education, and public facilities. The DEIR points to several limitations to the City's ability to adequately plan for and meet its needs in these areas, via the Intensification/Reuse Only Scenario. The DEIR identifies several "potentially significant impacts" relating to the need for new facilities that cannot be adequately mitigated with an infill only strategy. While HOME fully supports infill development, whenever and wherever possible, we also recognize the inherent limitations of this approach in meeting some of the more land-intensive needs of the community's growth. We encourage the City to refrain from limiting its ability to include additional land in its planning inventory, which could allow it to meet the need for additional public facilities, parks, and open space.

- E) Housing Affordability:** As previously stated, HOME's mission revolves around "workforce housing", which may include, but is not limited to "affordable housing" per the legal definitions. However, we are very concerned about issues that impact housing affordability, including the costs associated with the development and construction of new housing units. As such, there are numerous references in the DEIR, which identify City infrastructure deficiencies that will need to be upgraded, repaired, and/or replaced in order to accommodate the intensity of development that is called for in Scenario 1. We encourage the City to aggressively pursue an action plan, and funding sources, to correct existing infrastructure deficiencies, which would not place the entire burden of financing these community-wide needs on the backs of builders and new home buyers. E
- F) Process:** Section 1.5 of the DEIR clearly defines the CEQA Environmental Review Process, which requires that the City's decision making bodies have an opportunity to review and consider the FINAL EIR, including all public comments and responses, prior to making a decision on Final EIR Certification of the proposed project (the 2005 General Plan). HOME questions the City's ability to meet this CEQA requirement, given the proposed timeframes for closing the public comment period on July 18th, while scheduling Public Hearings with the Planning Commission and City Council on July 19th and August 8th, respectively. How can the City possibly consider and respond to all public input within such a compressed timeframe? F
- G) Conflicting Priorities:** We are concerned that some of the stated Policies, Actions and Priorities expressed in the 2005 General Plan may be internally inconsistent or lacking sufficient specificity for the GP to be a useful tool in guiding future growth and development. Some of these inconsistencies are addressed above, as in the focus on Intensification/Reuse to meet the projected growth, in spite of clearly identified physical and regulatory constraints in many of the areas targeted for infill development. Another, more subtle example of this issue is Action 1.20, which calls for the City to "Adopt development code provisions to protect mature trees..." without defining "mature trees" or how they will be "protected". Furthermore, Section 4.5 of the DEIR discussed the prevalence of Cultural and Historic Resources in several of the areas that have been identified for intensification/reuse, without fully acknowledging the extent to which the City's *Historic* G

Preservation Regulations, which are much broader and less clearly defined than State or Federal Historic Preservation Policies, may limit development in these locations.

H) Parks: The City of Ventura is a mature city with existing park and recreation areas that have come on line as needed. We are fortunate enough to have an incredible park that inland cities would die for in our beaches. Yet, the EIR is recommending that we apply the same park acreage as required in non-coastal cities. When the Form Base Code guidelines come on line, it would seem that minimum 5 acre parks would be too rigid and unnecessary. Park space should be designed and formatted with the same flexibility that Form Based Code itself offers. Changing housing stock and the impending change of lifestyle that will accompany it, will lead to creative design and uses of parkland that should not be restricted by outdated and less fluid guidelines. H

I) Biological Resources: The specificity of the buffer area in Action 1.8 related to rivers, creeks and barrancas is too binding. While we acknowledge the need to protect these precious environs, an arbitrary set back of 50 feet could severely limit the creativeness and integration that the Form Based Code encourages. Strictly applied, this buffer area could squash entire infill developments. We encourage arbitrary requirements like this to be removed from the EIR and left to the already strenuous and rigorous review that all projects must be subjected. I

Thank you for the opportunity to submit our comments. HOME is truly excited about the principles of Form Based Code that the City of Ventura has embraced, and we are pleased to see the City's leadership in promoting a new way to grow our incredible city.

HOME sincerely looks forward to the adoption of the new General Plan and EIR.

Brad Golden
Vice Chair of HOME and Ventura resident

Letter 30

COMMENTER: Brad Golden, Vice Chair of HOME and Ventura resident

DATE: July 26, 2005

RESPONSE:

Response 30A

The commenter urges the City to expedite the preparation of a new development code, noting that processing of new developments may be difficult until the new code is adopted. The City will be initiating preparation of the new development code upon adoption of the 2005 General Plan. However, in the interim period between adoption of the General Plan and the new development code, the City will continue to process applications based on the current code requirements and the guidance provided in the 2005 General Plan.

Response 30B

The commenter states disagreement with the approach to the analysis of the "no project" alternative, which is based on the assumption that no physical changes to the environment would occur. The commenter is correct that a moratorium on development would not necessarily stop population growth in the City and that failure to provide new housing may lead to a variety of undesirable conditions (overcrowded housing, higher housing prices, etc.). The Draft EIR acknowledges these facts as well as the fact that the "no project" alternative is not feasible.

Response 30C

The commenter states opinions that the 1.14% annual growth rate is more realistic than the 0.88% growth rate and that it appears as though the 0.88% annual growth was selected due to concerns about SCAG and AQMP growth projections. The opinion regarding the appropriate growth rate is noted. Both growth rates discussed in the Draft EIR were selected by the City Council and represent historic growth rates in the City (the 1.14% rate is the 20-year growth rate while the 0.88% growth rate is the 10-year growth rate). SCAG and AQMP population forecasts were not used to develop either rate and, in fact, both growth rates exceed the SCAG and AQMP forecasts. The Draft EIR acknowledges this exceedance. However, it is anticipated that, following adoption of the 2005 General Plan, both SCAG and the Ventura County APCD will update their population forecasts for the City to reflect the new General Plan.

Response 30D

The commenter states opinions about the format and content of the 2005 General Plan and notes that the Draft EIR points out several limitations associated with the "Intensification/Reuse Only" scenario. The commenter also encourages the City not to limit its ability to include additional land in its planning inventory. The comments about the 2005 General Plan are not relevant to the adequacy of the Draft EIR, but will be considered by the City Council as they review the final General Plan. It is true that the Draft EIR points out certain limitations for



the “Intensification/Reuse” scenario, particularly relating to land available for new schools and parks. However, the Draft EIR does not identify such limitations as “significant” impacts. Although City staff are not recommending inclusion of any of the expansion areas at this time, several of the expansion areas could provide acreage for parks and schools and the City may consider future General Plan amendments to allow development of one or more of these areas in the future if such an amendment would meet planning objectives that cannot be met through intensification or reuse. It should be noted, however, that conversion of any of the expansion areas except for portions of the Western Cañada Larga area would be allowed only following voter approval under the SOAR Ordinance.

Response 30E

The commenter encourages the City to pursue action plans for addressing infrastructure deficiencies that will not place the entire burden of financing community-wide needs on builders and new home buyers. The City will develop such action plans to address needed improvements to roads, storm drains, and water and sewer lines. Builders will be responsible for financing improvements needed to serve their developments, but not to correct existing deficiencies.

Response 30F

The commenter questions how the Final EIR can be completed within a compressed timeframe. Responses to comments on the Draft EIR were completed and provided to agency commenters 10 days prior to the City Council’s August 8 hearing (at which the Council may certify the Final EIR), thus complying with CEQA’s requirement that public agency commenters receive responses at least 10 days prior to certification.

Response 30G

The commenter states an opinion that the General Plan may include conflicting priorities, specifically by calling for the preservation of mature trees and historic resources in areas where intensification and reuse are expected to occur. Every General Plan (and every community) has certain priorities that can be in conflict. The two examples cited by the commenter reflect the City’s desire to preserve its resources. The exact manner in which these actions are to be implemented will be detailed in the new development code. New developments that are consistent with general policy goals while potentially conflicting with others will need to be addressed on a case-by-case basis to determine whether and how such conflicts can be reconciled and which priorities take precedence.

Response 30H

The commenter states an opinion that park standards need to be flexible. This opinion is noted. The Draft EIR discusses the City’s general standards in order to provide an overall analysis of citywide impacts associated with projected growth; however, the City will continue to seek creative and flexible ways of meeting the community’s needs with respect to parks and recreation. In addition, language has been added to the General Plan under Policy 6A as follows:

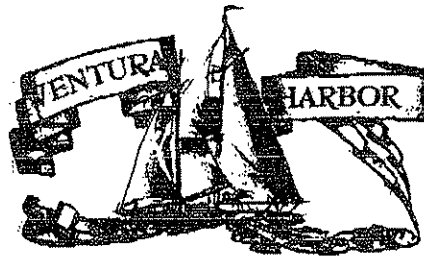


Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.

Response 30I

The commenter states an opinion that the 50-foot buffer from riparian areas in Action 1.8 is overly restrictive. This opinion is noted. The 50-foot buffer has been determined to provide the minimum distance needed to effectively protect riparian habitat and associated wildlife movement corridors. This minimum distance is consistent with that adopted by a number of communities in the southern California region. It should be noted that this requirement only applies to waterways that retain natural soil slopes.





CITY OF
SAN BUENAVENTURA

JUL 15 2005

COMMUNITY DEVELOPMENT

RECEIVED

JUL 18 2005

PLANNING DIV. *RA*

July 15, 2005

31

Carolyn Briggs, Chair and
Members of the Planning Commission
501 Poli Street
Ventura, California 93002

Dear Chair Briggs and Members of the Planning Commission:

These preliminary comments on the draft 2005 Ventura General Plan (May 2005) ("DGP") and draft Environmental Impact Report ("DEIR") are made on behalf of the Ventura Port District ("District"). In 1999, the City Council and the Board of Port Commissioners entered into a Memorandum of Understanding ("MOU") for the preparation of a Master Plan for the Harbor Area. The MOU is attached as Exhibit A. It was contemplated that the Master Plan would be adopted as a Specific Plan and constitute the land use plan and zoning for the Harbor Area. The draft Master Plan and Master Environmental Impact Report ("MEIR") have been complete for over two years. The District has, however, refrained from circulating the documents for public review in an effort to reach agreement with the City on how to address an existing deficiency in fire service response times in and around the Harbor Area. The DGP and DEIR raise a number of issues of concern with respect to the draft Master Plan/Specific Plan, some of which are outlined below.

1. Harbor Master Plan.

The DGP (p. 3-8) establishes the "Harbor District" and describes it as an area with visitor serving uses and marine facilities to be regulated by a Harbor master plan. The DGP land use map designates The Harbor as "Draft Harbor Master Plan." This should be "Specific Plan." Because the draft Harbor Master Plan has been incorporated by reference into the DGP, it should become the overriding policy document for land use, water use, and future development of the Harbor upon adoption of the DGP, whether the Master Plan has itself been adopted or not or as a Specific Plan. The policy language in the DGP should be expanded and clarified to make it clear, without question, that the Harbor Master Plan/Specific Plan is the overriding policy document for the Harbor. A copy of a booklet describing the master plan is enclosed. This booklet was distributed at the joint City Council/Board of Port Commissioners meeting in April 2005.

A

Ventura Port District
1603 Anchors Way Drive, Ventura, CA 93001-4229
805/642-8538 • FAX 805/658-2249
www.venturaharbor.com



July 15, 2005
Page Two.

2. Local Coastal Program.

B

The draft Master Plan/Specific Plan are based on the City's certified Local Coastal Program ("LCP"). Apparently, the DGP is intended to supercede the Land Use Plan ("LUP") of the LCP. If this were to occur, there would be serious procedural and substantive issues, some of which are outlined below.

a. The DGP may not be specific enough to satisfy the Coastal Act or the California Coastal Commission ("CCC") and the CCC would want to review the LUP together with the Local Implementation Plan [zoning]. For example, the Land Use Plan does not show "visitor serving uses" or public access ways. The District could be caught between the City and the CCC. Until a development code is adopted and approved by the CCC, there would be a lack of certainty regarding what may or may not be built in the Harbor.

b. Processing a LUP amendment is very time-consuming. A whole new LUP could take years to get in place.

c. If the certified LUP is repealed or superceded while the CCC reviews a new one, this would leave the City without the ability to process any projects in the coastal zone during the interim. Applicants would need to seek approvals from the CCC, which is time consuming and difficult without a certified LUP. Further, it is unlikely a new LCP or LUP with residential units would be certified by the CCC.

d. The Harbor would need to separately seek CCC approval of the Master Plan/Specific Plan. This would otherwise be unnecessary because the draft Master Plan is consistent with the existing LUP.

e. The Sondermann/Ring project, which is critical to the economic vitality of the Harbor, may be greatly delayed.

f. Because the DGP does not appear to be inconsistent with the certified LUP, it would be wise to leave the LUP in place and overlay applicable DGP policies and "actions." This would avoid seeking CCC approval at all.

g. If there is an inconsistency between the DGP and the LUP, a specific amendment to the LUP could be sought concurrently with the LCP amendment required to support the Sondermann/Ring project.

h. The certified LUP could be attached as an appendix to the DGP for easy reference. The maps could be revised to specify LUP in the coastal zone.

i. Specific plan areas could be shown as "Specific Plan." The Harbor area should be titled "Harbor Specific Plan," not draft Master Plan.

July 15, 2005

Page Three.

j. These changes to the DGP are not complex and would avoid what could become a procedural nightmare and engender costly litigation from developers unable to process their projects in the coastal zone.

3. Fire Services. C

The DEIR suggests that a new fire station and nine firefighters are needed to accommodate anticipated growth in the Harbor. The DGP and DEIR also state that a new fire station is needed to address current deficiencies. Thus, the 9 firefighters needed for the new station are also necessitated by an existing condition. Based on a desired ratio of 0.98 per 1,000 residents (the City now operates at 0.69 firefighters per 1,000 population), development of Parcels 15 and 18, hotel expansion, and the marine learning center, do not, themselves come close to justifying a new station or 9 firefighters. These developments should, like any other new development, provide a fair share toward the capital costs of a new station. Neither the DGP nor the DEIR justify requiring the Harbor to fully fund development and the operation and maintenance of a fire station. While the DGP calls for resolving extended response times by adding a fire station at the "Pierpont/Harbor area," it only calls for studying the feasibility of funding services from fees, taxes or assessments "as new subdivisions designed on the New Urbanism concept are established." Action 7.13, which is intended to address fire response mistakenly refers to police services. In addition, neither the DGP nor the DEIR actually address the need for firefighting capabilities for non-residential use. The only concept of fair share related to the ratio of firefighters to population is set forth in the DEIR. The discussion of plans for a fire station in the Harbor are more detailed than called for by the DGP. (See DEIR, p. 4.11-28.) It is not certain that impact fees would be sufficient to pay for fire facilities and equipment. Impact fees cannot be used to cure existing deficiencies or for operational costs. (See, DEIR, p. 4.11-31.) Assessments require voter approval.

4. Process. D

Cooperation and input from the District in the preparation of the DGP policies was not requested. DEIR p. 1-2 describes 11 City Council meetings from Feb. - Aug. 2004 taking input from the CPAC and Planning Commission. Nowhere in the DGP and DEIR is there a discussion of the District's input into the process. As discussed below, the DGP policies and actions could conflict with contractual rights of District lessees.

5. Responsible Agency. E

The District should be designated as a "responsible agency" under the CEQA definition. The District is a public agency that would carry out policies of the DGP and LCP as it pertains to the Harbor.

July 15, 2005
Page Four.

6. Assumed Net Increase in Development at Buildout.

The level of future development assumed within the Harbor is not clearly called out in the DEIR, but can be determined from tables estimating water and sewer impacts. Based on these tables, the proposed DGP assumes a net increase within the Harbor of 300 dwelling units at 216,000 square feet of non-residential building area. Of this non-residential area, 150,000 square feet are identified as hotel use, leaving 66,000 square feet for expansion of other non-residential uses within the Harbor. This is insufficient to provide for development of the Marine Learning Center (approximately 77,000 square feet) and commercial uses within Parcels 15 and 18.

7. Protecting and Restoring Coastal Resources.

DGP Action 1.3 would require the District to determine and carry out appropriate methods for protecting and restoring coastal resources, including supplying sand at beaches (from dredging operations). This could be costly and unreasonable for the District to carry out this action on its own. It is uncertain whether dredging spoils would be suitable for such beach restoration.

8. Preservation of Sensitive Wetland and Coastal Areas.

DGP Action 1.11 would require sensitive wetland and coastal areas to be preserved as undeveloped open space wherever feasible. This could affect the District's ability to develop vacant Parcels 8, 15 and 18 depending on how "sensitive wetland and coastal areas" are defined. The CCC has very specific and rigorous restrictions on development in and adjacent to environmentally sensitive habitat areas (see California Coastal Act Section 30240). Although it does not appear that "sensitive wetland and coastal areas" affect any of the areas planned for development within the Harbor, it is necessary to make sure that such definitions will not apply.

9. Updating and Enforcing Stormwater Quality and Watershed Protection Measures.

DGP Action 1.14 requires compliance with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures. This could be costly, extensive, and unreasonable for the District to carry out such regulatory directives since watersheds extend miles inland from the Harbor. The Harbor is the "end user" and should be responsible for actions within the Harbor, and not for stormwater protection in the entire watershed.

10. Prohibition on Dredging.

DGP Action 1.18 would prohibit dredging during fish spawning and bird migration cycles. Without clear and specific definitions of species and types of fish spawning and bird migration, this could severely limit or shut down dredging operations in The Harbor.

July 15, 2005

Page Five.

11. Promote Channel Islands Tours and Develop an Aquarium.

DGP Action 2.17 would establish a partnership between the City, District, and National Park Service to promote Channel Islands tours and develop an Aquarium. This is helpful, but not a definitive commitment, nor are details are provided.

12. Prioritization of Uses in the Harbor Master Plan Area.

DGP Action 2.18 would prioritize uses in the Harbor Master Plan area as follows: (1) commercial visitor-serving, (2) recreation, boating, fishing, (3) commercial fishing, and (4) public service facilities. This prioritization of uses conflicts with the range of uses in the Harbor Master Plan. For example, residential use is excluded from the prioritized list of uses, even though the CCC has taken specific action to permit such uses within the mobile home park and on Parcels 15 and 18. Commercial fishing is the number two priority in the Master Plan and is a critical use required to sustain the District's eligibility for federal dredging funds.

13. Public View and Solar Access Preservation.

DGP Action 3.3 would require preservation of public view sheds and solar access. This policy could affect the District's ability to develop vacant Parcels 15 and 18 depending on how "public view sheds and solar access" areas are defined.

14. Public Access.

DGP Actions 3.4, 4.20-6.5, and 6.6 would require (and encourage) public pedestrian and bicycle access to and along the coast on all shoreline development. The policies would affect the design of new development on vacant Parcels 8, 15 and 18, and may impact the Yacht Club due to lack of shoreline access on the Yacht Club parcel. Clarification is needed to determine if the public access system set forth in the Master Plan fulfills these actions.

15. Form-Based Development Code.

DGP Action 3.17 would affect building and site design on Harbor parcels to emphasize pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation. While form-based codes have a number of benefits, it is questionable whether the CCC would accept such a code as the sole basis for a Local Implementation Plan.

16. Minimize Truck Traffic on Residential Neighborhoods.

DGP Action 4.9 would identify, designate, and enforce truck routes to minimize the impact of truck traffic on residential neighborhoods. This policy could adversely impact the movement of goods and cargo in and out of the District depending on how it is implemented. Action 4.9 should be clarified to specify the location of truck routes.

I

July 15, 2005

Page Six.

17. Alternative Transportation Modes and Transit.

DGP Actions 4.15, 4.16, 4.17, 4.18, 4.27, 4.31, 4.32, and 4.34 encourage alternative modes of transportation and transit systems to reduce vehicle trips and congestion. This could affect circulation and access to the Harbor depending on how these policies are implemented.

18. Expanded Recreational Opportunities.

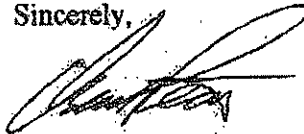
DGP Actions 6.15 and 6.16 call for new recreational programs that would occur in the Harbor, such as surfing, sailing, kayaking, bird watching, and additional boating and swimming access. Care must be taken in how these expanded recreational uses are conducted, for example, allowing swimming in boat navigation channels could be hazardous.

19. Cultural, Historical, and Archaeological Resources.

DGP Actions 9.2, 9.3, 9.12, 9.13, 9.14, 9.15, 9.16, 9.17, 9.18, and 9.19 would affect activities, operations, redevelopment, design and restrictions on District parcels. District input on these policies would be appreciated.

Thank you for considering these comments. The District respectfully requests that the hearings on the DGP and DEIR be continued for three months to provide an opportunity for the District and the City to resolve these and other issues.

Sincerely,



Oscar F. Peña
General Manager

cc: Rick Cole
Susan J. Daluddung
James E. Neuerburg

Agreement No. 99-88City Council Approved: 8/4/99

**MEMORANDUM OF UNDERSTANDING
AND LEAD AGENCY AGREEMENT**

This Agreement is made by and between the City of San Buenaventura ("City") and the Ventura Port District ("District") in consideration of the following facts.

A. The District desires to update its master plan for the Ventura Harbor in accordance with requirements set forth in the 1998 Local Coastal Program ("LCP") amendment.

B. The City and the District desire to work together to initiate a joint process for developing a specific plan for the Harbor area.

C. It is contemplated that the master plan would be the land use plan for the specific plan and the specific plan would constitute the zoning for the Harbor area.

These regulations are hereinafter referred to collectively as the "Specific Plan".

D. Amendments to the LCP may be desirable to realize the objectives of the Specific Plan.

E. It is contemplated that a master environmental impact report ("MEIR") will be prepared for the project.

F. The parties desire to (1) designate a Lead Agency for the MEIR; (2) specify general procedures for actions relating to A through E, above; (3) allocate costs for preparing and processing the MEIR and the Specific Plan; and (4) specify the currently contemplated time frame for processing the MEIR and Specific Plan.

G. All parties desire to process the foregoing planning documents in an efficient and timely manner that maximizes public input and stakeholder involvement.

To that end, it is hereby agreed as follows:

1. This Agreement shall become effective between the City and the District upon approval by the City Council and the District Board.
2. The District will act as Lead Agency for the MEIR and the City shall be a Responsible Agency as defined by the California Environmental Quality Act.
3. The District and the City will jointly select consultants necessary for processing the MEIR and the Specific Plan.
4. Public workshops will be held to solicit input from all stakeholders and the public, including, but not limited to, lessees, franchisees, businesses in the Harbor area, potential developers, surrounding residents and environmental and special interest groups such as fishing, boating and surfing organizations.
5. During the public review period, the City Planning Commission may convene hearings on the draft master plan and MEIR, as it deems appropriate, to provide comments to the District.
6. Prior to adoption of the master plan and certification of the final MEIR, the District will fully consider and evaluate all City recommendations, and explain in writing the reason(s) any such recommendation is rejected.

7. The parties contemplate that the Specific Plan will be adopted by the City Council after adoption of the master plan and certification of the MEIR by the District.

8. The cost of preparing and processing the Specific Plan, the MEIR and LCP amendments, if any, (excluding administrative overhead expense) will be shared equally by the District and the City, up to a budgeted \$100,000 for each agency.

9. District and City will separately, and jointly, as the case may be, apply for grants to defray the costs of the Specific Plan and MEIR (herein the "Project Costs"). In addition, it is contemplated that Harbor tenants and developers whose development proposals are to be considered or included as part of the Specific Plan and MEIR may contribute to funding of the Project Costs. Upon receipt of such grant funds, and/or tenant and developer contributions, such grant funds and contributions, together with any District and City funds required to be contributed as grant matching funds, shall be applied first to Project Costs. Thereafter, District and City funds shall be applied to Project Costs only when the grant funds, and/or tenant and developer contributions are exhausted. Excess funds, if any, remaining after completion of the Specific Plan and MEIR shall be returned to District and City in amounts proportional to their contributions to Project Costs which are contemplated to be equal. District and City will also establish a procedure, pursuant to Government Code section 65456 and Public Resources Code section 21157(c), whereby tenants and developers who haven't contributed their fair

share of the Project Costs prior to commencement of work on the Specific Plan and MEIR will be charged a fee in an amount equal to their proportionate share of the Project Costs, at the time of application for a permit, or other entitlement for a development project considered or included in the Specific Plan and MEIR. All revenues received from such fees shall be used to reimburse District and City for their Project Costs in amounts proportional to their contributions to the Project Costs.

10. The District will contract with the consultant(s) and forward a copy of approved bills to the City's Director of Management Services. The City will pay the District one-half of the approved bills within 30 days of City's receipt of the approved bill.

11. In the event litigation is filed challenging the MEIR and/or the Specific Plan, the District and the City will cooperate in the defense of the action and equally share their expenses of the defense.

12. In the event LCP amendments are proposed, such amendments will be processed with the California Coastal Commission following adoption of the Specific Plan by the City.

13. The currently contemplated time line for processing the Specific Plan and possible LCP amendments, if desirable, is attached as Exhibit A.

14. Notices shall be provided as follows:

Oscar Peña, General Manager
Ventura Port District
1603 Anchors Way Drive
Ventura, California 93001-4229

Timothy J. Gosney
General Counsel for Ventura Port District
Lagerlof, Senecal, Bradley, Gosney & Kruse, LLP
301 North Lake Avenue, 10th Floor
Pasadena, California 91101-4108

Community Development Director
City of San Buenaventura
501 Poli Street
Post Office Box 99
Ventura, California 93002-0099

Robert G. Boehm, City Attorney
City of San Buenaventura
501 Poli Street
Post Office Box 99
Ventura, California 93002-0099

David Kleitsch
Economic Development Manager
City of San Buenaventura
501 Poli Street, Room 213
Post Office Box 99
Ventura, California 93002-0099

IN WITNESS WHEREOF, each party hereto has caused this Agreement to be executed by an authorized official as of the date last set forth below and agrees to abide by its terms from this date forward.

DATED: 8/5/99

CITY OF SAN BUENAVENTURA

By Donna Landeros
Donna Landeros, City Manager

DATED: 8/19/99

VENTURA PORT DISTRICT

By [Signature]

Approved as to form:

CITY OF SAN BUENAVENTURA

By: [Signature]
Robert G. Boehm, City Attorney

VENTURA PORT DISTRICT

By: [Signature]
Timothy J. Gosney, General Counsel

VENTURA HARBOR MASTER PLAN

Ventura Port District
City of San Buenaventura



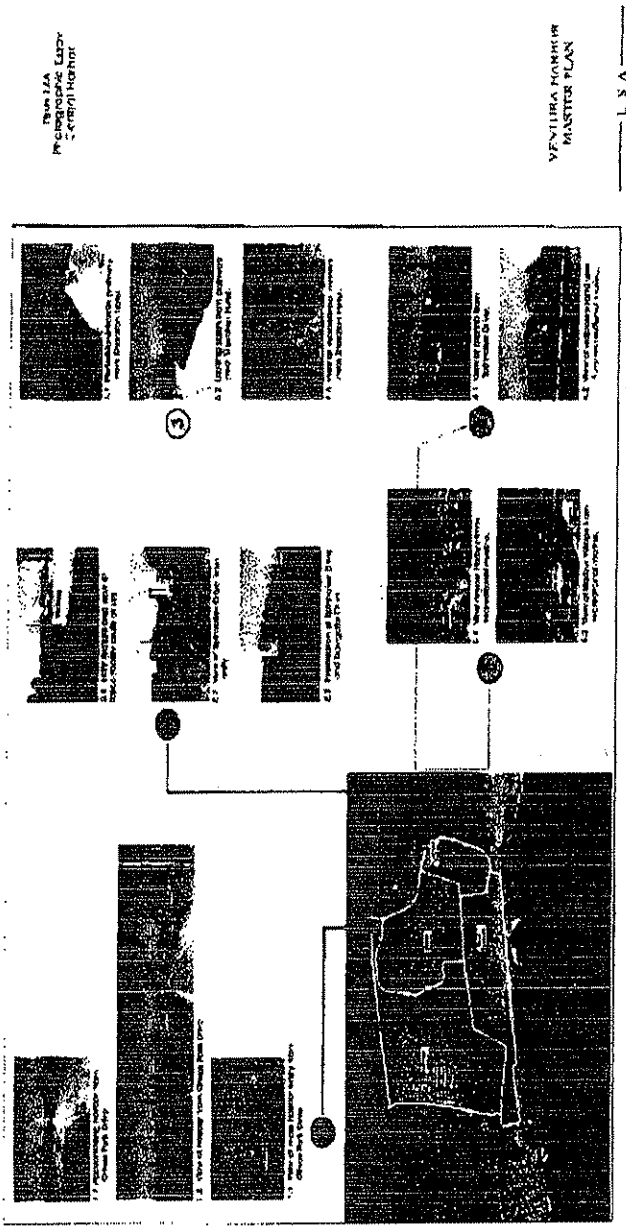
April 4, 2005

Purpos

- Define a consistel
- Create a planning Harbor.
- Facilitate a Master

Existing Setting

■ Central Harbor



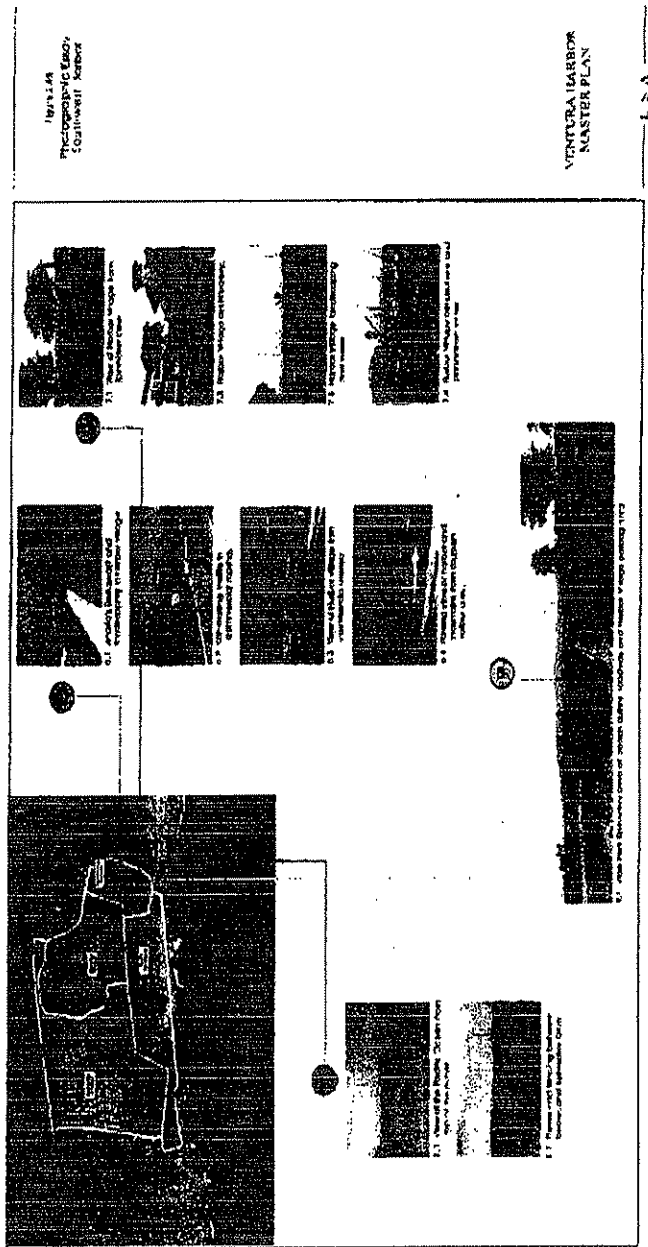
Plan 10A
 Planning Copy
 Central Harbor


VENTURA HARBOR
 MASTER PLAN

L S A

Existing Setting

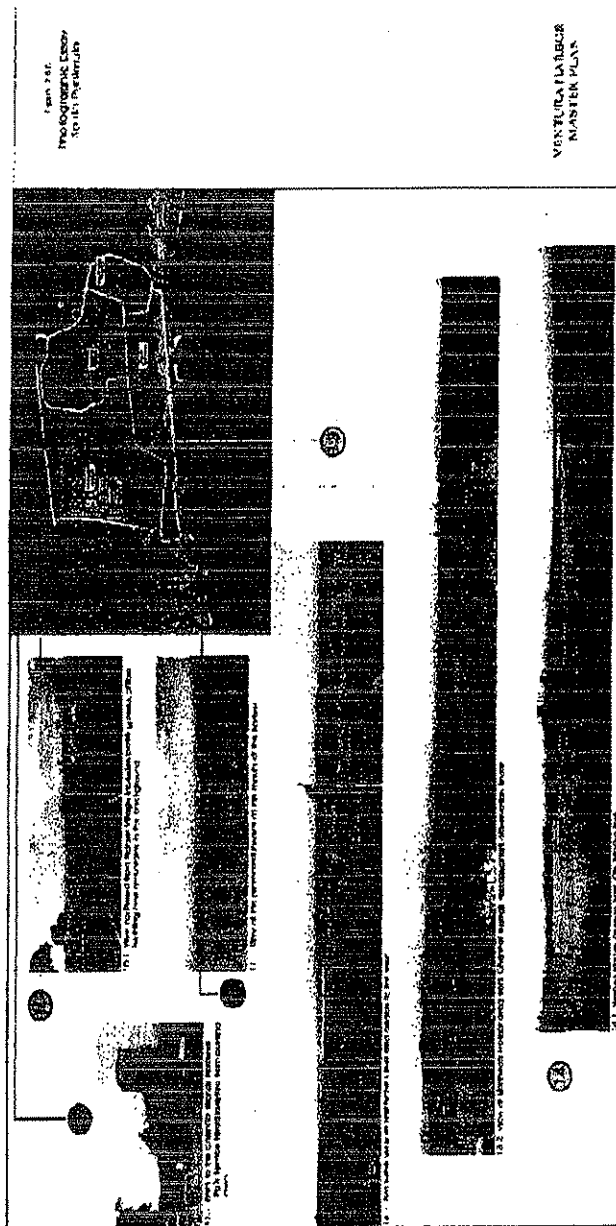
■ Southwest Harbor





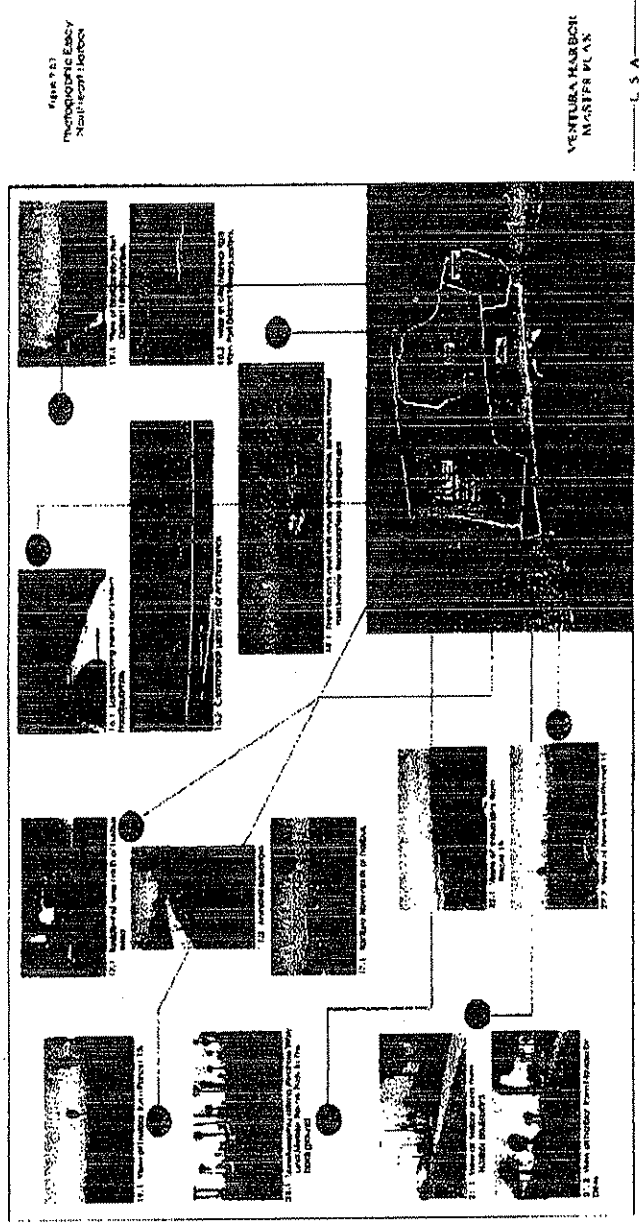
Existing Setting

- South Peninsula



Existing Setting

■ Northeast Harbor





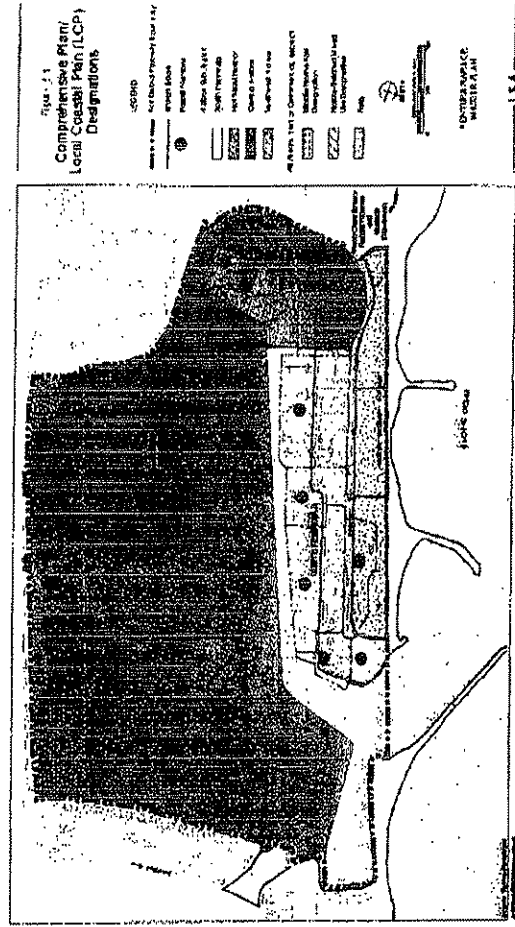
Coastal Act Priorities

- Coastal Dependent and Ocean-Related Uses
- Commercial Fishing
- Coastal Access
- Visitor-Serving Commercial and Recreational Uses

Local Coastal Plan and Comprehensive Plan Requirements



- Northeast Harbor
 - Harbor Commercial
 - Harbor-Related Mixed Use
 - Mobile Home Park
- Central Harbor
 - Harbor Commercial
- Southwest Harbor
 - Harbor Commercial
- South Peninsula
 - Harbor Commercial





Land Use Objectives

- Create a recognizable visitor-serving destination, well integrated with the functions of a working harbor.
- Provide a human-scaled environment, and provide gathering places and amenities for people to enjoy.
- Facilitate walking and biking for recreation and transportation.
- Emphasize views of the harbor, ocean, and coastal mountains.
- De-emphasize the visual prominence of automobiles within the Harbor.



Land Use Plan

- All existing uses are considered to be permitted uses, may remain, and expand.
- Future land uses are options for future development.
- Master EIR to facilitate future development review for new permitted uses and expansion of existing uses.



Circulation: Roadway Improvements

- Harbor Boulevard
 - Signal at Oyster Street and modifications to slow traffic speeds. (Not part of Master Plan)
- Beachmont Street
 - One-way crossing of the Arundell Barranca.
 - Traffic calming.
- Anchors Way
 - Limit northbound left turns; improve ease of permitted turning movements.



Circulation: Roadway Improvements

- Spinnaker Drive
 - Reconfigure intersection at Navigator Drive to eliminate left turns from Navigator.
 - Access to commercial center on Harbor Boulevard would be right in/out only along Spinnaker Drive.
 - End public street right-of-way at Parcel 6, and reconfigure parking areas.
- Schooner Drive
 - Modify median to permit left turns into Parcel 19A.



Parking

- Projected deficit of 195 spaces (weekend) at build out.
- Solution: establish common parking areas and shuttle service.
- Potential locations for common parking:
 - Parcels 19A, 5, and 7.
 - Vacant land adjacent to mini-warehouses.

Coastal-Related Services and Facilities

- Pedestrian and Bicycle Access
 - Improve crossings of boat storage (Parcel 20), boat launch (Parcel 12).
 - Connection through Parcels 15, 16, 18.
 - Improve crossing of fish off-loading area (striping and signage).
 - Improve connections to beach.
- Waterfront Promenade
- Beachfront Boardwalk
- Spinnaker Drive Crossings
 - Signage.
 - New crossing at Parcel 3A to the existing parking.



Recreational Opportunities

- Marina Facilities
 - Provide additional space for large boats.
- Channel Islands National Park
 - Assist NPS in meeting headquarters needs.
 - Facilitate Channel Islands visitation.
- Marine Learning Center and Aquarium
- Boat Launch
- Park on Parcel 16




Visitor-Serving Opportunities

- Hotel Expansion
- Expand Harbor Village
- Park and waterfront trail on Parcels 15, 16, 18
- Sport fishing and charters (Parcel 5)
- Expanded facilities for Island Packers



Public Services and Facilities

- Water Facilities
- Sewer Facilities
- Drainage
- Electricity and Natural Gas
- Public Safety Services
 - Law Enforcement
 - Fire Protection



Fire Protection Issues

- Majority of existing Harbor area does not meet Fire Department response time objectives.
- Majority of service calls are for emergency medical assistance.

Recommended Fire Service Provisions

- Port District to assume responsibility as first responder for emergency medical calls within Harbor.
- New commercial, retail, office, and public facilities development over 500 s.f. of building area will install automatic fire sprinkler systems, or meet requirements of City's Automatic Sprinkler Ordinance, whichever is more restrictive.
- Use of fire-resistant construction materials.

Recommended Fire Service Provisions (cont'd)

- Provide adequate address signage to facilitate emergency response.
- Pursue joint training of Harbor Patrol and Fire Department personnel to better respond to water-related emergencies within the general Harbor area.
- Port District to make available a fire boat for fire and emergency service within the Harbor and Keys area and catastrophic emergency services to the City pier.
- Provide fire hydrants and water lines in compliance with UFC and City requirements.

Recommended Fire Service Provisions (cont'd)

- Design internal circulation on development sites to accommodate fire suppression equipment with adequate turn-around areas.
- Ensure that City fire flow standards are met.
- Provide a usable 1/2-acre site within the northern end of Parcel 19A for establishment of an "all risk" fire station by the City upon notice that the City is prepared to construct and establish service at the station.
- Payment of fees pursuant to City ordinance, if adopted.




Master EIR

- Notice of Preparation (NOP) distributed on January 30, 2002.
- Issues addressed in the MEIR:
 - Aesthetics
 - Air Quality
 - Hydrology
 - Noise
 - Public Services
 - Traffic and Circulation
- No significant unavoidable impacts identified.

Master EIR (cont'd)

- Effects found not to be significant:
 - Agricultural Resources
 - Biological Resources
 - Cultural Resources
 - Geology and Soils
 - Hazards and Hazardous Materials
 - Land Use and Planning
 - Mineral Resources
 - Population and Housing
 - Park Services; Recreation



Purpose

- Define a common vision for the Harbor, consistent with the City's "Seize the Future."
- Create a consolidated reference document for planning and development within Ventura Harbor.
- Facilitate future development review through a Master EIR.



Process

- Analyze existing conditions, issues, and opportunities. Workshops.
- Prepare alternatives and select preferred alternative (March 2000). Workshop.
- Prepare, review and revise Master Plan (September 2002). Workshop.
- Revise Master Plan and prepare EIR (August 2003).
- Resolve fire service issues (ongoing).

Land Use Issues and Opportunities

Issues

- Land use incompatibilities (wastewater treatment, oil storage).
- Seasonal economy; lack of a focal point.
- Limitations on office use.
- Fire protection.

Land Use Issues and Opportunities



Opportunities

Issues

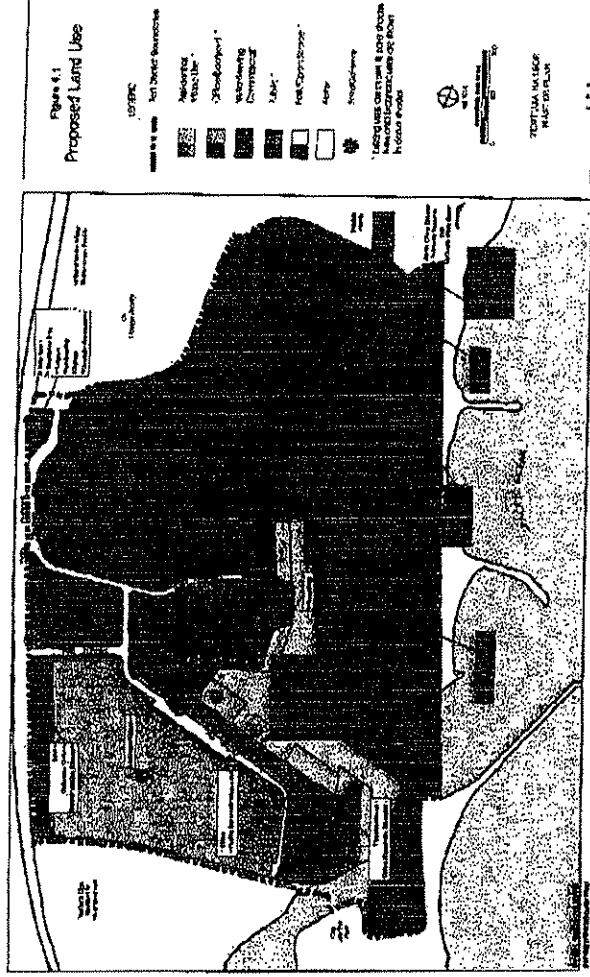
- Commercial fishing fleet.
- Regionally central location.
- Marine Learning Center and Channel Islands National Park Headquarters.

- Land use opportunities
- Water treatment plant
- Regional community lack of a focal point.
- Limitations on office use



Land Use Plan: Northeast Harbor

- Parcels 15, 16, 18
 - Mixed-use with 300 du's, 150 boat slips, and 20,000 s.f. commercial
- Expand hotel
- Improve entry to Parcels 10A and 10B
- Retain Mobile Home Park, restaurant, and boat yard



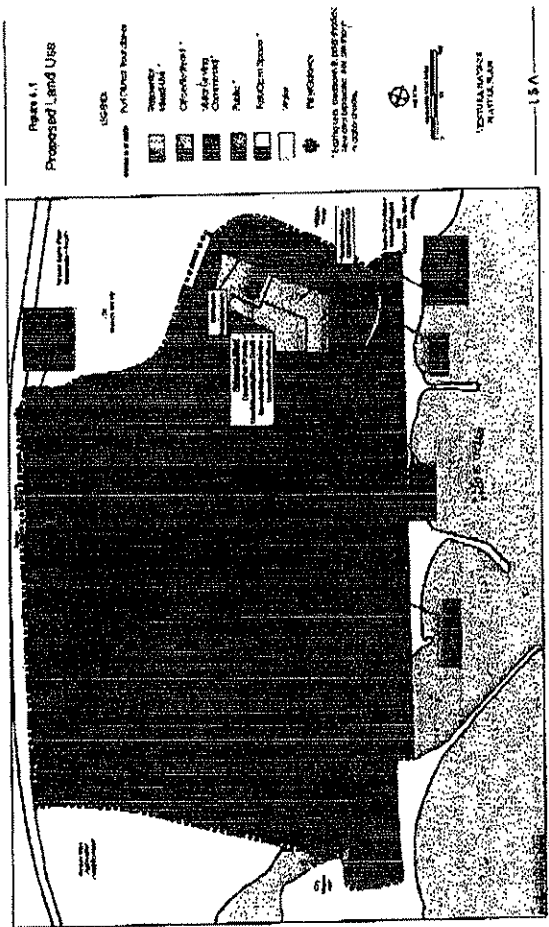
Land Use Plan: Central Harbor

- Improve Harbor entry and provide directional signage.
- Hotel expansion on Parcel 19.
- Continue marina uses and provide for future expansion.



Land Use Plan: Southwest Harbor


- Wharf (Parcels 3A and 3B).
- Connections to wildlife ponds, Santa Clara River mouth, McGrath State Beach.
- Expand Harbor Village and improve connections to the beach.





Recreational Opportunities

- Marina Facilities
 - Provide additional space for large boats.
- Channel Islands National Park
 - Assist NPS in meeting headquarters needs.
 - Facilitate Channel Islands visitation.
- Marine Learning Center and Aquarium
- Boat Launch
- Park on Parcel 16



Visitor-Serving Opportunities

- Hotel Expansion
- Expand Harbor Village
- Park and waterfront trail on Parcels 15, 16, 18
- Sport fishing and charters (Parcel 5)
- Expanded facilities for Island Packers

Letter 31

COMMENTER: Oscar F. Peña, General Manager, Ventura Port District

DATE: July 15, 2005

RESPONSE:

Response 31A

The commenter states that the draft General Plan should be revised to clarify that the Harbor Master Plan/Specific Plan is the overriding policy document for Ventura Harbor. The text of the 2005 General Plan will be revised to clarify that the City and Port District are working together to cooperatively complete the Master Plan/Specific Plan for the Harbor area. Once the Harbor Specific Plan is adopted, it will become the overriding policy document for Ventura Harbor.

Response 31B

The commenter is concerned that the Draft General Plan is intended to supercede the current Land Use Plan and Local Coastal Program (LCP). The Port District's Draft Master Plan/Specific Plan is based on the City's current certified LCP. While the Port District's concerns are valid, it is not the intent of the 2005 General Plan to supercede the existing LCP. City staff has engaged in several discussions with the Port District to address this issue. In fact the Planning Commission Resolution recommending approval of the Draft 2005 General Plan (July 26, 2005) was specifically written to ensure that this is not the case. The intent is that the existing LCP would remain in full force and effect until the Coastal Commission adopts the new LCP. Thus, all areas of the City within the Coastal zone boundary and subject to the LCP would remain under the same regulations until either an LCP amendment (including the Draft Harbor Master Plan/Specific Plan) is adopted or the new LCP is adopted. In addition, there is specific language in the Draft 2005 General Plan that indicates that the City intends to work with the Port District to complete the Draft Harbor Master Plan and Specific Plan. Therefore, the concerns stated in the Port District's comment letter regarding requiring processing of Land Use Plan amendments would not require any different processing than currently is the case under the existing LCP/LUP.

The draft 2005 General Plan also contemplates the development that is considered in the Draft Harbor Master Plan and is not intended to preclude any current development proposals such as the Sonderman/Ring project.

City staff is not proposing to attach the existing LUP as it is not recommended that it will be superceded with adoption of the 2005 General Plan. The "Commerce" and "Mobile Home Park" designations shown on the proposed General Plan diagram are consistent with the current land use designations in the Harbor area and thus will not create any inconsistencies.



Response 31C

The commenter notes that a new fire station is needed in the Harbor area, but states that developments within the Harbor do not in themselves justify a new fire station or nine firefighters. The commenter also notes a typographical error in Action 7.13 of the General Plan. The typographical error will be corrected. As discussed in Section 4.11, *Public Services*, the Fire Department already has plans to construct a new fire station in the Harbor area in response to an existing service deficiency. If the City adopts a fire impact fee program, new development in the City, including development within the Harbor, would be subject to such fees. Though not an environmental impact of the 2005 General Plan, the VFD has identified the need for approximately 30 new firefighters to offset current staff deficiencies in addition to the new firefighters needed for the new Harbor station. As with all firefighting staff, funding for new personnel to staff a new station would come from the City's general fund unless other negotiated means can be determined.

Response 31D

The commenter states that the input from the Harbor was not requested for the draft 2005 General Plan. The draft plan has been circulated for public review since May 2005 in order to solicit comments prior to preparation and approval of a final plan. The City will incorporate relevant concerns from the Harbor into the final 2005 General Plan.

Response 31E

The commenter notes that the Port District should be designated as a "responsible agency." The Port District will be listed as a responsible agency in Section 1.0, *Introduction*.

Response 31F

The commenter states the level of development assumed for the Harbor does not account for all planned Harbor development. The Marine Learning Center and other developments in the Harbor have been accounted for in the EIR traffic and related noise analysis. The estimates of water demand and wastewater generation do not specifically include all of the facilities included in the Harbor Master Plan; however, on a per capita basis, the estimate of future water demand amounts to about 0.269 acre-feet per person per year, which is about 50% higher than the current per capita demand of about 0.179 acre-feet per year. Thus, the estimates of water demand and wastewater generation are conservative and more than account for additional non-residential development that may occur in the Harbor. The Draft EIR analysis is not intended to provide a "full buildout" estimate for the City, but rather to provide a reasonable estimate of growth that may occur over the next 20 years. Nevertheless, the table depicting possible Harbor development in the 2005 General Plan will be revised to reflect buildout estimates included in the Draft Harbor Master Plan.

Response 31G

The commenter expresses concerns about 2005 General Plan policies pertaining to protection of coastal resources and sensitive wetland and coastal areas, and enforcement of stormwater quality measures (items 7-9 of the Port District letter). None of these policies/actions are



expected to affect operations at the Harbor or restrict the Harbor's plans for development under its Master Plan.

Response 31H

The commenter expresses concerns about Action 1.18, which relates to dredging. In response to this and another comment, that action will be revised to read as follows:

Action 1.18: Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species.

Response 31I

The commenter expresses concerns about a number of 2005 General Plan actions and how they might affect the Harbor (items 11-19 in the Port District letter). While these comments do not pertain to the adequacy of the DEIR, the Port District's concerns are being addressed through discussions with City staff and as determined appropriate, will be incorporated into the final 2005 General Plan.



Letter 32

COMMENTER: McLoughlin Family Ranch

DATE: July 15, 2005

RESPONSE:

Response 32A

The commenter states an opinion that the 1.14% annual population growth rate assumed for Scenarios 2-6 is more realistic than the 0.88% growth rate assumed for Scenario 1. This opinion is noted. The growth rates used in the Draft EIR were directed by the City Council. These assumptions were used for analytical purposes. The actual growth rate in the City varies from year to year and is dependent upon a variety of factors.

Response 32B

The commenter states an opinion that, given the complications associated with intensification and reuse, the City should allow the opportunity to consider development of the expansion areas. The commenter also notes that the Draft EIR identifies limitations on available land under the Intensification/Reuse Only scenario.

Although City staff are recommending adoption of the land use map included in Scenario 1 (Intensification/Reuse Only), the City will continue to have the option of allowing development of one or more of the expansion areas. Any land use designation change for the expansion areas that are subject to the SOAR Ordinance, whether sought as part of the 2005 General Plan or as a future General Plan amendment application, would be subject to voter approval.

It is correct that the Draft EIR identifies limitations on available land for the development of schools and parks under the Intensification/Reuse Only scenario. Impacts relating to schools and parks are not significant under CEQA. However, as noted in the Draft EIR, the relative lack of available land may limit the ability to develop new large park facilities or schools.

Response 32C

The commenter points out several potential benefits associated with development of the Olivas expansion area. Some of the benefits noted by the commenter, including potential circulation improvements and restoration of the Arundell Barranca, are discussed in the Draft EIR. In addition, in Section 4.15, the Draft EIR notes that the Intensification/Reuse Only scenario may restrict the types of housing available as compared to Scenarios 2, 3, 4, and 6, emphasizing multi-family housing over single family housing.

Response 32D

The commenter notes that although development of the Olivas area may conflict with the California Coastal Act policy relating to Prime farmland conversion, it could implement other Coastal Act policies relating to coastal access and recreation and enhancement of water quality.



This is correct. As discussed in Section 4.14 of the Draft EIR, possible future development within the Olivas expansion area could be found to be consistent with several Coastal Act policies.

Response 32E

The commenter notes that earlier documents included the Olivas expansion area in a “staff recommended” or “City Council preferred” scenario and requests that the City Council include the Olivas area within its proposed Sphere of Influence (SOI) boundary. It is true that the City Council identified three expansion areas, including the Olivas area, in its “preferred scenario” in July/ August 2004. However, because the City’s desire to focus on intensification/reuse, staff are now recommended adoption of the Intensification/Reuse Only scenario. It should be noted that the City will not be seeking SOI boundary adjustments at this time. The Ventura LAFCO will, however, be performing an analysis of the SOI boundary within the next year that will likely result in adjustments that exclude areas not planned for development within the next five years (including areas subject to SOAR) from the SOI.



32

McLoughlin Family Ranch
1200 Cypress Point Lane
Ventura, CA 93003
(858) 204-7680

RECEIVED

JUL 18 2005

Community Development
PLANNING DIVISION

July 15, 2005

Kari Gialketsis, Principal Planner
City of San Buenaventura
Community Development Department
501 Poli Street P.O. Box 99
Ventura, CA 93001-0099

Sent by Email kgialketsis@ci.ventura.ca.us and Fax #(805) 653-0763

Re: City of San Buenaventura 2005 General Plan Draft EIR

Dear Ms. Gialketsis:

On behalf of the members of the McLoughlin Family, who own approximately 300 acres of land located along Olivas Park Drive, in the City of Ventura ("*McLoughlin Ranch*"), thank you for the opportunity to comment on the City of Ventura's proposed 2005 General Plan and its accompanying Draft Environmental Impact Report, dated June 2005.

The *McLoughlin Ranch* property is located within the 930 acre Olivas Potential Expansion Area ("*Olivas PEA*"), as described in the City's General Plan Update and accompanying documents. There are six additional families/entities that own parcels of various sizes within the *Olivas PEA*. While the McLoughlin Family has been in communication with the other *Olivas PEA* property owners, who have expressed a desire and willingness to work cooperatively on any potential future planning efforts for the Olivas PEA, it should be noted that the comments expressed in this letter are those of the McLoughlin Family, and we are not intending to speak for, or represent the views of the other *Olivas PEA* property owners.

It is our understanding that the new Draft General Plan sets forth an unambiguous emphasis regarding the City's desire to focus on accommodating future growth with infill, intensification, and re-use of sites within the currently urbanized areas of the City, prior to considering any potential expansion of the City. And yet, there is strong indication of a number of potentially significant benefits to the City, and its General Plan Goals, that could only be accommodated through future development in one or more of the Potential Expansion Areas ("*PEAs*");

"...the community has indicated that before the city expands any further, the first priority to achieving planning goals should be in the vacant and underutilized areas of the City. Yet even the most successful efforts to achieve community planning goals through infill may need to be supplemented at some point by expanding into areas outside the city limits. Such expansion may not only be necessary to fulfill development objectives; it may also be needed to provide open space, parklands and natural areas to be preserved and restored... These areas (PEAs) were identified because they embody opportunities for achieving a variety of community vision objectives that may not be feasible within existing city limits." (VGP-Attachment D-Long Term Potential Expansion Strategy)

We also understand that the City will, at a yet undefined future date, be considering and making a decision regarding a Long-Term Potential Expansion Strategy, which will include: a) Guidelines for Timing and Consideration of PEAs; b) Framework for Development of Expansion Areas; and c) Criteria and Process for Site Selection. We know that any future development of the PEAs will require the preparation and approval of a Specific Plan, including the necessary environmental review, and will ultimately require a SOAR vote, and approval of the development concept by Ventura's electorate. We are not seeking to address the details of those future deliberations and policy decisions at this time.

While we are aware that the City has chosen to position its Draft 2005 General Plan as an Intensification/Reuse Only strategy (Scenario 1), and that the decision regarding which, if any, of the potential expansion strategies (Scenarios 2-6) will be selected for future planning has been segregated from the approval and adoption process for the 2005 General Plan Update, there are a number of issues/comments that we would like to address in response to the DEIR analysis, which is being used as a basis for this decision. Please consider the following:

- 1) **Growth Rate:** The Intensification/Reuse Only Scenario assumes a citywide annual population growth rate for the planning time frame of the 2005 VGP (2005-2025) to be 0.88%, while all of the Scenarios that include PEAs are based on a projected annual growth rate of 1.14%. While the 0.88% annual rate reflects Ventura's actual growth rate for the past 10 years (1994-2004), we believe that this growth rate was restricted by a number of factors including: the national, regional and local economic recession of the 1990s; the loss of several major employers from the area (including Kinko's relocation of corporate offices from Ventura to Texas); and the limited supply of new housing units that were produced in Ventura during that time frame due to restrictions imposed by the City's Residential Growth Management Program (RGMP).

A

We believe that the 1.14% growth rate is a more realistic and prudent projection for the City to use in its planning efforts, because this represents the longer range historic view of Ventura's actual growth (1984-2004), and is also much closer to the Countywide growth rates, and the City's actual growth during the recent past from 2000 to 2005.

- 2) **City's Ability to Accommodate Projected Growth with Infill Only:** Scenario 1 proposes to meet all of the City's anticipated growth, as projected using the 0.88% growth rate through 2025 (which assumes 8,300 new residential dwelling units and nearly 4.9 million new square feet of commercial, office, and industrial space), through the intensification and reuse of land within currently urbanized areas. While we appreciate and support the community's desire to accommodate as much of its anticipated growth as possible, through infill development, we question the feasibility of actually being able to accommodate this much growth within areas defined in Scenario 1. The DEIR identifies the primary areas where this growth is expected to occur, including defined Planning Districts and Corridors, many of which are located in the Downtown, Westside, and Midtown communities.

B

However, infill development can be much more complicated and costly, and faces many challenges that do not affect "Greenfield" development. Meeting the City's growth needs through Scenario 1 will require significant private investment, cooperation with existing neighbors, and less restrictive zoning and land use regulations than those that currently exist in Ventura. Until the City has completed an update of its zoning ordinance, and adopts the proposed form-based codes, it may be virtually impossible to legally approve enough projects at the levels of density that would be required in order to meet the proposed level of development. It is our understanding that the City plans to begin re-writing its zoning and development codes after the General Plan Update is approved, and that the process of developing the form based codes could take as long as two additional years to complete.

Given the inherent limitations of infill development, combined with probable conflicts between 2005 General Plan Policies and the existing regulatory framework, we believe that it would be prudent for the City to keep its options open by allowing for the opportunity to consider future development of the PEAs. It should also be noted that due to the requirements for Specific Plans and SOAR votes, any future development in the PEAs would require a multi-year planning effort. If the City waits until it discovers that its infill strategy has not been successful in yielding the needed level of development, it may be too late to meet growth projections within the planning period (2005-2025) through development in one or more of the PEAs.

Furthermore, the DEIR clearly indicates that there is a shortage of available land in Scenario 1 to meet the increased demand for Public Services that would be generated under even this lower growth rate scenario. Of particular concern is the lack of available infill sites large enough to provide additional fire, police, schools, and recreational facilities. The DEIR further states that "...limited available land for new schools may necessitate condemnation of property for new school sites and/or more intensive use of existing facilities." (Impact PS-3), and "Large sites to accommodate citywide park facilities are also lacking under this scenario" (Impact PS-6). Future development in one or more of the PEAs will alleviate these issues, especially the Olivas PEA, which offers adequate land to mitigate any impacts of Olivas development and additionally to offset the unmet needs from Scenario 1.

- 3) **Constraints on Intensification/Reuse Only Strategy:** In addition to the acreage, social, and regulatory limitations of Scenario 1, as described above, there are numerous specific and significant potential constraints associated with this strategy which are identified throughout the DEIR, and particularly in Section 4. The Intensification/Reuse Scenario assumes that a large percentage of the City's future growth will be met within the Planning Districts and Corridors, as identified in the Draft General Plan Update, and that a significant amount of this growth would occur in the older urbanized areas of the City, including Downtown, Midtown and the Westside. However, these older areas of town present a myriad of development challenges, which could very likely limit the potential growth in those areas, and/or negatively impact the financial viability of infill development. Some of these areas of concern, as identified in Section 4, include: Cultural and Historic Resources; Geologic Hazards; Hazardous Materials; Hydrology and Water Quality; Public Services; and Utilities.

Section 4 details numerous deficiencies in existing water, sewer and storm water facilities, especially in the older parts of town, that will require extensive re-investment and upgrades to infrastructure. This could affect the cost, timing, and/or ultimate viability of infill development in some areas. Also, the downtown and Westside areas are ripe with identified and potential unidentified cultural and historic/prehistoric resources. Development in these areas may well conflict with other General Plan and Ventura Vision priorities regarding historic and cultural preservation. The Westside and portions of the Downtown communities also contain identified hazardous material issues. Any of these factors could severely limit the true development potential under Scenario 1.

- 4) **Benefits of Olivas Expansion Area:** While there are certainly some potential challenges associated with future development in the Olivas PEA, the DEIR also identifies numerous potential benefits to the City, which could be obtained through the future planning of a high quality, mixed-use, new urbanist village at this location. In addition to the benefits listed above, Olivas offers opportunities to improve, enhance, and/or mitigate numerous issues of community wide importance, and to fulfill several General Plan and Vision Goals/Priorities, including:
- a. Completion of critical multi-modal circulation linkages that will enhance and improve circulation between existing neighborhoods, and promote alternative modes of transportation, by: I) connecting the Olivas/Ventura Harbor area to midtown through the extension of Mills Road, II) enhancing the Arrundell Barranca Bike and Pedestrian Pathway to create a safer and more appealing alternate circulation corridor, III) possible creation of a multi-modal transit center along the railroad line on Olivas PEA. (GP Policies 4A, 4B, and 4C)
 - b. Enhancing the economic viability of both the Ventura Harbor and the Pacific View Mall, by improving access and visibility, and creating better connectivity between these two vital commercial/tourist attractions, thus generating higher sales tax revenue to the City. (Impact TC-2)
 - c. Development in the Olivas PEA could allow for the restoration of the Arrundell Barranca into a more natural state (Vision Goal), and the creation of a beautiful parkland and bio-filtration area surrounding the Barranca, which would help to alleviate the siltation problems that are negatively affecting the waterways of the Ventura Keys and the Harbor. This would help meet several environmental, Coastal Commission, Vision, and General Plan priorities by using BMPs to improve storm water quality, enhancing the viability of commercial fishing and recreational boating in the Harbor, and creating attractive recreational opportunities for all residents. (Impact HWQ-2 and HWQ-3, GP Action 5.2, and Action 1.10, among others)
 - d. Scenario 1 will produce mostly multi-family housing, do to the limited amount of land available, and the desire to intensify development in currently urbanized areas. Future development in Olivas will allow for a greater diversity of housing choices. (DEIR page 4.15-10)
- 5) **Coastal Commission Priorities:** While it is noted that the preservation of Prime Agricultural land in the Coastal Zone is a priority of the

C

D

California Coastal Commission, the DEIR also discusses several other priorities/policies of the California Coastal Act (CCA) that could be served by a development in the Olivas PEA which adheres to policies of the Act, with the potential benefits outweighing any loss associated with the conversion of agricultural land. These are located in Section 4.14 of the DEIR and include: Article 2-Public Access (connecting Harbor to other areas of town and enhanced bike/ped trails); Article 3-Recreation (opportunities for coastal-related recreational activities/facilities, and visitor-serving commercial uses); Article 4- Marine Environment (enhance water quality and protection of commercial fishing & recreational boating); Article 6-Land Resources (allows for conversion of prime farmland when would allow for concentration of development in close proximity to existing developed areas with adequate services); and Article 6- Development.

Finally, we would like to note that in the initial Notice of Preparation for this DEIR, which was issued in September 2004, the Olivas PEA was included in the Staff Recommended Scenario; and in the Revised NOP that the City issued in December 2004, Olivas was included in the City Council Preferred Scenario; but it has now been removed from a priority position in the DEIR. Given the numerous potential benefits from future development in the Olivas PEA, and the ability to realize numerous City Vision and General Plan Goals, we respectfully request that the City Council include the Olivas PEA in its proposed Sphere of Influence boundaries, in its application to LAFCO.

E

Thank you for your time and consideration of our comments.

Sincerely,

McLoughlin Family

James P. McLoughlin Jr.
Thomas V. McLoughlin
Robert & Marie Thomas
Stanley H. Chambers

Letter 32

COMMENTER: McLoughlin Family Ranch

DATE: July 15, 2005

RESPONSE:

Response 32A

The commenter states an opinion that the 1.14% annual population growth rate assumed for Scenarios 2-6 is more realistic than the 0.88% growth rate assumed for Scenario 1. This opinion is noted. The growth rates used in the Draft EIR were directed by the City Council. These assumptions were used for analytical purposes. The actual growth rate in the City varies from year to year and is dependent upon a variety of factors.

Response 32B

The commenter states an opinion that, given the complications associated with intensification and reuse, the City should allow the opportunity to consider development of the expansion areas. The commenter also notes that the Draft EIR identifies limitations on available land under the Intensification/Reuse Only scenario.

Although City staff are recommending adoption of the land use map included in Scenario 1 (Intensification/Reuse Only), the City will continue to have the option of allowing development of one or more of the expansion areas. Any land use designation change for the expansion areas that are subject to the SOAR Ordinance, whether sought as part of the 2005 General Plan or as a future General Plan amendment application, would be subject to voter approval.

It is correct that the Draft EIR identifies limitations on available land for the development of schools and parks under the Intensification/Reuse Only scenario. Impacts relating to schools and parks are not significant under CEQA. However, as noted in the Draft EIR, the relative lack of available land may limit the ability to develop new large park facilities or schools.

Response 32C

The commenter points out several potential benefits associated with development of the Olivas expansion area. Some of the benefits noted by the commenter, including potential circulation improvements and restoration of the Arundell Barranca, are discussed in the Draft EIR. In addition, in Section 4.15, the Draft EIR notes that the Intensification/Reuse Only scenario may restrict the types of housing available as compared to Scenarios 2, 3, 4, and 6, emphasizing multi-family housing over single family housing.

Response 32D

The commenter notes that although development of the Olivas area may conflict with the California Coastal Act policy relating to Prime farmland conversion, it could implement other



Coastal Act policies relating to coastal access and recreation and enhancement of water quality. This is correct. As discussed in Section 4.14 of the Draft EIR, possible future development within the Olivas expansion area could be found to be consistent with several Coastal Act policies.

Response 32E

The commenter notes that earlier documents included the Olivas expansion area in a “staff recommended” or “City Council preferred” scenario and requests that the City Council include the Olivas area within its proposed Sphere of Influence (SOI) boundary. It is true that the City Council identified three expansion areas, including the Olivas area, in its “preferred scenario” in July/August 2004. However, because the City’s desire to focus on intensification/reuse, staff are now recommended adoption of the Intensification/Reuse Only scenario. It should be noted that the City will not be seeking SOI boundary adjustments at this time. The Ventura LAFCO will, however, be performing an analysis of the SOI boundary within the next year that will likely result in adjustments that exclude areas not planned for development within the next five years (including areas subject to SOAR) from the SOI.



Appendix H

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). The mitigation monitoring and reporting program is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure recommended in the Environmental Impact Report, specifications are made herein that identify the action required and the monitoring that must occur. In addition, a responsible agency is identified for verifying compliance with individual conditions of approval contained in the Mitigation Monitoring and Reporting Program (MMRP).

The following table is a checklist to be used to verify compliance with the mitigation measures included in the Final EIR for the "Intensification/Reuse Only" scenario.



2005 Ventura General Plan EIR
 Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
AIR QUALITY				
<p>AQ-2 Additional Air Quality Actions. The following actions should be added to the 2005 General Plan to address air quality impacts of future development on a case-by-case basis:</p> <ul style="list-style-type: none"> Require air quality analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval. In accordance with Ordinance 93-37, continue to require payment of fees to fund regional transportation demand management (TDM) programs for all projects generating emissions in excess of Ventura County APCD thresholds. 	<p>Verification that actions are included in the final 2005 General Plan; review of individual projects over the life of the 2005 General Plan</p>	<p>Verification of inclusion of recommended actions prior to publication of the final 2005 General Plan; review and assessment of fees prior to issuance of building permits for individual development projects</p>	<p>Once prior to final 2005 General Plan publication; review of individual projects as needed over the life of the 2005 General Plan</p>	<p>Planning Department</p>
<p>AQ-3 Construction Mitigation. The following action should be added to the 2005 General Plan to address air quality impacts of future construction projects on a case-by-case basis:</p> <ul style="list-style-type: none"> Require individual construction contractors to implement the construction mitigation measures included in the most recent version of the Ventura County APCD's Ventura County Air Quality Assessment Guidelines and, when 	<p>Verification that the action is included in the final 2005 General Plan; verification that construction plans for individual projects include provisions that are consistent with APCD guidelines</p>	<p>Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; review and approval of construction plans prior to issuance of grading permits for individual development projects</p>	<p>Once prior to final 2005 General Plan publication; review of individual projects as needed over the life of the 2005 General Plan</p>	<p>Planning Department</p>



Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval.				
HYDROLOGY AND WATER QUALITY				
<p>HWQ-2 Additional Drainage Actions. The following actions shall be added to the 2005 General Plan to address existing storm drain system deficiencies:</p> <ul style="list-style-type: none"> • Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City. • Adopt assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist (e.g., Downtown district, Ventura Avenue corridor, and Harbor district). <p>The following actions are recommended to minimize the impact of future development on the local storm drain system and implement City goals regarding sustainable infrastructure:</p> <ul style="list-style-type: none"> • As feasible, require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff. Such methods may include, but are not limited to, (1) the use of pervious paving material within 	<p>Verification that actions are included in the final 2005 General Plan; inclusion of infrastructure plans in future development plans (e.g., specific plans, redevelopment plans) for areas where deficiencies exist</p>	<p>Verification of inclusion of recommended actions prior to publication of the final 2005 General Plan; verification that appropriate infrastructure plans are in place prior to approval of development plans for affected areas</p>	<p>Once prior to final 2005 General Plan publication; verification of infrastructure plans as needed over the life of the 2005 General Plan</p>	<p>Planning Department, Public Works Department, Planning Commission, City Council</p>



2005 Ventura General Plan EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
<p>parking lots and other paved areas to facilitate rainwater percolation; and (2) construction of retention/detention basins to limit runoff to pre-development levels and to encourage infiltration into the groundwater basin.</p> <ul style="list-style-type: none"> Where deemed appropriate, condition new developments adjacent to Ventura County Watershed Protection District channels to dedicate necessary right-of-way to meet future District needs. 				
NOISE				
<p>N-1 Rubberized Asphalt. The following action shall be added to the 2005 General Plan to reduce general traffic noise:</p> <ul style="list-style-type: none"> As feasible, use rubberized asphalt or other sound reducing material for paving and re-paving of City streets. 	<p>Verification that the action is included in the final 2005 General Plan; verification that rubberized asphalt is used when feasible, particularly on roads where noise levels approach or exceed City standards</p>	<p>Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; prior to re-paving of individual roads over the life of the 2005 General Plan</p>	<p>Once prior to final 2005 General Plan publication; re-paving as needed over the life of the 2005 General Plan</p>	<p>Planning Department; Public Works Department</p>
<p>N-3 Noise Ordinance Update. The following action shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Update the Noise Ordinance in conjunction with the new development code to provide noise standards for residential projects and residential components of mixed use projects within commercial and industrial zones. 	<p>Verification that the action is included in the final 2005 General Plan; verification that the new development code includes noise standards for residential projects within commercial and industrial zones</p>	<p>Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; verification of inclusion of noise standards prior to approval of new development code</p>	<p>Once prior to final 2005 General Plan publication; once prior to approval of development code</p>	<p>Planning Department, Planning Commission, City Council</p>
PUBLIC SERVICES				
<p>PS-2 Police Protection Service. The following actions shall be added to the 2005 General Plan:</p>	<p>Verification that the action is included in the final 2005 General Plan; annual</p>	<p>Verification of inclusion of the recommended action prior to publication of the</p>	<p>Once prior to final 2005 General Plan publication; monitoring annually over</p>	<p>Planning Department; Police Department</p>



2005 Ventura General Plan EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
<ul style="list-style-type: none"> Establish a new Downtown storefront to meet the needs of the growing Downtown population Expand the Police Department headquarters as necessary to accommodate staff growth. 	monitoring of Police Department facility needs and development of new facilities as needed	final 2005 General Plan; monitoring of Police Department facilities annually over the life of the 2005 General Plan	the life of the 2005 General Plan	
<p>PS-3(a) School Coordination. The following action should be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development. 	Verification that the action is included in the final 2005 General Plan; verification of coordination with School District in conjunction with review of individual developments	Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; coordination prior to approval of individual development projects	Once prior to final 2005 General Plan publication; coordination as needed over the life of the 2005 General Plan	Planning Department, Planning Commission, City Council
<p>PS-5 Solid Waste Disposal Facilities. The following actions shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Coordinate with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, or develop alternative means of disposing of solid waste that will provide sufficient capacity for waste generated in the City. Develop incentives for new residences and businesses to incorporate recycling and waste diversion practices using guidelines provided by the Environmental Services Office. 	Verification that the action is included in the final 2005 General Plan; verification of inclusion of appropriate incentives in new development code	Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; verification of inclusion of incentives prior to adoption of new development code	Once prior to final 2005 General Plan publication; once prior to adoption of new development code	Planning Department, Planning Commission, City Council
TRANSPORTATION AND CIRCULATION				
<p>TC-1 Additional Circulation Actions. The following actions shall be added to the 2005 General Plan to ensure that traffic impacts of future developments</p>	Verification that the actions are included in the final 2005 General Plan; verification of traffic	Verification of inclusion of the recommended actions prior to publication of the final 2005 General Plan;	Once prior to final 2005 General Plan publication; analysis and development of mitigation as needed	Planning Department; Public Works Department, Planning Commission, City Council



2005 Ventura General Plan EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
<p>are addressed and mitigated:</p> <ul style="list-style-type: none"> Require project proponents to analyze traffic impacts and implement mitigation as appropriate prior to development. Depending upon the nature of the impacts and improvements needed, mitigation may either consist of implementing needed physical improvements, contributing "fair share" fee toward implementation of needed improvements, or some combination thereof. Update the traffic mitigation fee program to fund necessary citywide circulation and mobility system improvements needed in conjunction with new development. 	<p>mitigation fee program update; analysis of impacts of individual development projects and inclusion of appropriate mitigation</p>	<p>verification of traffic mitigation fee program update in conjunction with annual General Plan review; analysis and development of mitigation prior to approval of individual development projects</p>	<p>over the life of the 2005 General Plan</p>	
UTILITIES AND SERVICE SYSTEMS				
<p>U-1 Water System Analysis. The following action shall be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage requirements for the proposed development in order to determine if there are any system deficiencies or needed improvements for the proposed development. 	<p>Verification that the action is included in the final 2005 General Plan; analysis of impacts of individual development projects and inclusion of appropriate mitigation</p>	<p>Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; analysis and development of mitigation prior to approval of individual development projects</p>	<p>Once prior to final 2005 General Plan publication; analysis and development of mitigation as needed over the life of the 2005 General Plan</p>	<p>Planning Department, Public Works Department, Planning Commission, City Council</p>
<p>U-2(a) Sewer System Analyses. The following action should be added to the 2005 General Plan:</p> <ul style="list-style-type: none"> Require project proponents to 	<p>Verification that the action is included in the final 2005 General Plan; analysis of impacts of individual development projects and</p>	<p>Verification of inclusion of the recommended action prior to publication of the final 2005 General Plan; analysis and development</p>	<p>Once prior to final 2005 General Plan publication; analysis and development of mitigation as needed over the life of the 2005</p>	<p>Planning Department, Public Works Department, Planning Commission, City Council</p>



2005 Ventura General Plan EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party
conduct sewer collection system analysis to determine if downstream facilities are adequate to handle the proposed development.	inclusion of appropriate mitigation	of mitigation prior to approval of individual development projects	General Plan	



WE THE PEOPLE
of Ventura, in order to
ensure that our City
continues to be a great place
for us to live ...



ACHIEVING THE VISION
2005 ventura general plan

CITY OF SAN BUENAVENTURA

2005 VENTURA GENERAL PLAN

ADOPTED AUGUST 8, 2005

RESOLUTION NOS.2005-072 AND 2005-073

The following people contributed to the preparation of the 2005 Ventura General Plan:

CITY COUNCIL

Brian Brennan, Mayor
Carl E. Morehouse, Deputy Mayor
Neal Andrews, Council Member
Bill Fulton, Council Member
James L. Monahan, Council Member
Sandy E. Smith, Council Member
Christy Weir, Council Member

PLANNING COMMISSION

Carolyn Briggs, Chair
Curt Stiles, Vice Chair
Ronald Allen, Commissioner
Michael Faulconer, Commissioner
Martel Fraser, Commissioner
Bill Growdon, Commissioner
John Hecht, Commissioner

GENERAL PLAN COMMITTEE

Carolyn Briggs, Planning Commission Chair
Michael Faulconer, Commissioner
Bill Fulton, Council Member
John Hecht, Commissioner
Sandy E. Smith, Council Member
Christy Weir, Council Member

**VENTURA VISION SEIZE THE FUTURE
STEERING COMMITTEE**

Sandy Smith
Brian Brennan
Lauri Flack
Bill Fulton
Lynn Jacobs
James Monahan
Ted Temple

**COMPREHENSIVE PLAN
ADVISORY COMMITTEE**

Dan Long, Chair
Rob Corley, Vice Chair
Darlene Benz
Bart Bleuel
Don Bowles
Holly Breiner
Carolyn Briggs
Dan Cormode
Tim Dagodag
Karen Flock
Fred Gientke
Rondi Guthrie
Jorge Gutierrez
Margaret Merryman
Carl E. Morehouse
Kioren Moss
Jaime Santana
Bob Tobias
Dan Wolnick

A C K N O W L E D G E M E N T S

SEIZE THE FUTURE CITIZENS OUTREACH COMMITTEE (Ventura Vision – 2000)

Bill Fulton, Chair
Roma Armbrust, At-large
John Ashkar, Building Industry Association
Michael Carney, Utilities
Geoff Cline, Patagonia/Large employer
Mary Cook, At-large
Curtis Cormane, Midtown Community Council
John Correa, At-large
Jerry Dannenberg, Ventura Unified School District
Jim DaPra, Small employer
Mike Del Dosso, Westside Community Council
Kenneth R. Edwardsen, At-large
Kay Faulconer, Ventura Community College District
Darlene Fuller, South Coast Area Transit
Debbie Giles, At-large
Jannes Gofourth, Red Land Clearing, Small employer
Doug Halter, Downtown Community Council
Gary Jacobs, Ventura Port District
John S. Jones, At-large
Joe Kreutz, Banking
Leslie Leavens-Crowe, Cultural Affairs Commission
Greg Lowe, Kinkos/Large employer
Lanette McCaslin, Pierpont Community Council
Carl Morehouse, American Planning Association
Glen Morris, Public Art Commission
Paul E. Newman, Parks & Recreation Commission
Clark Owens, At-large
Michael Paluszak, Seaside Park/Ventura County
Fairgrounds
Marcia Rhodes, Tourism Commission
Marty Robinson, County of Ventura
Betty Sherman, League of Women Voters

Chris Stephens, Ventura County Transportation Commission
Neal K. Subic, American Institute of Architects
Zoe Taylor, Greater Ventura Chamber of Commerce
Paul Thompson, East Ventura Community Council
Stephen B. Thompson, American Society of Civic Engineers
George Tillquist, Library Commission
Bob Tobias, Agriculture
Eric Werbalowsky, Environmental Organizations

CITY STAFF

Rick Cole, City Manager
Mary Walsh, Deputy City Manager
Bob Boehm, City Attorney
Susan J. Daluddung, Community Development Director

Lead Staff

Ann B. Daigle, Urban Development Manager
Kari Gialketsis, Principal Planner
Jim Neuerburg, Assistant City Attorney II
Lisa Y. Porras, AICP, Senior Planner, Project Manager
Eric W. Lentz, Associate Planner
V.S. Chandrashaker, Associate Transportation Engineer

TECHNICAL CONSULTANTS

TO THE CITY -

Lead Consultants

Crawford Multari and Clark Associates
Paul Crawford, Principal
Charlie Knox, Senior Associate
Lisa Wise, Associate

Rincon Consultants, Inc.

Stephen Svete, AICP, President
Joseph Power, AICP, Principal

TECHNICAL CONSULTANTS

TO THE CITY -

Supporting Consultants

Austin Foust Associates
Terry Austin

*Cotton/Bridges/Associates - A Division of P&D
Consultants*
Karen Warner

Moore Iacofano Goltsman, Inc.
Sam Gennaway
Steve Reiner

Moule & Polyzoides
Stefanos Polyzoides
Bill Dennis

PSOMAS
Mike Swan

Stanley R. Hoffman Associates
Stan Hoffman

ACKNOWLEDGEMENTS

CITY STAFF

Supporting Staff

Houshang Abbassi, Deputy Building Official
Roger Adams, GIS, Systems Analyst II
Alvin Adora, Mail/Print Shop Aide
Lisette Alivandivafa, Office Services Supervisor
Dave Armstrong, Downtown Project Manager
Kyle Ashby, Website Specialist
Dori Boyer, Secretary
Joey Briglio, Assistant Planner
Elena Brokaw, Community Services Director
Martin Brown, Senior Inspector
Peter Brown, Community Services Manager
Shelly Brown, Executive Assistant
Jennie Buckingham, CDBG Associate Planner
Ron Calkins, Public Works Director
Kevin Colin, Interim Senior Planner
Judy Devine, Community Services Manager
Annett Ewing, Senior Office Assistant
Quinn Fenwick, Lieutenant, Police
Roxanne Fiorillo, Assistant City Clerk
Kelly Flanders, Senior Office Assistant
Robert Garven, Print Services Leadworker
Greg Gilmer, Golf Services Manager
Cary Glenn, Public Services Assistant
Bill Hatcher, Housing, Senior Planner
Brian Haworth, Associate Planner
Suzanne Hense, Word Processing
Alex Herrera, Senior Planner
Priscilla Holmes, Graphics
Iain Holt, Associate Planner
Margaret A. Ide, Associate Planner
Luz Juachon, Secretary
Mike Lavery, Fire Chief
Veronica Ledesma, Junior Planner

Tom Mericle, Transportation and Traffic Engineer
Pat Miller, Police Chief
Kaye Mirabelli, Administrative Services Director
Mike Montoya, Parks Manager
Frank Nelson, Civic Engineer
Richard Newsham, Marketing Specialist
Kelly Nicely, Marketing Specialist
Jim Passanisi, Water Superintendent
Stratis Perros, Interim Senior Planner
Mabi Plisky, City Clerk
Ventura Police Department
Andrew Powers, Marketing Specialist
Elaine Preston, Deputy City Clerk
Teresa Purrington, Management Technician
Rick Raives, City Engineer
Brian Randall, Associate Planner
Robert Sanchez, Secretary
Andrew Stuffer, Building Official/Fire Marshall
Anne Simmons, Administrative Secretary
Alison Sweet, Associate Civic Engineer
Don Taylor, GIS, Systems Analyst I
Sue Torres, Administrative Secretary
Yvonne Velasco, Printer II
Jenise Wagar, Civic Engagement Manager
Roger Wang, Management Analyst I
Debby Welch, Senior Office Assistant
Sid White, Economic Development Manager
Bob Williams, Principal Civil Engineer
Pat Womack, IT/Word Processing
Felix Yzaguirre, Engineering Technician

...and to the countless citizens who gave their time and energy towards the making of this plan.

This plan is dedicated to the citizens of Ventura.

August 8, 2005

In loving memory of Roma Armbrust and
Dennis R. Mackay

Table of Contents

OVERVIEW	1
Goals for Our Future.....	2
Introduction and Background.....	4
The Ventura General Plan	5
Vision Goals	6
Building on the Vision	8
Plan Format	9
California Coastal Act	12
1. OUR NATURAL COMMUNITY	1-1
Natural Context.....	1-1
Coastal Resources	1-2
Hillsides	1-3
Rivers and Barrancas	1-4
Resource Conservation	1-4
Policies and Actions	1-5
2. OUR PROSPEROUS COMMUNITY	2-1
Adapting in the 21 st Century	2-1
Economic Challenges.....	2-2
Pillars of Prosperity.....	2-3
Policies and Actions	2-5
3. OUR WELL PLANNED AND DESIGNED COMMUNITY	3-1
Our City.....	3-1
Infill First.....	3-1
21 st Century Tool Kit.....	3-7
Neighborhoods: The Basic Building Blocks of Community	3-7
Planning Designations & Transect Zones	3-14
Districts, Corridors, & Neighborhood Centers	3-18
Special Topics	3-23
Agricultural Lands	3-23
Growth Management.....	3-23
Long Term Potential Expansion Strategy.....	3-24
Policies and Actions	3-25
Housing Element Goals and Policies	3-28
4. OUR ACCESSIBLE COMMUNITY	4-1
An Integrated Mobility System.....	4-1
Travel Modes.....	4-3
Policies and Actions	4-9
5. OUR SUSTAINABLE INFRASTRUCTURE	5-1
Essential Support Systems	5-1
Water Supply.....	5-1
Wastewater Treatment.....	5-3
Storm Drainage	5-4
Policies and Actions	5-5

6. OUR ACTIVE COMMUNITY 6-1
 Higher Standards..... 6-1
 City Parks and Open Space 6-2
 Recreation Programs..... 6-4
 Policies and Actions..... 6-5

7. OUR HEALTH & SAFE COMMUNITY 7-1
 Community Wellness 7-1
 Geological and Flood Hazards 7-2
 Fire and Emergency Response 7-3
 Police Protection..... 7-4
 Noise..... 7-5
 Hazardous Materials 7-7
 Policies and Actions..... 7-8

8. OUR EDUCATED COMMUNITY 8-1
 Lifelong Learning 8-1
 Leveraging Our Assets 8-1
 Libraries of the Future..... 8-3
 City and Community Programs 8-3
 Policies and Actions..... 8-4

9. OUR CREATIVE COMMUNITY 9-1
 A Rich Foundation 9-1
 Historic Context 9-1
 Arts and Culture..... 9-3
 Policies and Actions..... 9-5

10. OUR INVOLVED COMMUNITY..... 10-1
 Civic Engagement 10-1
 Policies and Actions 10-4

APPENDICES

Summary of Actions A-1
 Save Our Agricultural Resources B-1
 Hillside Voter Participation Area..... C-1
 Ventura Community Park SOAR Amendment..... D-1
 First Assembly of God Land Initiative..... E-1

ATTACHMENTS

Glossary of Terms F-1
 21st Century Tool Kit..... G-1

TABLES

Table 1 General Plan Organization 10
 Table 3-1 Potential Development Based on
 Carry Capacity of Land Area 3-3
 Table 3-2 Predicted Development Intensity
 and Pattern 3-4
 Table 4-1 Thoroughfare Sizes and Types..... 4-7
 Table 5-1 Historic and Projected Water
 Production..... 5-2

Table 5-2 Wastewater Treatment Facilities.....5-3	Figure 7-1 Natural Hazards..... 7-12
Table 6-1 Park Acreage per 1,000 Population6-1	Figure 7-2 Fire Response Time 7-13
Table 6-2 City Park Facilities6-3	Figure 7-3 Noise Contours..... 7-14
Table 7-1 Typical Noise Levels7-5	Figure 9-1 Historic Districts and Sites..... 9-7
Table 7-2 Acceptable Noise Levels.....7-6	
Table 8-1 Education Level8-1	
Table 8-2 Private Schools8-1	
Table 8-3 Ventura Unified School District	
Enrollment..... 8-2	
Table 8-4 Public School Demand..... 8-2	
Table 8-5 Local Libraries..... 8-3	
Table 9-1 Key Historical and Cultural Sites..... 9-1	
Table 9-2 Art and Cultural Institutions..... 9-4	

FIGURES

Figure 3-1 Infill Areas 3-5	
Figure 3-2 Pedestrian Shed 3-8	
Figure 3-3 Planning Communities 3-10	
Figure 3-4 The Transect..... 3-17	
Figure 3-5 General Plan Diagram 3-22	
Figure 4-1 Bicycle Facilities..... 4-13	
Figure 4-2 Bus and Rail Routes 4-14	
Figure 4-3 Roadway Classification Plan..... 4-15	
Figure 6-1 Public Facilities 6-7	



"The building of cities is one of man's greatest achievements. The form of his city always has been and always will be a pitiless indicator of the state of his civilization. This form is determined by the multiplicity of decisions made by the people who live in it."

— Edmund N. Bacon
Design of Cities, 1967

We, the people of Ventura, in order to ensure that our City remains a great place for us to live ...



. . . establish these goals for our community's future:

OUR NATURAL COMMUNITY

Our goal is to be a model for other communities of environmental responsibility, living in balance with our natural setting of coastline, rivers, and hillside ecosystems.

OUR PROSPEROUS COMMUNITY

Our goal is to attract and retain enterprises that provide high-value, high wage jobs; to diversify the local economy; to increase the local tax base; and to anticipate our economic future in order to strengthen our economy and help fund vital public services.

OUR WELL-PLANNED COMMUNITY

Our goal is to protect our hillsides, farmlands, and open spaces; enhance Ventura's historic and cultural resources; respect our diverse neighborhoods; reinvest in older areas of our community; and make great places by insisting on the highest standards of quality in architecture, landscaping and urban design.

OUR ACCESSIBLE COMMUNITY

Our goal is to provide residents with more transportation choices by strengthening and balancing bicycle, pedestrian and transit connections in the City and surrounding region.

OUR SUSTAINABLE INFRASTRUCTURE

Our goal is to safeguard public health, well being and prosperity by providing and maintaining facilities that enable the community to live in balance with natural systems.

OUR ACTIVE COMMUNITY

Our goal is to add to and enhance our parks and open spaces to provide enriching recreation options for the entire community.

OUR HEALTHY AND SAFE COMMUNITY

Our goal is to build effective community partnerships that protect and improve the social well being and security of all our citizens.

OUR EDUCATED COMMUNITY

Our goal is to encourage academic excellence and life-long learning resources to promote a highly-educated citizenry.

OUR CREATIVE COMMUNITY

Our goal is to become a vibrant cultural center by weaving the arts and local heritage into everyday life.

OUR INVOLVED COMMUNITY

Our goal is to strive to work together as a community to achieve the Ventura Vision through civic engagement, partnerships, and volunteer service.

State law requires each California city to adopt a comprehensive, long-term General Plan for the physical development of the community that guides local decision-making by expressing community goals about the future distribution and character of land uses and activities. The plan should be comprehensive by both covering the City's entire planning area and addressing the broad range of issues facing the community, including physical, social, aesthetic and economic concerns. The plan must be internally consistent and serve as a long-term guide, establishing policies for day-to-day land use decisions over an approximately 20-year period.

Introduction and Background

“To remain successful, Ventura must periodically renew itself, re-examine its goals and create a shared vision to guide the community into the future.”

With these opening words, the citizens of our community proclaimed the **Ventura Vision**, which was unanimously accepted by the City Council in March 2000. That landmark report captured the results of “a partnership encompassing city government, non-profit organizations, community groups, businesses, schools and individual residents to chart the community’s future through a process of visioning.”

Building on that shared vision, the City embarked on an effort to revise the 1989 Comprehensive Plan that served as the General Plan that all cities are required by State law to use to guide land use, transportation and other important policy decisions. This new General Plan is the culmination of that effort to translate the Ventura Vision into a coherent and comprehensive implementation plan to guide future development and preservation.

Throughout the visioning process and at the ballot box, Ventura residents have made clear we want a well-planned approach to managing growth. We don’t want continued suburban sprawl paving over farm land and sensitive hillside areas. Instead, we want vacant or run-down properties to be improved with high quality “infill” to provide new jobs, new homes and new stores and services.

Managing growth to improve our quality of life and standard of living is the smart thing to do.

Ventura residents don’t want uncontrolled growth and suburban sprawl. We also don’t want traffic gridlock, more “cookie cutter” tract houses or housing prices that make Ventura unaffordable for working families. By targeting new development to areas that would benefit from reinvestment – and by respecting our historic character and sense of place – “smart growth” is a better alternative.

Our vision is for a prosperous and well-planned community.

Smart Growth emphasizes reusing existing buildings and land, revitalizing our historic downtown and neighborhoods, and protecting the environment for future generations. Smart Growth channels new businesses and homes into appropriate areas. It also provides options for public transportation, creates neighborhoods where homes are in walking distance of local services and ensures green space for public use.

We seek to protect and enhance our unique “sense of place”

that builds on our pride in Ventura’s history and natural setting. Instead of new development that looks like everywhere else, our vision is for interesting, unique neighborhoods and districts, which reflect our values and heritage. The policies for pursuing these goals are spelled out in this new General Plan.

The Ventura General Plan

The *2005 Ventura General Plan* is the second in a series of three connected documents that will guide future conservation and change in the city. The *Ventura Vision* set the stage for this plan and enumerated four overarching principles that were affirmed by the community to guide Ventura into the future:

- Reach broadly and deeply into the community.
- Build on existing cultural, natural, and economic assets.
- Emphasize and encourage connections within the community.
- Work proactively and collaboratively to achieve the community's shared vision.

The final piece of the trilogy is a form-based *Development Code*. This code represents a new approach to zoning that prioritizes the appearance of development, while still ensuring that neighboring land uses are compatible and appropriate.

The *General Plan* will be put into action through the *Development Code* and a variety of other mechanisms, such as a mobility plan, specific plans, community plans, and capital improvement projects that will together shape the future of Ventura. The *General Plan* purposefully anticipates the *Code* focusing on the districts, corridors, and neighborhood centers where future change will be most pronounced.

The following vision statements reflect a high level of community consensus about a desired future for Ventura.



In the future, Ventura is a community that...

Environment

- Seeks sustainability by simultaneously promoting ecological health, economic vitality, and social well-being for current and future generations.
- Acts as an environmentally responsible model for other coastal areas.
- Protects and restores the natural character of its beaches, ocean views, hillsides, barrancas, and rivers as a scenic backdrop for its high quality urban environment.

Economy

- Develops a flourishing and balanced economy by encouraging a broad range of high quality employment and entrepreneurial opportunities.
- Encourages private economic development that supports public services and amenities associated with high quality of life.
- Has a vital, prosperous, and stable economy while maintaining its small-town feel.
- Is noted for private and public sector cooperation that enhances economic vitality.
- Actively participates in regional economic development efforts.

Planning, Design, and Circulation

- Retains its character as an attractive coastal town by growing slowly and sustainably, and by emphasizing its history, diversity, and natural environment.
- Cherishes its distinctive, diverse, and eclectic neighborhoods, and preserves their character.
- Has safe, accessible, and balanced transportation that promotes multiple modes of travel to local and regional destinations.

Social Activity

- Is known as an inclusive, diverse, and tolerant place that welcomes and celebrates all people.
- Provides all residents access to quality and affordable health and social services.
- Recognizes the importance of children and seniors by providing exceptional cultural, educational, and social support programs.
- Offers a diverse range of active and passive recreation for residents and visitors of all ages and abilities.
- Is dedicated to educational excellence and an emphasis on lifelong learning.
- Celebrates and is enriched by the arts and diverse cultural opportunities.

Collaboration

- Encourages residents to collaborate with each other and City government in an informed, active, and constructive manner to assess and resolve common issues.



Building on the Vision



Following adoption of the *Ventura Vision*, the City Council established a 19-member Comprehensive Plan Advisory Committee (CPAC) to shape the *Vision* concepts into issues and priorities for revision of the 1989 Comprehensive Plan. The CPAC included representatives of varied interests, including neighborhoods, agriculture, seniors and schools, as well as one member from the Planning Commission and one from the City Council. The committee met more than 30 times over almost three years. During that effort, the City published the August 2002 *Comprehensive Plan Update Background Report*, which provides a highly detailed account and analysis of opportunities and constraints that affect planning and land use in Ventura. This ultimately led to their findings, contained in the September 2003 *CPAC Issues & Alternatives Report*.



CPAC endeavored to create strategies to resolve planning and land use issues in Ventura utilizing the smart growth principles formulated by the U.S. Environmental Protection Agency:

- Mix land uses.
- Achieve compact building design.
- Provide a range of housing opportunities.
- Create walkable neighborhoods.
- Foster distinctive, attractive communities with a strong sense of place.
- Preserve open space, farmland, natural beauty, and critical environmental areas.
- Strengthen and direct development toward existing communities.



- Provide a variety of transportation choices.
- Make development decisions predictable, fair, and cost effective.
- Encourage community collaboration in planning decisions.

The recommendations of the CPAC were presented to the Planning Commission and City Council. After several months of reviewing the CPAC recommendations, the Planning Commission in December 2003 made some modifications to the CPAC's recommended land use scenario.

The City Council met 11 times from February through August 2004 to consider the CPAC and Planning Commission recommendations, review relevant data, and formulate broad goals, policies, and a diagram to guide growth and change in the City until 2025. In September 2004, the City Council established an ad-hoc General Plan Committee consisting of three Planning Commissioners and three City Council members to work with City staff and consultants to ensure that the *General Plan* would be completed expeditiously and with ample public participation, and to ensure open communication, transparency, and coordination among all parties interested in the creation of the *Plan*. All of the CPAC, Planning Commission, City Council, and General Plan Committee workshops, meetings, and hearings were open to the public and included significant, meaningful, and often extensive citizen input and participation.

Goals summarize how conservation, development, and future growth should occur by identifying physical, economic and social ends that the community wishes to achieve.

Policies establish basic courses of action for the Planning Commission and City Council to follow in working to achieve community goals, by directly guiding the response of elected and appointed officials to development proposals and related community actions.

Actions need to be undertaken by the City to implement policies.

Plan Format

The comprehensive and involved process of creating what is really a totally new (not just updated) *General Plan* – based on a new community vision and smart growth principles – resulted in a new set of goals, policies, and actions to guide future decision-making in Ventura that truly reflect the planning objectives of the community. These policy directives are organized by subject area in *General Plan* Chapters 1 through 10, which follow the organizational framework established in the *Ventura Vision* (see Table 1). Each topic is introduced with an overarching goal that carries forward the *Vision*, a description of issues needing resolution and methods for remedying them, and finally measurable policies and actions to achieve those solutions. Each of the policies contained within the Plan are intended to be understood and read with the following preface: “It is the intent of the City of San Buenaventura to...”. All of the actions are summarized in table form in Appendix A, along with the City department or division responsible for implementing each action and timeframe for completion. Also included in the Plan are the legally binding Appendices B through E. Attachment A is provided as a reference, while Attachment B is provided to serve as guidelines for future development until an update to the Zoning Ordinance is completed.

**Table 1
General Plan Organization**

Vision/General Plan Chapter	Required/<i>Optional</i> Elements	Examples of Topics Covered
1. Our Natural Community	Conservation Open Space	Open space, hillsides, watersheds, riparian areas, sensitive plants and animals
2. Our Prosperous Community	<i>Economic Development</i>	Commercial and industrial growth, economic diversification, job opportunities, tourism
3. Our Well-Planned and Designed Community	Land Use/ <i>Design</i> Housing <i>Park & Recreation</i>	Development patterns, neighborhoods, visual character, urban design, streetscapes, demographics, housing needs, affordability, constraints on production
4. Our Accessible Community	Circulation	Traffic, street network, parking, transit services, bike routes
5. Our Sustainable Infrastructure	Land Use	Water supply, wastewater treatment, drainage
6. Our Active Community	Land Use <i>Park & Recreation</i>	Park and recreation facilities, youth and senior programs
7. Our Healthy and Safe Community	Safety Noise Land Use	Development in hazardous areas, hazardous waste management, seismicity, flood control, water quality, brownfields, noise, police, fire, air quality
8. Our Educated Community	Land Use	Schools and libraries
9. Our Creative Community	<i>Culture</i>	Arts, events, community programs, cultural and historic resources
10. Our Involved Community	<i>Citizen Input</i>	Participation in governance

The format of the *General Plan* satisfies the State requirement that every general plan include policies for seven “elements,” as follows:

Land use – establishes the general distribution and intensity of land uses, including housing, commerce, industry, open space, education, and public facilities.

Circulation – identifies the location and type of existing and proposed highways, arterial and collector roadways, bicycle routes, and other transportation facilities.

Conservation – addresses treatment of natural and cultural resources, including watersheds, wetlands, trees, rivers and barrancas, and cultural and historic landmarks.

Housing – assesses current and projected housing needs of all segments of the community and identifies land to provide adequate housing to meet those needs. Although the City’s Housing Element and Technical Report is contained in a separate document to facilitate the frequent updating required by the State, the goals, policies and programs of the Housing Element must be and are consistent with the goals, policies, and actions of the *2005 Ventura General Plan*. (See Chapter 3, page 3-28, for 2004 Housing Element Goals and Policies.)

Noise – appraises noise sources in the community and develops means to mitigate nuisances.

Open Space – details techniques for preserving open space areas for natural resources, outdoor recreation, public health and safety, and agricultural activities.

Safety – establishes policies to protect the community from risks associated with seismic, geologic, flood, fire, and other hazards.

The *General Plan* also contains a number of special elements that aren’t required by State law but are integral to the unique identity of Ventura. These cover a range of topics including education, recreation, arts and culture, and community involvement in local government. Another chapter treats the very important subject of the local economy, providing guidance to citizens, City staff and policy makers regarding strategies and priorities for economic development in Ventura.



California Coastal Act

The *General Plan* also satisfies State requirements for the City's **Local Coastal Program** in accordance with the California Coastal Act (*Public Resources Code § 30000 et seq.*). Actions in the *General Plan* that affect coastal resources are intended to become part of the Land Use Plan of the Local Coastal Program, which will be accomplished through specific or community plans for those areas. These actions are identified with the logo of the California Coastal Commission (which oversees all Local Coastal Programs). The basic goals of the State for the coastal zone are to:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of the private property owners.

- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.
(*Public Resources Code § 30001.5*)





"As age comes on, one source of enjoyment after another is closed, but Nature's sources never fail. Like a generous host, she offers her brimming cups in endless variety, served in a grand hall, the sky its ceiling, the mountains its walls, decorated with glorious paintings and enlivened with bands of music ever playing."

— John Muir
20th Century Naturalist

CITY OF
VENTURA

OUR NATURAL COMMUNITY
ventura's general plan

1. OUR NATURAL COMMUNITY

Our goal is to be a model for other communities of environmental responsibility, living in balance with our natural setting of coastline, rivers, and hillside ecosystems.

Natural Context

Ventura's natural setting is one of its greatest assets, and preserving the environment is a top community priority. Situated between the ocean, hills, and two rivers, the city affords its residents and visitors with a significant amount of accessible, beautiful, and biologically diverse open space. Although a number of programs are in place to protect coastal and watershed ecosystems and to maintain and preserve existing open lands, some natural features in and around the city have been compromised by the impacts of human activity.

As in many communities across the nation, concern is growing in Ventura about human impacts on natural resources. The historic spread of local development has given rise to grassroots efforts aimed at preserving Ventura's viable agricultural land, open space, and hillsides. The 1995 Save Our Agricultural Resources initiative (see Appendix B) and the 2001 Hillside Voter Participation Area (Appendix C) measure require voter approval before the city can expand into open space areas. The Ventura Hillsides Conservancy formed in 2003 seeks to preserve local hillsides, canyons, and open space.

Ventura, Oxnard, Ventura County, and the County Local Agency Formation Commission have adopted agreements to preserve agricultural and open space land located between the cities. A change that amends these greenbelts requires the approval of all signatories.

Protecting Ventura's fragile natural resources is a fundamental focus of the *2005 Ventura General Plan*. Policies and actions in this chapter intend to ensure that coastal, hillside, and watershed features are preserved, remain visible and accessible, and demarcate boundaries for urban development to define and enhance the city's identity.



The community cherishes the shoreline as one of Ventura's best features. Coastal facilities in the city include:

- Emma Wood State Beach
- Ventura Seaside Park and Fairgrounds
- Surfers Point at Seaside Park
- Beachfront Promenade Park
- San Buenaventura State Beach
- Pierpont Community Beach
- Marina Beach/Cove Port District Beach
- Channel Islands National Park Headquarters
- Surfers Knoll
- Santa Clara River Mouth

Coastal Resources

Ventura boasts seven miles of beautiful sand beaches and valuable shoreline habitat. This “string of pearls” has long been identified by the community as one of the city’s most prized features. At its eastern end, the Ventura Harbor offers opportunities for residents and visitors to explore the local marine environment, including the Channel Islands National Park and Marine Sanctuary. Elsewhere along the coast, shoreline and dune habitat provide nesting, feeding, and mating grounds for a wide variety of wildlife, including threatened or endangered species such as the western snowy plover and the least tern.

Shoreline conservation programs underway include the Surfers Point Managed Shoreline Retreat, San Buenaventura State Beach restoration, Ventura Harbor wetland rehabilitation, and coastline water quality monitoring. The City will continue to invest in restoration to enhance the shoreline ecosystem, with the actions in this chapter augmenting current efforts.



Hillsides

The hills of the Transverse Range rise 1,200 feet above Ventura, providing an important visual backdrop that frames the City. Not only do these hills provide residents and visitors with scenic vistas, they are also part of a larger integrated ecosystem comprised by the hillsides, coastal areas, rivers and barrancas that together provide a rich habitat for many species. It is vital to the community that these hillsides that lie outside the city limits (with a County land use designation of either Open Space or Agriculture), are protected and preserved.

These hillsides, by definition, are coterminous with the Hillside Voter Participation Area, and comprise the Hillside Open Space community as depicted on the General Plan Diagram (page 3-22). Because the Hillside Voter Participation Area measure prohibits the extension of City urban services to the hillsides through 2030 without voter approval, the General Plan Diagram identifies the hillsides affected by the measure with a Planning Designation of Open Space. The full text and map of the Hillside Voter Participation Area appears in Appendix C (as required by the act). This chapter calls working with land conservation organizations to establish a Ventura hillsides preserve, and Chapter 6, *Our Active Community*, contains actions to work with the County to create public trails in the hillsides.

Definitions for “Hillside Open Space,” “Hillside Area,” “hillsides,” and “Hillside Voter Participation Area” can be found in the Glossary (Attachment A).





Rivers and Barrancas

The Ventura River flows south to the Pacific Ocean along the western edge of the city, and the Santa Clara River bisects the Oxnard coastal plain south of Ventura. A series of seasonal watercourses called barrancas traverse the city in narrow incised drainage channels running down from the hillsides. The rivers and barrancas and their larger watersheds provide undeveloped open space, riparian vegetation, wildlife habitat and corridors, recreational opportunities, and aesthetic beauty.

Where local watercourses have not been channelized, riparian trees and shrubs grow in fringing woodlands and thickets. Several sensitive bird species breed in these areas, including the least Bell's vireo, willow flycatcher, yellow warbler, and yellow-breasted chat. Steelhead and rainbow trout seasonally inhabit both the Ventura and Santa Clara Rivers.

Riparian and freshwater marsh areas in Ventura represent only a remnant of pre-human coverage, but the City has initiated conservation and restoration efforts such as the Ventura River Estuary Program to help reverse this trend. The estuaries at the mouths of the Ventura and Santa Clara Rivers serve as breeding grounds and feeding areas for migratory and resident shorebirds and waterfowl, as well as home to many terrestrial animals, fish, and free-swimming invertebrates.


Actions in this chapter – such as maintaining adequate buffers from watercourses, requiring


restoration of natural drainage features, and prohibiting the placement of manmade materials in drainages – can protect and improve water and habitat quality in local watersheds. The bolder action of removing concrete channel structures would further enhance natural functions and aesthetics.


Resource Conservation


As Ventura continues to grow, conserving resources, increasing energy efficiency, and achieving environmental sustainability become ever more important. The City desires to incorporate green building measures into the design, construction, and maintenance of public and private buildings which can result in significant cost savings and promote overall health and productivity of residents, workers, and visitors to the city. Raising conservation awareness can help minimize waste and pollution released into the natural environment. Improving energy efficiency in buildings, expanding recycling programs, and reducing transportation-related energy consumption will make the city a greener place. The policies and actions in this chapter provide clear direction to guide conservation, green practices, and responsible use of resources.


Policy 1A: Reduce beach and hillside erosion and threats to coastal ecosystem health.

Action 1.1: Adhere to the policies and directives of the California Coastal Act in reviewing and permitting any proposed development in the Coastal Zone. 

Action 1.2: Prohibit non-coastal-dependent energy facilities within the Coastal Zone, and require any coastal-dependent facilities including pipelines and public utility structures to avoid coastal resources (including recreation, habitat, and archaeological areas) to the extent feasible, or to minimize any impacts if development in such areas is unavoidable. 

Action 1.3: Work with the State Department of Parks and Recreation, Ventura County Watershed Protection Agency, and the Ventura Port District to determine and carry out appropriate methods for protecting and restoring coastal resources, including by supplying sand at beaches under the Beach Erosion Authority for Control Operations and Nourishment (BEACON) South Central Coast Beach Enhancement program. 


Action 1.4: Require new coastal development to provide non-structural shoreline protection that avoids adverse impacts to coastal processes and nearby beaches. 


Action 1.5: Collect suitable material from dredging and development, and add it to beaches as needed and feasible. 


Action 1.6: Support continued efforts to decommission Matilija Dam to improve the sand supply to local beaches. 


Action 1.7: Update the Hillside Management Program to address and be consistent with the Planning Designations as defined and depicted on the General Plan Diagram.

Policy 1B: Increase the area of open space protected from development impacts.

Action 1.8: Buffer barrancas and creeks that retain natural soil slopes from development according to State and Federal guidelines. 

Action 1.9: Prohibit placement of material in watercourses other than native plants and required flood control structures, and remove debris periodically. 

Action 1.10: Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential. 

Action 1.11: Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or “natural” coastal areas. 


Action 1.12: Update the provisions of the Hillside Management Program as necessary to ensure protection of open space lands.


Action 1.13: Recommend that the City's Sphere of Influence boundary be coterminous with the existing City limits in the hillsides in order to preserve the hillsides as open space.


Action 1.14: Work with established land conservation organizations toward establishing a Ventura hillsides preserve.

Action 1.15: Actively seek local, State, and federal funding sources to achieve preservation of the hillsides.

Policy 1C: Improve protection for native plants and animals.


Action 1.16: Comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures that limit impacts to aquatic ecosystems and that preserve and restore the beneficial uses of natural watercourses and wetlands in the city. 


Action 1.17: Require development to mitigate its impacts on wildlife through the development review process. 


Action 1.18: Require new development adjacent to rivers, creeks, and barrancas to use native or non-invasive plant species, preferably drought tolerant, for landscaping. 


Action 1.19: Require projects near watercourses, shoreline areas, and other sensitive habitat areas to include surveys for State and/or federally listed sensitive species and to provide appropriate


buffers and other mitigation necessary to protect habitat for listed species. 

Action 1.20: Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species. 

Action 1.21: Work with State Parks on restoring the Alessandro Lagoon and pursue funding cooperatively. 


Action 1.22: Adopt development code provisions to protect mature trees, as defined by minimum height, canopy, and/or trunk diameter. 

Action 1.23: Require, where appropriate, the preservation of healthy tree windrows associated with current and former agricultural uses, and incorporate trees into the design of new developments. 

Action 1.24: Require new development to maintain all indigenous tree species or provide adequately sized replacement native trees on a 3:1 basis. 


Policy 1D: Expand the use of green practices.

Action 1.25: Purchase and use recycled materials and alternative and renewable energy sources as feasible in City operations.


Action 1.26: Reduce pesticide use in City operations. 


Action 1.27: Utilize green waste as biomass/compost in City operations.

Action 1.28: Purchase low-emission City vehicles, and convert existing gasoline-powered fleet vehicles to cleaner fuels as technology becomes available.

Action 1.29: Require all City funded projects that enter design and construction after January 1, 2006 to meet a design construction standard equivalent to the minimum U.S. Green Building Council LEED™ Certified rating in accordance with the City's Green Building Standards for Private and Municipal Construction Projects. 

Action 1.30: Provide information to businesses about how to reduce waste and pollution and conserve resources.

Action 1.31: Provide incentives for green building projects in both the public and private sectors to comply with either the LEED™ Rating System, California Green Builder, or the Residential Built Green program and to pursue registration and certification; incentives include “Head-of-the-Line” discretionary processing and “Head-of-the-Line” building permit processing. 

Action 1.32: Apply for grants, rebates, and other funding to install solar panels on all City-owned structures to provide at least half of their electric energy requirements. 

Action 1.33: Publicly acknowledge individuals and businesses that implement green construction and building practices.



"Every increment of construction should be done in such a way as to heal the city."

— Christopher Alexander
Author of *A Pattern Language*, 1977

CITY OF
VENTURA

OUR PROSPEROUS COMMUNITY
ventura's general plan

2. OUR PROSPEROUS COMMUNITY

Our goal is to attract and retain enterprises that provide high-value, high wage jobs; to diversify the local economy; to increase the local tax base; and to anticipate our economic future in order to strengthen our economy and help fund vital public services.

Adapting in the 21st Century

Great communities are prosperous communities. A successful city brings people, institutions, ideas, and capital together in creative ways that enrich the lives of those who live and work there. In today's global economy, high-wage high-value jobs are the foundation of the prosperity that instills a city with the financial resources necessary to provide high quality of life and excellent community amenities.

Ventura has been blessed with a history of prosperity, thanks in large part to success in harnessing the area's natural assets for economic benefit. For most of the 20th Century, Ventura was sustained largely by its role as the hub of the region's oil and agriculture industries. These two sectors not only provided a stable source of jobs and business opportunities, but also helped to shape Ventura's role as the legal, governmental, and cultural center of the County.

In the 21st Century, however, Venturans can't take continued prosperity for granted. Competition occurs regionally, nationally, and globally for innovative businesses, top talent, and

good jobs. The community must build on its resources and constantly be on the lookout for new economic opportunities.

County government will likely remain the city's largest employer, providing an important element of economic stability, but government employment is not likely to grow significantly. Oil and agriculture will continue to be important, but their roles are diminishing. While Ventura is a regional center for healthcare, that industry will continue to face intense pressures to reduce costs. Still, the City of Ventura is positioned to move into an era dominated by innovation and reliant on emerging technologies. Cities and regions that excel in the "New Economy" promote high tech industries and boast a high quality of life. Likewise, to remain competitive, Ventura must continue to support economic development, but also create a more attractive living environment, including by providing appropriate housing for all segments of the local workforce. Efforts to boost economic development must be supported by a high quality of life, including a thriving cultural arts scene, award winning schools, and an engaged community. Tourism is also a strong market for Ventura. The beaches, museums, downtown, harbor and the nearby Channel Islands National Park attract more than 1.5 million visitors a year.

The policies and actions in this chapter seek to identify business niches that can thrive locally to diversify the economic base and ensure future community prosperity.

Economic Challenges

Ventura faces a variety of interrelated challenges to continued economic vitality, including:

1. Capturing a share of high-value job markets, such as biotechnology, computer software, communications, entertainment, multimedia, education, and business and financial services.
2. Diversifying the local economy to reduce dependence on the service, retail, and government sectors.
3. Building on the success of the tourism, manufacturing, business, and financial services sectors through marketing and job training programs that will ensure retention and attraction of these enterprises.
4. Finding appropriate locations for commercial and industrial land, including through revitalization opportunities in the Westside and Downtown and possibly via annexations of sites in the North Ventura Avenue and 101 Business Corridor areas.
5. Expanding the retail base, because sales tax represents a major City revenue source.
6. Providing housing for the full range of workforce households at all income levels.
7. Providing adequate infrastructure and financing resources.

Meeting all of these challenges in an integrated, strategic manner will be necessary to achieve long-term economic stability and success. The City must endeavor to identify the businesses most likely to remain and grow in an area that has very high costs – especially for housing – but also has outstanding community amenities, including good weather, a spectacular natural setting, and a safe and desirable community fabric.

The *Ventura Vision* calls for targeting industries that demonstrate the greatest promise for long-term community prosperity by:

- Providing high-wage, high skilled jobs,
- Possessing a local competitive advantage in the global economy,
- Being committed to local responsibility,
- Growing from local ownership, control or management,
- Practicing environmental leadership in their markets, and
- Strengthening the community's creative, cultural identity.

The *Vision* also offers principles for the City to pursue in charting future strategies for economic development:

- Encourage a broad range of high-quality employment and entrepreneurial opportunities.
- Encourage private economic prosperity that can support public services and quality-of-life amenities.

- Develop a vital, prosperous, and stable economy while maintaining a “small-town” flavor.
- Encourage the public and private sectors to work together to achieve prosperity.
- Participate constructively in regional economic development efforts.

Implementing these strategies will not be simple or easy. For one reason, California’s current tax system contains provisions that result in some of the lowest-paying economic sectors providing the city with the most tax revenue, and vice versa.

Pillars for Prosperity

Community prosperity is not something that a city government can create by itself. Any successful economic development effort requires the participation of many partners, including community-based business organizations, educational and training institutions, venture capitalists, individual entrepreneurs and business owners, networks of suppliers, and other government agencies that have a mission to enhance prosperity.

Together, the City and its economic partners must ensure that the building blocks for community prosperity are in place. These foundations include organizations and institutions that can coordinate local economic development efforts, as well as land and other economic infrastructure required to make Ventura an attractive business location.

This organizational infrastructure is evolving in Ventura. Business groups such as the Chamber of Commerce and the Ventura County Economic Development Association (a countywide group) are already active, but a wider network is needed to assemble the resources and capacity of entrepreneurs, venture capitalists, educators, and other stakeholders in building a healthy business climate. Greater synergy is needed among the area’s higher education institutions – including California State University Channel Islands, Ventura College, Brooks Institute, and satellite campuses of other colleges and universities.

Appropriate and sufficient land will also be necessary to ensure continued economic prosperity over the next 20 years, even as we seek to protect open space and combat sprawl. Demand for land to support retail and office development is likely to outstrip current supply unless allowable building intensities are significantly increased. While some increased density is likely, and some older industrial land may be recycled for new business uses, the City must take care to reserve sufficient land for these purposes – especially in an environment where short-term pressure is likely to encourage conversion of land to commuter housing.

Thus, the strategy for community prosperity must be coordinated with area-specific planning efforts, especially on the Westside (where industrial land is likely to be recycled), Downtown (which must stress office, studio, and retail business growth as well as an emerging residential component), and in the 101 Corridor between Mills Road and

Johnson Drive (where most of the city's business activity now takes place). The City will advance on a set of defined focused areas:

Auto Center – efforts over the short term will focus on making the area a regional retail destination. The City will strengthen its partnership with Auto Center dealers to realize beautification projects and facilitate land use entitlements for additional dealerships.

McGrath Property – the 76-acre site provides Ventura with the very best opportunity to attract new industry with high-value, high-wage jobs. The City and property owners will work on securing project entitlement approvals and recruiting desired tenants. The objective is to attract targeted industries and provide the impetus for initial site development over the short-term.

Westside – the feasibility of establishing a redevelopment project area will be considered by the City and Westside citizens. Such legal designation would provide the resources needed to leverage and implement planned initiatives in various Westside plans. Brownfield reuse efforts will also continue to secure funding for much needed site assessment and remediation activities.

Upper North Avenue – the objective is to transform this area from an oilfield industrial area to a dynamic economic engine. Development efforts will address reuse of the former USA Petroleum site, including and evaluation of the

site's potential to emerge as a component of a campus expansion opportunity for Brooks Institute. Keys to this effort are site remediation, compatibility issues, and future annexation to the City.

Downtown – proposed initiatives include well defined design standards in the updated Downtown Specific Plan, enhanced efforts to market the Downtown Cultural District, formation of a downtown management entity, and attracting uses that create “around-the-clock” activity.

Anticipating Our Economic Future – Ventura's economic growth is built on a foundation of concerted efforts that fuel innovation, collaboration, and continuous learning. The focus will be on attracting high technology and knowledge-based businesses including biotechnology, non-durable manufacturing, and business and financial services. Continuous learning opportunities for job seekers, workers, and employers will acknowledge demographic pressures and rapidly changing skill needs. Through specific strategies, the community will develop leaders for tomorrow, and attract and retain new graduates and skilled employees. Critical players will include the Workforce Investment Board, Ventura College, California State Channel Islands, and the Brooks Institute.

The policies and actions in this chapter attempt to provide the means to support these targeted efforts to achieve a stable and balanced economic base.


Policy 2A: Establish a clear economic strategy.

Action 2.1: Track economic indicators for changes that may affect City land resources, tax base, or employment base, such as terms and conditions of sale or lease of available office, retail, and manufacturing space.


Action 2.2: Prepare an economic base analysis that identifies opportunities to capture retail sales in sectors where resident purchasing has leaked to other jurisdictions.

Action 2.3: Maintain and update an Economic Development Strategy to implement City economic goals and objectives.

Policy 2B: Make the local economic climate more supportive of businesses investment.

Action 2.4: Map priority locations for commercial and industrial development and revitalization, including a range of parcel sizes targeted for high-technology, non-durables manufacturing, finance, business services, tourism, and retail uses. 

Action 2.5: Share economic and demographic information with organizations that may refer businesses to Ventura.

Action 2.6: Encourage intensification and diversification of uses and properties in districts, corridors, and neighborhood centers, including through assembly of vacant and underutilized parcels. 


Action 2.7: Partner with local commerce groups to recruit companies and pursue funding for business development and land re-utilization.

Action 2.8: Carry out Housing Element programs that provide housing to all segments of the local workforce.

Action 2.9: Expedite review for childcare facilities that will provide support to local employees.


Policy 2C: Encourage niche industries.

Action 2.10: Expedite review of the entitlement process for installation of infrastructure necessary to support high technology and multimedia companies.


Action 2.11: Allow mixed-use development in commercial and industrial districts as appropriate. 


Action 2.12: Allow uses such as conference centers with resort amenities on appropriately sized and located parcels. 


Action 2.13: Market the city to businesses that link agriculture with high technology, such as biotechnology enterprises.


Action 2.14: Partner with local farms to promote farmers markets and high quality locally grown food. 


Policy 2D: Expand tourism opportunities.


Action 2.15: Provide incentives for use of waterfront parcels for recreation, visitor-serving commerce, restaurant, marina, and fishing uses. 

Action 2.16: Work with the State to create year-round commercial opportunities at the fairgrounds. 

Action 2.17: Partner with the Harbor District and National Park Service to promote Channel Islands tours and develop a marine learning center. 

Action 2.18: Prioritize uses within the Harbor master plan area as follows: (1) coastal dependent, (2) commercial fishing, (3) coastal access, and (4) visitor serving commercial and recreational uses. 

Action 2.19: Partner with hotels and the Chamber of Commerce to promote city golf courses. 

Action 2.20: Promote outdoor recreation as part of an enhanced visitor opportunities strategy. 



"Communities should be designed to serve the cycle of the day and the cycle of the lifetime."

— Andres Duany
Architect & Town Planner

3. OUR WELL PLANNED & DESIGNED COMMUNITY

Our goal is to protect our hillsides, farmlands and open spaces; enhance Ventura's historic and cultural resources; respect our diverse neighborhoods; reinvest in older areas of our community; and make great places by insisting on the highest standards of quality in architecture, landscaping and urban design.

Our City

Ventura is a unique coastal community, proud of our heritage and dedicated to being a national model for effectively managing growth to protect our natural environment and continue to be a great place for us to live.

It is our public responsibility to plan and shape the physical realm to achieve these goals. Past policies, particularly the 1989 Comprehensive Plan, reined in rapid outward suburban sprawl. The 1992 Downtown Specific Plan set the direction for revitalization of the historic heart of our community. Voter-approved measures clearly underscored a mandate to protect agricultural resources and open space, particularly in our hillsides.

Guided by the Ventura Vision of 2000, the centerpiece for this General Plan is creating a "well-planned and designed community." The policies build on the foundation of the past.

This plan also represents an historic commitment to *smart* growth:

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable communities
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development toward existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost effective
10. Encourage community and stakeholder collaboration in development decisions

Source: U.S. Environmental Protection Agency

Infill First

Ventura today is the product of decades of earlier growth and development. These patterns have largely established our community's character and will continue to do so in the future. The passage of SOAR, the Hillside Voter Protection Area, and other land-use constraints, along with natural boundaries, such as the ocean and the rivers, make it abundantly clear that before we expand outward any further, we must pursue an "Infill First" strategy. Such a strategy will help avoid sacrificing farmland and sensitive areas in our hillsides and along our rivers.

"Smart growth is about being good stewards of our communities and of our rural lands, parks, and forests. It is about ensuring that the best of the past is preserved, while creating new communities that are attractive, vital, and enduring."
--Michael Leavitt, EPA Administrator

Our “Infill First” strategy for Ventura means avoiding suburban sprawl by directing new development to vacant land in the City and Sphere of Influence (with the exception of SOAR land), and by focusing new public and private investment in carefully selected districts, corridors, and neighborhood centers where concentrated development and adaptive reuse will improve the standard of living and quality of life for the entire community.

Recognizing that the rate of future population growth is not subject to City control, this plan has been analyzed (in the accompanying Environmental Impact Report) on the basis of estimates of what new homes and other development might be expected to take place over the next twenty years (see Table 3-2). Looking at the rate of growth over the past decade and recognizing the challenges to “infill” development compared to “greenfield” expansion, a projection of roughly 8,300 additional housing units and approximately 5 million square feet of non-residential development has been used for the plan’s 20 year planning horizon. Table 3-2 provides estimates of the amount of development that could reasonably be expected to occur in the City and Sphere of Influence.

The actual distribution of future growth in the City may vary based on market forces and other factors. The districts, corridors, and neighborhood center areas, shown on Figure 3-1 Infill Areas, could accommodate more development and/or a different mix of

development than shown in Table 3-2. To demonstrate this, Table 3-1 shows the potential development based on the overall carrying capacity of the land.

Distribution of growth in the districts and corridors is based on the following general assumptions:

- Development in the Downtown and Harbor Districts will conform to the plans for those areas,
- The Downtown area and, to a lesser extent, the Ventura Avenue corridor will be the focus of future residential and commercial growth, and
- The Arundell, North Avenue, and Upper North Avenue areas will be the focus of future economic growth, potential expansion of the Brooks Institute, with some residential uses.

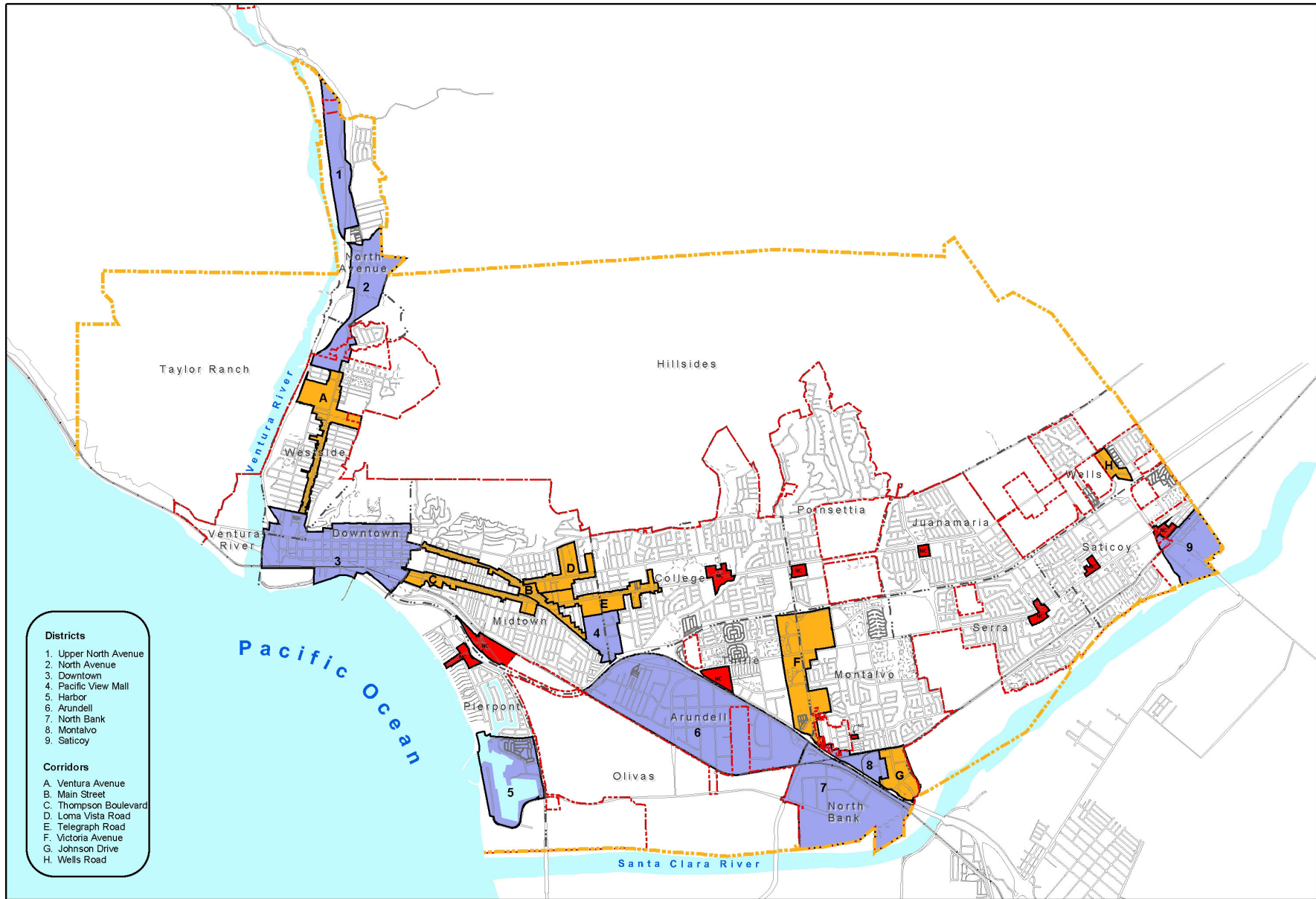
Table 3-1. Potential Development Based on Carrying Capacity of Land Area

Planning Designation	Allowed Density (du/acre)	Existing Development 2004					General Plan Capacity			
		Single Family Units	Multi Family Units	Comm./Ind. Sq. Ft.	Parcels	Acres	Vacant		Additional Potential ³	
							Parcels	Acres	Units	Sq. Ft.
Neighborhood Low	0-8	19,425	3,335	49,386	22,511	4,629	108	426	1,221	
Neighborhood Medium	9-20	1,163	8,965	149,513	4,414	1,061	32	116	4,859	
Neighborhood High	21-54	814	2,468	194,143	1,634	303	8	16	8,477	
Commerce ¹		257	490	4,995,248	1,366	808	95	108	7,892	22,328,276
Industry ²		29	31	8,299,840	1,037	1,401	89	392	4,724	34,215,483
Public & Institutional		4	0	54,422	66	571				
Park & Open Space		6	0	15,491	264	11,693				
Agriculture		4	0	19,550	154	6,857				
Downtown Specific Plan	21-54	332	1,543	1,795,401	1,174	307	45	20	2,500	450,000
Harbor District		0	310	350,160	10	254	1	21	300	876,100
Total		22,034	17,142	15,923,154	32,630	27,884	378	1099	29,910	57,869,859

1. Commerce residential unit capacity is for property within a Corridor, District, or Neighborhood Center and assumes buildout to the maximum FAR and that 25% of floor area would be commercial (with the remainder residential).
 2. Industry residential unit capacity is for property within a Corridor, District, or Neighborhood Center and assumes buildout to the maximum FAR and that 75% of floor area would be industrial (with the remainder residential).
 3. "Additional Potential" assumes a historic buildout rate of 70% for both residential and non-residential.

CHAPTER 3

Table 3-2. Predicted Development Intensity & Pattern	Residential Development (units)	Non-Residential Development (square feet)				
		Retail	Office	Industrial	Hotel	Total
DISTRICTS						
Upper North Avenue	100	10,000	50,000	150,000	-	210,000
North Avenue	50	10,000	50,000	250,000	-	310,000
Downtown Specific Plan	1,600	100,000	200,000	-	150,000	450,000
Pacific View Mall	25	25,000	-	-	-	25,000
Harbor	300	315,000	-	-	230,000	545,000
Arundell	200	25,000	300,000	1,000,000	-	1,325,000
North Bank	50	300,000	50,000	300,000	-	650,000
Montalvo	50	-	50,000	25,000	-	75,000
Saticoy	50	-	-	25,000	-	25,000
Subtotals (Districts)	2,425	785,000	700,000	1,750,000	380,000	3,615,000
CORRIDORS						
Ventura Avenue	800	40,000	100,000	50,000	-	190,000
Main Street	100	15,000	40,000	-	-	55,000
Thompson Boulevard	300	15,000	40,000	-	-	55,000
Loma Vista Road	25	15,000	40,000	-	-	55,000
Telegraph Road	250	15,000	40,000	-	-	55,000
Victoria Avenue	50	15,000	40,000	-	-	55,000
Johnson Drive	150	50,000	20,000	-	-	70,000
Wells Road	50	15,000	20,000	-	-	35,000
Subtotals (Corridors)	1,725	180,000	340,000	50,000	0	570,000
SPHERE OF INFLUENCE (SOI)/OTHER INFILL/NEIGHBORHOOD CENTERS						
101/126 Agriculture	200	-	-	-	-	-
Wells/Saticoy	1,050	-	-	-	-	-
Pierpont	100	30,000	-	-	-	30,000
Other Neighborhood Centers	100	-	-	-	-	-
Second Units	300	-	-	-	-	-
Underutilized	250	-	-	-	-	-
Vacant	450	165,000	50,000	-	-	215,000
Subtotals (Other Infill)	2,450	195,000	50,000	0	0	245,000
TOTAL INFILL	6,600	1,160,000	1,090,000	1,800,000	380,000	4,430,000
PLANNED AND PENDING DEVELOPMENTS						
Downtown	50	1,072	-	-	150,000	151,072
Ventura Avenue/Westside	238	7,086	-	27,000	-	34,086
Midtown	34	13,751	-	-	-	13,751
College (Telegraph/Loma Vista)	4	2,718	8,843	-	-	11,567
Telephone Road Corridor	256	-	54,785	-	-	54,785
Montalvo/Victoria	296	-	4,300	-	-	4,300
Saticoy/East End	840	7,950	5,600	-	-	13,550
Arundell	-	41,640	42,614	18,080	-	102,334
Olivas	-	7,160	7,066	390,053	-	404,279
Subtotals (Planned/Pending)	1,718	81,377	123,214	435,133	150,000	789,724
TOTAL (Infill+SOI/Other+Pending)	8,318	1,241,377	1,213,214	2,235,133	530,000	5,219,724



SOURCE: City of Ventura

Figure 3-1
Infill Areas

Footnotes for Table 3-2:

Growth estimates for the Arundell community consider the likely development of the 75-acre McGrath property with a mix of uses and development of other vacant lands. Growth estimates for the North Bank area consider the possibility of a large retailer in that area. Estimates of growth in the SOI/Other Infill sites are based on the following general assumptions: (a) 101/126 Orchard site will develop similarly to a project recently proposed for that site; (b) Wells/Saticoy sites will develop in accordance with ongoing planning efforts for those areas; (c) the Pierpont area will develop generally in accordance with a conceptual project recently considered by the City; (d) Second Units will be added at a rate of 15/year; (e) roughly half of underutilized lands identified in the Housing Element will be re-developed over the next 20 years; (f) all vacant lands outside the districts and corridors will be developed in accordance with the proposed planning designations. Planned and Pending Developments based upon the City's 2004 Pending Projects list. Building areas do not include self storage facilities.

The following potential projects not included in the 2004 Planned and Pending Developments list have been included in the future development totals: (1) 150,000 square feet of industrial development in the North Bank area; (2) 165,000 square feet of retail development along Wells Road in the Saticoy area; (3) 50,000 square feet of office development on a 3.5-acre site along Ralston Drive. The Auto Center industrial project is included in the North Bank district; the other two projects are included in the "vacant" category. The square footage associated with these projects has been added to the projections of future growth to provide a conservative analysis of possible future impacts.

Together Table 3-2 and Figure 3-1, Infill Areas, offer a sense of how much growth Ventura might experience by 2025, and a picture of where such change is likely to occur. Precisely how and when development happens and what resources are conserved will be determined by the actions presented in the ten chapters of the *General Plan*, and by the specific land development standards. This plan is one of many tools the City will use to control where and how any future development takes place.

21st Century Tool Kit

The City has a wide array of tools at its disposal to achieve our “Infill First” strategy in ways that respect Ventura’s heritage and result in beautiful buildings, blocks, streetscapes, and public places that enhance and enrich quality of life for the entire community. Shaping the City’s physical form in the 21st Century will be achieved most effectively and aesthetically by combining Planning Designations with a transect-based approach, and with a new form-based Development Code. Together these can strongly influence the design and functioning of Ventura’s distinct and unique neighborhoods, districts, and corridors.

The policies and actions in this chapter seek to enrich Ventura’s urban fabric through appropriate design that showcases the attractive features of neighborhoods, districts, and corridors. To promote high-quality infill, the policies and actions encourage neighborhood centers, pedestrian access, established and desirable building types, and dynamic, neighborhood-serving nodes of mixed-use development along primary streets and corridors. This chapter specifically calls for detailed attention to community design through a form-based approach.

Neighborhoods: The Basic Building Blocks of Community

Like any great city, Ventura has grown around the basic unit of the neighborhood. A true neighborhood is not a subdivision of similar

houses disconnected from surrounding places. Instead it is an identifiable area containing a neighborhood center with a pedestrian-friendly mix of uses and a palette of housing types for people in all stages of their lives. Neighborhoods are often defined by a quarter-mile “pedestrian shed” (see Figure 3-2), in which most residents’ daily needs can be met within a five-minute walk. The organic nature of neighborhoods and their interdependency is what makes them viable for generations. Neighborhoods are not static places that resist change, but rather evolve naturally through periods of transformation to accommodate new residents’ needs and desires.

“In a neighborhood, everything that is needed is there and everything that is there is needed.”
- Anonymous



SOURCE: City of Ventura, Created for the Midtown Ventura Design Charette, March 2005

Figure 3-2

Pedestrian Shed, Theoretical versus Actual



Northeast corner
of Five Points



Theoretical 5 minute walk
(1/4 mile)



Actual 5 minute walk
(1/4 mile)



Theoretical 10 minute walk
(1/2 mile)



Actual 10 minute walk
(1/2 mile)

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

The City is rich in a variety of neighborhoods, most of which are within one of Ventura's distinct communities. A total of 17 communities were identified in the 1989 Comprehensive Plan and have been carried forward, with some modifications to allow for a more detailed approach to describe Ventura's geography. Figure 3-3 illustrates 19 distinct communities, some of which are composed of a group of neighborhoods, each boasting their own unique attractions and potential. The oldest settled area is nearest the ocean, with newer areas found eastward, with the exception of Saticoy. Some of Ventura's communities have neighborhood centers established around parks, community gathering places, or civic buildings, and contain or are near services they share with surrounding areas, such as schools, libraries, post offices, and specialty shopping.

Ventura also has residential subdivisions and commercial and industrial districts that could evolve into true neighborhoods. A long-term strategy should be developed to gradually transform these areas that do not yet follow the neighborhood pattern. Existing subdivisions could be linked by pedestrian routes to new small-scale retail and service centers. Congested commercial areas could be redesigned as mixed-use centers on a grid of streets with walkable blocks that connect with surrounding neighborhoods and central plazas. These streets could be lined with buildings containing upper level housing and lower level commercial, office, and civic spaces that hide internal parking structures. Industrial sites that are fast converting

to light industry, high tech manufacturing, and assembly could become factory villages with green space, multiple types of housing, small-scale retail to serve workers, and spin-off businesses.

Ventura's 19 communities (Figure 3-3) can each be enriched by using the *transect* (see discussion page 3-10) as a lens to understanding the ways in which it functions and by applying form-based development controls to respect and enhance its character to ensure that, where appropriate, each community provides one, if not more, walkable neighborhoods.



SOURCE: City of Ventura
 --- City Limits
 --- Planning Communities

Figure 3-3
 Planning Communities

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

Taylor Ranch

This area is essentially undeveloped, with agriculture as the primary activity. Taylor Ranch is within the City's Planning Area, including a portion within the Coastal Zone Boundary.

Ventura River

This area includes the Ventura River Basin, is within the Coastal Zone Boundary, and with Emma Wood State Beach Park, its major activity is recreation offering day use and overnight camping. Opportunities exist for passive recreation and nature study.

Hillside Open Space

Within the City's Planning Area, is undeveloped, and designated Open Space. Plant communities include chaparral, riparian willow forest, and oak woodland. This area has tremendous potential for passive recreation including scenic trails with panoramic views. This area is coterminous with the Hillside Voter Participation Area or "HVPA" (see Chapter 1 and Appendix C).

North Avenue

Within the City's Planning Area. Historically, largely oilfield industrial. Includes both the Upper North Avenue and North Avenue districts, and is home to the Brooks Institute, which is world renown for its professional photographic and motion picture education. Opportunities exist to strengthen the economy of this area and provide for the expansion of the Brooks Institute into a campus-village including spin-off businesses with a mix of housing types and transit options for all ages.

Westside

Includes the Ventura Avenue corridor and is home to several neighborhood centers that are surrounded by well-connected neighborhood blocks. Opportunities exist to realize the potential of neighborhood improvements initiated in ongoing and past grassroots efforts, such as the Westside Revitalization Plan. This community includes "Hillside Areas" (see definition in Attachment A), which are subject to the Hillside Management Program that provides necessary development criteria in order to retain the natural qualities and minimize potential hazards.

Downtown

The area is regulated by the Downtown Specific Plan. This community is both an urban core with opportunity to grow economically stronger, and the historic center of the City. Civic uses include City Hall, Seaside Park, Grant Park, the Ventura County Museum, San Buenaventura Mission, and is home to a number of historic sites and landmarks. Additional opportunity to enhance the area's already strong cultural climate, including art, cookery, music, performance, and entertainment. Tremendous potential to create "around-the-clock activity" leading to increased vitality. This community includes "Hillside Areas".

Midtown

Includes the Main, Thompson, and Loma Vista corridors, a portion of the Telegraph corridor, as well as the Seaward/Alessandro neighborhood center. Home to the Pacific View Mall, the City's Bus Transfer Center, Ventura High School. Blanche Reynolds Park, Ocean Avenue Park,

and Memorial Park. Includes a small amount of agriculture. Opportunities exist to realize potential improvements initiated in ongoing and past grassroots efforts, such as Midtown by Design, and more recently the Midtown Urban Design Charrette. This community includes “Hillside Areas”.

Pierpont

Within the Coastal Zone Boundary, a unique-beach oriented predominantly residential community, with high-quality beachfront homes. Includes the Harbor district and the Pierpont neighborhood center. Home to the Ventura Harbor, Seaward Elementary School, a mobile home park, and Marina Park. Currently offers highway retail such as motels, hotels, and fast food, but opportunity exists to offer residents and visitors with more attractive and improved neighborhood and coastal oriented services and to develop a specific plan for the Harbor district.

College

Includes a portion of the Telegraph corridor, and the College/Day neighborhood center. Major civic uses are Arroyo Verde and Camino Real Park, Ventura Community College and Buena High School. This community includes “Hillside Areas”.

Thille

Includes the Gateway neighborhood center and shares the Victoria corridor with Montalvo to the east. Contains mix of housing types built mostly between 1960 and 1980, with some newer development in the 1990’s and early 2000’s. Its

primary civic use is the County Square Linear Park

Arundell

This community contains the main industrial and warehouse district of Ventura, but also has mixed-use areas with retail, restaurants, and offices within walking distance of many workers. Callens Road, the historic center of this community, has great potential to expand and increase the mix of uses it contains, including residential. A significant vacant parcel, the 75-acre McGrath property, offers great economic opportunity to attract new industry that provides high value, high wage jobs to the City.

Olivas

Predominantly agricultural. Its major civic use is the Olivas Park Golf Course and is home to the Olivas Adobe. Contains some commercial and industrial.

North Bank

This community contains a portion regulated by the Auto Center Specific Plan. Its major civic use the Buenaventura Golf Course. Predominantly industrial, with some agriculture. Opportunity to enhance the area as a regional retail destination, while providing workforce serving retail uses.

Poinsettia

Includes the Victoria Plaza neighborhood center. Its primary civic uses include elementary and middle schools. Predominantly residential, with some housing in the Hillside Area, and a significant amount of agricultural operations.

Montalvo

Includes the Johnson Drive corridor, Bristol neighborhood center, and shares the Victoria corridor with Thille to the west. Its major civic use is the County Government Center (equal size to 12 downtown blocks), but also the Rancho Ventura Linear Park and the Barranca Vista Park. Contains mix of housing types and is home to the Metrolink Station.

and a mix of housing types at various intensities. Its major civic uses are the Fritz Huntsinger Youth Sports Complex, Saticoy Regional Golf Course and the Saticoy neighborhood park.

Serra

Includes the Telephone/Petit neighborhood center, and is home to the City's newest civic use – the Community Park, set to open Fall 2005. Also includes the Chumash Park, Junipero Serra Park, North Bank Linear Park, and Bristol Bay Linear Park. Contains a significant amount of agricultural land.

Juanamaria

Includes the Kimball/Telegraph neighborhood center. Primary civic use is Hobert Park; this community contains some agricultural land.

Wells

Includes the Wells corridor. The Brown Barranca runs through the northerly portion of this area. Contains agricultural land.

Saticoy

Includes the Telephone/Cachuma and Saticoy neighborhood centers and the Saticoy district. Developed originally as a rural town in the late 1800s, Saticoy has the full range of transect characteristics: from the Santa Clara river and the rural eastern edge, to its neighborhood centers,

Planning Designations and Transect Zones

Land in the City's Planning Area is divided into eight basic Planning Designations on the General Plan Diagram (page 3-22). Each acknowledges a particular predominant development pattern that exhibits certain desirable characteristics, such as building types and functions that can be measured and described.

The wide range of building forms in Ventura offers great potential for compatible infill and viable mixed-use projects in existing neighborhoods, districts, corridors, and neighborhood centers. The wealth of building types includes attached and detached housing, duplexes, courtyard bungalows, second units (often over garages), lofts (some live-work), urban villas, neighborhood shopfronts, concentrated retail developments, and civic buildings. Public buildings retain special importance by serving as prominent landmarks that shape the visual character of the city.

Streetscapes set the tone for quality of life in Ventura by providing the shared outdoor living space of the community. Although the city's distinct neighborhoods, commercial and industrial districts, and agricultural areas are linked by corridors that have evolved primarily to accommodate motor vehicles, opportunities abound to make those streets more livable and to focus activities in neighborhood centers that emphasize walking, biking, and public gathering, and thereby ease traffic and reinforce community vitality. Accordingly, new development needs to

be high quality, compact, and walkable, and it should incorporate design diversity that increases lifestyle choices and bolsters commerce and industry.

Determining which building types are most appropriate in specific locations requires shifting away from conventional zoning that emphasizes use toward a form-based approach that prioritizes function, appearance, and compatibility with surrounding context. A powerful tool for understanding this context is the *Transect*, which depicts the continuum from rural to urban conditions (see Figure 3-4).

The transect is a tool that can be used by the community to understand and describe the full range of unique environmental and built characteristics within each of Ventura's neighborhoods. Using the six parenthetical transect zones to better understand the broad Planning Designations of the General Plan Diagram, a finer-grained (site specific) set of development standards can be created to ensure that new development is in keeping with local preferences for building.

This new Development Code will better accommodate the diversity of lifestyles Ventura desires – from the *rural* farm to the *sub-urban* house and yard to the *urban core* with apartments above shops – and will contribute to the identity and character desired by the community. Common elements that the transect will help measure and describe, and that the Development Code will prescribe, include the types and

arrangements of buildings, their “intensity” of lot coverage, height and mass, the details of streets, public and private frontages and the requirements for and character of open spaces. In general it will prescribe individual neighborhood preferences for urban design and building characteristics, including standards.

In many cases, area specific codes, applying the Planning Designations including districts, corridors, and neighborhood centers, will be developed as part of community or specific plans that establish a detailed strategy for public and private investment and policies to promote the appropriate preservation and development of community desired character.

The following descriptions of the Planning Designations include a parenthetical reference to the transect zones they encompass that will be used as guidance in interpreting the planning designations while drafting detailed plans and codes:

"A **transect** is a geographical cross-section of a region used to reveal a sequence of environments. For human environments, this cross-section can be used to identify a set of habitats that vary by their level and intensity of urban character, a continuum that ranges from rural to urban. In transect planning, this range of environments is the basis for organizing the components of the built world: building, lot, land use, street, and all of the other physical elements of the human habitat."
 --SmartCode, Volume 6.5, 2005

"All architecture should be beautiful. All towns should be beautiful. Beauty nurtures the soul and the spirit. It makes life worth living."
 -Camillo Sitte

- **Neighborhood Low – (T3 Sub-Urban and T4 General Urban)**
 emphasizes detached houses with some attached units in a small mix of building types from 0 up to 8 dwelling units per acre. Predominantly residential, with opportunity for limited home occupation and neighborhood services sensitively located along corridors and at intersections.
- **Neighborhood Medium – (T3 Sub-Urban, T4 General Urban and T5 Urban Center)**
 anticipates a mixture of detached and attached dwellings and higher building types at approximately 9 to 20 dwelling units per acre. Predominantly residential with small scale commercial at key locations, primarily at intersections and adjacent to corridors.
- **Neighborhood High – (T3 Sub-Urban through T6 Urban Core)**
 accommodates a broader mix of building types, primarily attached, from 21 to 54 dwelling units per acre; A mix of residential, commercial, office, and entertainment that includes mixed-use buildings.
- **Commerce – (T4 General Urban through T6 Urban Core, neighborhood center downtown, regional center, town center or village center)**
 encourages a wide range of building types of anywhere from two to six stories (depending on neighborhood characteristics) that house a mix of functions, including commercial, entertainment, office and housing.
- **Industry – (T2 Rural through T6 Urban Core)**
 encourages intensive manufacturing,

processing, warehousing and similar uses, as well as light, clean industries and support offices; also encourages workplace-serving retail functions and work-live residences where such secondary functions would complement and be compatible with industrial uses. Primarily large-scale buildings. Also can be developed as Transit Oriented Development, employment center or working village with a mix of uses.

- **Public and Institutional – (T1 Preserve through T6 Urban Core)**
 accommodates civic functions such as government offices, hospitals, libraries, schools and public green space.
- **Agriculture – (T2 Rural)**
 predominantly commercial cultivation of food and plants and raising of animals.
Pursuant to SOAR: The Agricultural use (not to be considered until after the Year 2030) category identifies those lands that are designated for agricultural use on the General Plan Diagram. The target date of 2030 associated with the Agricultural Use designation indicates a review date after which agriculturally designated lands may be reconsidered for urban uses. However, during the life of this Plan as amended by initiative, it is intended that only agricultural uses are permitted on these lands, except as such lands may be appropriate to public open space and recreational usage. Furthermore, any updates to this Plan are not intended to imply that development would necessarily be appropriate at that time.
- **Parks and Open Space – (T1 Preserve through T6 Urban Core)**
 designate lands to public recreation and leisure and visual resources, and can range from neighborhood tot lots and pocket parks to urban squares and plazas and playgrounds to large regional parks and natural preserves.

The General Plan Diagram (page 3-22) also depicts the Downtown, Auto Center, and Saticoy Village Specific Plan areas, which are subject to detailed standards for form and use. In addition, the Diagram identifies Districts, Corridors, and Neighborhood Centers – where the development of housing alongside commercial uses is specifically encouraged. These Districts, Corridors, and Neighborhood Centers make up the growth priority areas as the City’s “Infill First” strategy (See Figure 3-1 Infill Areas).

Districts, Corridors, and Neighborhood Centers

One of the primary objectives for infill in Ventura is to produce mixed-use development that places most people’s daily needs within walking distance of their dwellings. This may include encouraging “flex space” where a single building functions as both living and working area for the owner, combining housing and commercial uses in the same structures, or sensitively integrating small-scale retail, service, and entertainment within convenient distance of residential areas. Mixed-use places inherently reduce automobile trips and improve the pedestrian experience, resulting in safer neighborhoods, healthier citizens, and better access to everyday needs. The City’s corridors and districts already encompass significant mixed-use development. Opportunities exist to augment those areas in ways that complement and enhance existing urban form and streetscapes to better serve Ventura’s residents.

Districts

Districts consist of streets or areas emphasizing specific types of activities and exhibiting distinct characteristics. A neighborhood or parts of neighborhoods can form a district. A thoroughfare may also be a district, such as when a major shopping avenue runs between adjoining neighborhoods. The following nine districts are depicted on the General Plan Diagram:

1. Upper North Avenue – home to a mix of industrial uses, including an abandoned oil refinery and Brooks Institute. Tremendous opportunities exist for the remediation and reuse of the former USA Petroleum site, as well as for the expansion of the Brooks Institute as a campus village, surrounded by a green edge to define the upper limits of Ventura.
2. North Avenue – an area with oilfield, industrial, and residential development, which has potential to fully develop into a more balanced mix of building types and uses with unique character, to serve as a major neighborhood anchor for northwest Ventura.
3. Downtown – the most intensely developed area of the city and its urban core. The Downtown Specific Plan regulates this area. Proposed initiatives include well-defined design standards via the Downtown Specific Plan update; enhanced efforts to market the Downtown Cultural District; formation of a

downtown management entity; and attracting uses that create “around-the-clock” activity.

4. Pacific View Mall – an enclosed shopping center and adjacent commercial uses. Large expanses of surface parking paired with significant building mass offer opportunity for the reintroduction of the block pattern and a reinvention of single-use retail into a much more sustainable mix of high intensity uses.
5. Harbor – an area with visitor serving uses, marine facilities, boating and commercial and recreational fishing activities, as well mixed-use places. A specific plan (based on the draft Harbor Master Plan) is being prepared for the Harbor District that will ensure a mix of uses, including residential, and highly defined public frontages and shared civic space for increased accessibility to ocean-front amenities.
6. Arundell – is currently an industrial center with a mix of small-scale industrial uses, business park development, and limited retail services. The McGrath Property – is a 76-acre site of undeveloped land that could provide the catalyst for Ventura’s redefinition of 21st Century light industry, manufacturing, research and development, and technological innovation. It is centrally located in the Arundell area, which is ripe for redevelopment into a new form of community plan and building that incorporates large-scale employment, workforce housing and neighborhood commercial in an economically diverse setting.
7. North Bank – a combination of automobile retail, regulated by the Auto Center Specific Plan, and industrial/business park uses. Auto Center – efforts over the short term will focus on making the area a regional retail destination. The City will strengthen its partnership with Auto Center dealers to realize beautification projects and facilitate land use entitlements for additional dealerships, as well as nurture creative partnerships to discover potential for unique attractions of regional interest.
8. Montalvo – an area of industrial and heavier commercial uses, and currently home to the Metrolink Station. Because of the strategic location of this area between east and west Ventura and its transportation-rich infrastructure, it needs a strong plan for connectivity and a strategic mix of uses for evolution that is economically sustainable.
9. Saticoy – a mix of homes, older industrial and agricultural operations, and the planned site for the County maintenance yard. The Saticoy Village Specific Plan governs a small portion of this area. A larger effort should ensure Saticoy’s seamless connection with adjacent areas, including a greenspace and circulation plan.

Corridors

Corridors, which can be natural or urban, often form boundaries, as well as connections, between neighborhoods and/or districts. Natural corridors can be those such as streams, barrancas, canyons, or green parkways. Urban corridors can be transportation thoroughfares that frequently encompass major access routes, especially ones with commercial destinations, including transit routes and rail lines. The following eight urban corridors are depicted on the General Plan Diagram. Each has the potential to evolve into a vibrant mixed-use City street with a distinct character borrowed from the neighborhoods that share it:

- A. Ventura Avenue – a mix of older, small-scale commercial, industrial, and residential uses, with potential to grow even more vibrant by building on existing strengths, including its historic role as a major “working center.” Using the warehouse model and diversity of building materials as a cue, “The Avenue” could harness cultural expression and become an eclectic center for the emerging arts and manufacturing crafts.
- B. Main Street – currently a commerce-oriented area with a limited amount of mixed use development, this corridor displays the broadest range of architectural types and styles in the city, as well as the widest spectrum of transect characteristics. It has the most potential for increased mixed use and housing with improved streetscape and pedestrian enhancement to slow traffic.
- C. Thompson Boulevard – a commercial thoroughfare in need of streetscape improvements and pedestrian amenities, this corridor is much like Main Street in that it boasts tremendous history as a “gateway to Ventura” and epitomizes a beach town character. It is a natural for a major transit or streetcar corridor, where nodes of mixed-use development and pedestrian and bike enhancement could support parallel neighborhoods and increase access to the ocean.
- D. Loma Vista Road – a mix of commercial and residential development at varying scales, with a high concentration of medical facilities, this is the ideal place for Ventura to focus on creating a concentration of medical and research-centered business, with a high intensity of workforce housing and services housed in large-scale mixed-use buildings of high-tech character and serviced by increased transit.
- E. Telegraph Road – a sub-urban-scale commercial area with some detached homes and multifamily buildings. The City’s bus transfer station is located along this corridor, creating the perfect opportunity for a multi-modal connection with an intense node of housing and employment. The streetscape could change character along its length, with a mixture of intensities of development.
- F. Victoria Avenue – currently a wide artery with high traffic volumes and shopping centers, Victoria needs effective traffic management

and pedestrian and streetscape improvements with strong attention to additional mobility options. Actions in this General Plan, along with the new Development Code, will call for revitalizing this corridor by redesigning the current array of single-use shopping centers and retail parcels with a mix of building types, uses, and public and private frontages. By eliminating "big box", mega-block, auto-oriented strip development, and the traffic patterns it generates, Victoria Avenue could create tremendous opportunity for healthy economic investment in walkable blocks, connected to better serve surrounding neighborhoods. Creative solutions, including dedicating transit or streetcar lanes, wider sidewalks, and bike lanes could transform Victoria's image into a regional thoroughfare of great and sophisticated diversity. All new commercial development within the Victoria Avenue corridor must follow this approach.

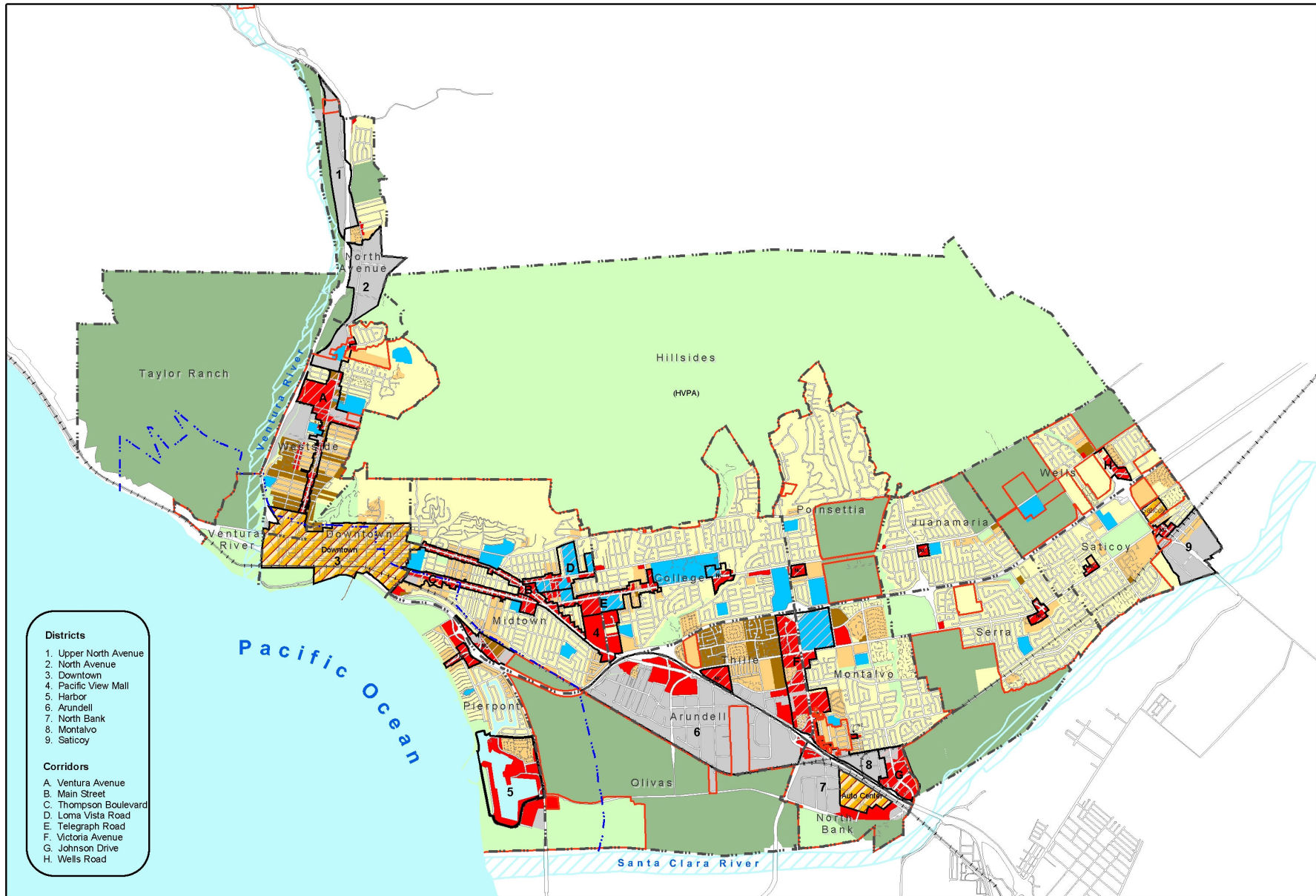
- G. Johnson Drive – a connector between eastern Ventura and Highway 101 with sub-urban scale retail. Opportunities exist for high-quality, mixed-uses (such as child-care, restaurants, offices, light industrial, and housing) with ground floor commercial space to strengthen its economic presence and provide a visual gateway.
- H. Wells Road – a mix of older industrial uses and newer sub-urban commercial and residential development. Well's Road should be returned to the neighborhoods it serves, so that new development can

emulate the country charm that existed prior to its widening. Traffic calming in appropriate locations would encourage neighborhood connectivity, and end the current trend toward walls and buildings that turn their back to the street. This would also encourage redevelopment of the old neighborhood centers.

Neighborhood Centers

Community evolves from individual conversations and the best places to grow community are in individual neighborhoods. Every neighborhood should have at least one center where people can meet by chance at a local coffee shop, market, bookstore, diner, or even hardware store. *Our Involved Community* needs places to gather to have meaningful conversations and share civic information. Ventura's existing neighborhood centers have the opportunity to become such places. The General Plan Diagram identifies 10 neighborhood centers – where the development of housing alongside commercial uses is specifically encouraged. These centers include:

- (1) Pierpont, (2) Seaward/Alessandro, (3) College/Day, (4) Gateway Plaza, (5) Victoria Plaza, (6) Bristol, (7) Kimball/Telegraph, (8) Petit/Telephone, (9) Telephone/Cachuma, and (10) Saticoy.



Note: Areas prone to flooding are shown on Figure 7-1 in Chapter 7.

Figure 3-5

GENERAL PLAN DIAGRAM

<p>Neighborhood</p> <ul style="list-style-type: none"> Low (up to 8 du/ac) Medium (9-20 du/ac) High (21-54 du/ac) 	<ul style="list-style-type: none"> Commerce Industry Public and Institutional 	<ul style="list-style-type: none"> Agriculture Parks and Open Space Specific Plan Area 	<ul style="list-style-type: none"> Corridors, Neighborhood Centers (NC) Districts 	<ul style="list-style-type: none"> City Limits Planning Communities California Coastal Zone Boundary
---	---	--	--	---

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

Special Topics

Agricultural Lands

During the 20th Century, the value of agricultural land in Ventura became secondary to that for development. However, this pattern is not irreversible, and protecting green land to save the aesthetic beauty of open space, preserve the cultural landscape of the community's heritage, and conserve land for environmental quality are high priorities in Ventura. In fact, the land's historic role for food production may soon be more highly valued once again, as prime agricultural areas continue to disappear to development at an astounding rate.

Ventura is fortunate to retain much of its rural landscape. Agriculture still plays an important role in the economy of the City and County of Ventura. Significant yields are made possible by the presence of high quality soils, adequate water supply, favorable climate, long growing season, and level topography. Mechanisms such as the California Land Conservation Act (more popularly known as the Williamson Act), the Save Our Agricultural Resources (SOAR) initiative (see Appendix B), and greenbelt agreements with neighboring jurisdictions continue to help maintain a balance between urban growth and agricultural preservation. The SOAR initiative that was adopted by the voters in 1995, and that, by its own terms, remains in full legal effect until 2030, refers to specific policies from the 1989 Comprehensive Plan that are still in effect and, as such, have been carried forward into this Plan under Policy 3D and Action 3.20 in addition to

being incorporated in this General Plan as set forth in Appendix B.

A primary agricultural concern is the potential conflict with adjacent urban uses over pesticides, dust, odors, noise, and the visual impact of large greenhouses. Other issues of importance to agricultural producers include restrictions on farm-related activities, access to water, and provision of farmworker housing. Paralleling these concerns is a community interest in sustainability, the ability to provide for the needs of future generations. The policies and actions in this chapter intend to sustain viable farm operations in areas designated for agricultural use.

Growth Management

Growth management seeks to preserve public good, improve social equity, and minimize adverse impacts of development while still accommodating new housing and business attraction. The effects of growth management policies on housing prices are complex due to the idiosyncrasies of local real estate markets. Properly designed, growth management programs can plan for all development needs, such as open space, access to public transportation, and walkable neighborhoods.

The City's Residential Growth Management Program (originally established in 1979 to ensure that housing development would not outpace needed infrastructure) has not always contributed to housing affordability or quality design. This General Plan calls for revising the Residential



Subsequent to the adoption of the **SOAR** initiative, there have been two general plan amendments, which redesignated individual agricultural properties through a vote of the electorate as required by SOAR. These remain in full legal effect and have been carried forward into this Plan. These include the new Community Park at Kimball Road and the southeast corner of Montgomery and Bristol (see Appendix E and F).

Growth Management Program with an integrated set of growth management tools. Such tools not only include the adoption of a new form-based Development Code, but also community or specific plans based on availability of infrastructure and resources.


Long Term Potential Expansion Strategy


Indeed, the community has indicated that before the City expands any further, the first priority for achieving planning goals should be in the vacant and underutilized areas of the City. Yet, even the most successful effort to achieve community planning goals through infill may need to be supplemented at some point by expanding into areas outside the city limits. Such expansion may not only be necessary to fulfill development objectives; it also may be needed to provide open space, parklands, and natural areas to be preserved and restored. To address this, citizens discussed during the preparation of this General Plan which areas, if any, should be possible expansion areas. These areas were identified because they embody opportunities for achieving a variety of community vision objectives that may not be feasible within existing city limits. The community further went on to agree upon a set of rules about how these areas should be planned. These areas were analyzed in the environmental impact report prepared for this General Plan, and a “long term potential expansion strategy” will be formulated to guide the process of prioritizing any potential future expansion areas to fulfill General Plan objectives that may not be able to be achieved by our “Infill First” approach. Should

any areas be selected for future planning, a specific plan, a public vote (if required pursuant to SOAR), and an amendment with the regulatory planning framework would have to occur.


The policies and actions in this chapter call for measured and appropriate growth in Ventura by prioritizing areas appropriate for additional development based on community values and infrastructure potential.


Policy 3A: Sustain and complement cherished community characteristics.


Action 3.1: Preserve the stock of existing homes by carrying out Housing Element programs. 

Action 3.2: Enhance the appearance of districts, corridors, and gateways (including views from highways) through controls on building placement, design elements, and signage. 

Action 3.3: Require preservation of public view sheds and solar access. 


Action: 3.4 Require all shoreline development (including anti-erosion or other protective structures) to provide public access to and along the coast, unless it would duplicate adequate access existing nearby, adversely affect agriculture, or be inconsistent with public safety, military security, or protection of fragile coastal resources. 


Action 3.5: Establish land development incentives to upgrade the appearance of poorly maintained or otherwise unattractive sites, and enforce existing land maintenance regulations. 


Action 3.6: Expand and maintain the City's urban forest and thoroughfare landscaping, using native species, in accordance with the City's Park and Development Guidelines and Irrigation and Landscape Guidelines. 


Action 3.7: Evaluate whether lot coverage standards should be changed based on neighborhood characteristics.

Policy 3B: Integrate uses in building forms that increase choice and encourage community vitality.

Action 3.8: Adopt new development code provisions that designate neighborhood centers, as depicted on the General Plan Diagram, for a mixture of residences and small-scale, local-serving businesses. 

Action 3.9: Adopt new development code provisions that designate areas within districts and corridors for mixed-use development that combines businesses with housing, and focuses on the redesign of single-use shopping centers and retils parcels into walkable, well connected blocks, with a mix of building types, uses, and public and private frontages. 

Action 3.10: Allow intensification of commercial areas through conversion of surface parking to building area under a district-wide parking management strategy in the Downtown Specific Plan. 

Action 3.11: Expand the downtown redevelopment area to include parcels around future transit areas and along freeway frontage. 

Action 3.12: The City will work with the hospitals on the new Development Code treatment for the Loma Vista corridor, which includes both hospitals.

Action 3.13: Assess whether the City's Affordable Housing Programs respond to current needs, and modify them as necessary within State mandated Housing Element updates.

Specific Plan Requirements

Specific Plans must include a statement of its relationship to the General Plan and specify all of the following:


1. distribution, location, and extent of uses
2. distribution, location, extent, and intensity of public and private transportation, sewage, water, drainage, solid waste disposal, energy
3. standards and criteria by which development will proceed and standards for conservation, development, and utilization of natural resources
4. program of implementation measures, including regulations, programs, public works projects, and financing
5. any other subjects that are necessary


(§65450-65452)


Policy 3C: Maximize use of land in the city before considering expansion.

Action 3.14: Utilize infill, to the extent possible, development to accommodate the targeted number and type of housing units described in the Housing Element.


Action 3.15: Adopt new development code provisions that ensure compliance with Housing Element objectives.

Action 3.16: Renew and modify greenbelt agreements as necessary to direct development to already urbanized areas. 

Action 3.17: Continue to support the Guidelines for Orderly Development as a means of implementing the General Plan, and encourage adherence to these Guidelines by all the cities, the County of Ventura, and the Local Agency Formation Commission (LAFCO); and work with other nearby cities and agencies to avoid urban sprawl and preserve the rural character in areas outside the urban edge. 


Action 3.18: Complete community or specific plans, subject to funding, for areas such as Westside, Midtown, Downtown, Wells, Saticoy, Pierpont, Harbor, Loma Vista/Medical District, Victoria Corridor, and others as appropriate. These plans will set clear development standards for public and private investments, foster neighborhood partnerships, and be updated as needed. 


Action 3.19: Preparation of the new Development Code will take into account existing or proposed

community or specific plans to ensure efficient use of City resources and ample citizen input. 


Policy 3D: Continue to preserve agricultural and other open space lands within the City's Planning Area.

Action 3.20: Pursuant to SOAR, adopt development code provisions to "preserve agricultural and open space lands as a desirable means of shaping the City's internal and external form and size, and of serving the needs of the residents.

Action 3.21: Adopt performance standards for non-farm activities in agricultural areas that protect and support farm operations, including requiring non-farm uses to provide all appropriate buffers as determined by the Agriculture Commissioner's Office. 


Action 3.22: Offer incentives for agricultural production operations to develop systems of raw product and product processing locally. 


Policy 3E: Ensure the appropriateness of urban form through modified development review.

Action 3.23: Develop and adopt a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation. 

Action 3.24: Revise the Residential Growth Management Program (RGMP) with an integrated set of growth management tools including:

- community or specific plans and development codes based on availability of infrastructure and transit that regulate community form and character by directing new residential development to appropriate locations and in ways that integrate with and enhance existing neighborhoods, districts and corridors;
- appropriate mechanisms to ensure that new residential development produces high-quality designs and a range of housing types across all income levels; and,
- numeric limitations linked to the implementation of community or specific plans and development codes and the availability of appropriate infrastructure and resources; within those limitations, the RGMP should provide greater flexibility for timing new residential development.

Action 3.25: Establish first priority growth areas to include the districts, corridors, and neighborhood centers as identified on the General Plan Diagram; and second priority areas to include vacant undeveloped land when a community plan has been prepared for such (within the City limits). 

Action 3.26: Establish and administer a system for the gradual growth of the City through identification of areas set aside for long-term preservation, for controlled growth, and for encouraged growth. 

Action 3.27: Require the use of techniques such as digital simulation and modeling to assist in project review.

Action 3.28: Revise the planning processes to be more user-friendly to both applicants and neighborhood residents in order to implement City policies more efficiently.

Policies and actions related to the preservation of **historic architecture and resources** are contained in Chapter 9.

2000-2006 HOUSING ELEMENT GOALS AND POLICIES, City Council Adopted Resolution 2004-014. Adopted April 12, 2004

Goal 1

Maintain and improve the quality of existing housing and residential neighborhoods in Ventura.

Policy 1.1 Encourage citizen involvement in addressing the maintenance and improvement of the housing stock and neighborhood quality.

Policy 1.2 Continue to preserve and maintain the City's historical and architecturally significant buildings and neighborhoods.

Policy 1.3 Encourage homeowners and landlords to maintain properties in sound condition through the City's residential rehabilitation assistance programs and code enforcement efforts.

Policy 1.4 Cooperate with housing providers in the acquisition, rehabilitation, and maintenance of older residential properties as long-term affordable housing.

Policy 1.5 Permit the conversion of apartments to condominiums only when such conversion would not

adversely affect the overall supply and availability of rental units, particularly units occupied by lower- and moderate-income households.

Policy 1.6 Continue to support the provision of rental assistance to lower-income households, and encourage property owners to list units with the Housing Authority.

Policy 1.7 Continue to preserve the affordability of mobile homes through the Rent Stabilization Ordinance. Support the acquisition and ownership of mobile home parks by non-profit housing providers and resident organizations.

Policy 1.8 Preserve the existing stock of affordable housing, including mobilehomes, through City regulations, as well as financial and other forms of assistance.

Goal 2

Facilitate the provision of a range of housing types to meet the diverse needs of the community.

Policy 2.1 Provide high quality housing for current and future residents with a diverse range of income levels.

- | | | | |
|-------------------|--|--------------------|--|
| Policy 2.2 | <p>Promote housing that is developed under modern sustainable community standards.</p> <p>Provide expanded housing opportunities for the City's workforce. Promote the City's affordable housing programs with employers in Ventura.</p> | Policy 2.6 | <p>Support a variety of housing types to address the needs of agricultural workers, including affordable rentals, mobilehome parks, single room occupancy hotels (SROs), and group housing for migrant laborers.</p> |
| Policy 2.3 | <p>Continue to offer and promote homeownership assistance programs to lower- and moderate-income households to purchase both new and existing housing. Pursue participation in other homeownership programs available in the private market.</p> | Policy 2.7 | <p>Facilitate the provision of housing to address Ventura's growing senior population, including senior housing with supportive services, assisted living facilities, and second units.</p> |
| Policy 2.4 | <p>Continue to provide financial and regulatory incentives to non-profits, private housing developers, and public agencies for the construction of the types of housing required to meet identified needs.</p> | Policy 2.8 | <p>Encourage the provision of housing adaptable to the physically disabled through integration of universal design features in new development, and compliance with Title 24 of the California Health and Safety Code.</p> |
| Policy 2.5 | <p>Support the provision of quality rental housing with three or more bedrooms to accommodate large families, and encourage room additions in the existing housing stock to address household overcrowding.</p> | Policy 2.9 | <p>Encourage the provision of supportive housing for persons with mental illness to address the severe shortage of housing for this special needs population.</p> |
| | | Policy 2.10 | <p>Support efforts by non-profits to expand transitional and emergency housing in Ventura, including support of grant applications and assistance in identification of suitable sites.</p> |

Policy 2.11 Evaluate adoption of an inclusionary housing ordinance as a means of integrating affordable units within new residential development: 1) Require affordable units to be provided on or off-site, with allowance for payment of an in-lieu fee at the discretion of the City; 2) Evaluate the financial impact of inclusionary requirements on development, and assess incentive-based alternative strategies for provision of affordable housing.

Policy 2.12 Facilitate the provision of second units as a means of providing affordable rental housing in existing neighborhoods. Ensure compatibility with the primary unit and surrounding neighborhood.

Policy 2.13 Encourage the production of housing that meets the needs of all economic segments, including lower, moderate, and above moderate-income households, to achieve a balanced community.

Policy 2.14 Promote and facilitate non-traditional housing types and options, including co-housing, assisted living facilities, live-work spaces, and artist lofts.

Policy 2.15 Direct City-controlled housing funds towards programs that address the needs of very low- and low-income households.

Policy 2.16 Prioritize affordable housing opportunities and assistance for public service employees.

Policy 2.17 Annually monitor the City's progress in meeting its housing needs for all income levels.

Goal 3

Provide adequate housing sites through appropriate land use and zoning designations to accommodate the City's share of the regional housing needs.

Policy 3.1 Maintain an up-to-date inventory of vacant and underutilized parcels and provide to interested developers in conjunction with information on available development incentives. Within redevelopment project areas, provide assistance in land assembly in support of affordable housing.

Policy 3.2 Implement smart growth principles by rewarding quality infill projects that utilize existing infrastructure.

Policy 3.3 Encourage efficient utilization of the City’s limited land resources by encouraging development at the upper end of the permitted Zoning Code/Comprehensive Plan density.

Policy 3.4 Utilize the Urban Infill Overlay Zone and Downtown Specific Plan as a tool to facilitate higher density residential and mixed-use development.

Policy 3.5 Explore residential reuse opportunities on obsolete commercial properties, such as older motels and underutilized historic structures.

Policy 3.6 Pursue use of publicly owned land, such as public parking lots, for development of affordable housing.

Policy 3.7 Identify opportunities for housing development that achieves other community goals such as neighborhood improvement, recreation opportunities, and the preservation of sensitive lands and neighborhood character.

Policy 3.8 Facilitate the development of mixed-use projects in appropriate commercial areas, including stand-alone residential developments

(horizontal mixed-use) and housing above ground floor commercial uses (vertical mixed-use).

Policy 3.9 Promote higher density housing as part of mixed-use developments along parts of Thompson Boulevard and Main Street in Midtown Ventura, as well as other areas such as Westside, Downtown and East Ventura.

Policy 3.10 Promote mixed-use developments on the Westside of Ventura.

Policy 3.11 Ensure that the updated Land Use Element designates adequate sites for housing for executives to enhance the City’s ability to attract businesses with higher paying jobs.

Goal 4

Mitigate or remove any potential governmental constraints to housing production and affordability.

Policy 4.1 Provide regulatory and/or financial incentives, where appropriate, to offset or reduce the costs of affordable housing development, including density bonuses and flexibility in site development standards.

Policy 4.2 Utilize the Affordable Housing Program to provide incentives for production of affordable units, including streamlined permit processing, reduced fees and exemption from the required competition for RGMP allocations.

Policy 4.3 Amend the City's Residential Growth Management Plan (RGMP) to better facilitate housing production, while discouraging sprawl and maintaining quality of life goals.

Policy 4.4 Undertake a comprehensive review of the City's residential development project review procedures and establish modified procedures as appropriate to streamline processing times, while maintaining adequate levels of public review.

Policy 4.5 Provide flexibility in development standards to accommodate new models and approaches to providing affordable housing, such as co-housing, live/work units and assisted living facilities.

Goal 5

Promote equal opportunity for all residents to reside in the housing of their choice.

Policy 5.1 Continue to enforce fair housing laws prohibiting arbitrary discrimination in the building, financing, selling or renting of housing on the basis of race, religion, family status, national origin, physical or mental disability, or other such factors.

Policy 5.2 Continue to support organizations that offer fair housing and mediation services to Ventura residents.

Policy 5.3 Promote housing that meets the special needs of large families, elderly persons, agricultural workers, and the disabled.

Policy 5.4 Continue to enforce notification and provide relocation assistance for lower-income persons displaced due to demolition, reuse, condominium conversion, or rehabilitation as a result of code enforcement.

OUR WELL PLANNED AND DESIGNED COMMUNITY



"Restore human legs as a means of travel.
Pedestrians rely on food for fuel and need no
special parking facilities."

— Lewis Mumford
Author of *The City in History*, 1961

4. OUR ACCESSIBLE COMMUNITY

Our goal is to provide residents with more transportation choices by strengthening and balancing bicycle, pedestrian and transit opportunities in the City and surrounding region.

An Integrated Mobility System

Central to the well-being of Ventura's citizens and visitors is *mobility*, the ability to get from one place to another. Mobility depends on the range, efficiency, and connectivity of the various components that comprise the transportation network – sidewalks, bicycle routes, and thoroughfares, as well as transit services – and that enable people to access the things they need, from the most basic to the extraordinary (See Figures 4-1 Bicycle Facilities, 4-2 Bus and Rail Routes, and 4-3 Roadway Classification Plan). Ventura is a community that recognizes that thoroughfares serve a variety of functions and are not simply conduits for automobile traffic.

Balancing automobile use with other means of travel is essential to maintaining social and physical health. Safe and enjoyable routes for pedestrians and bicyclists should connect every part of the city, and neighborhoods need to be linked by ample and convenient transit service along corridors. Ventura also must be connected to the larger region by a variety of transportation modes.

Thoroughfares have a tremendous effect on neighborhood character and therefore quality of life for both residents and visitors.

Thoroughfares are essentially the stage of public life where a diversity of citizens interact. They can create places of remembrance, chance encounters, and discovery. Ensuring that Ventura thoroughfares are *great places* requires improving design and quality as well as connectivity. In some cases, city thoroughfares are over-engineered to accommodate the worst-case scenario.

Slowing down automobiles, especially in residential neighborhoods, is a desire shared by many residents. Vehicle travel should be directed toward routes that minimize congestion, avoid conflicts with walkers and bicyclists, and keep residential neighborhoods free of excessive cut-through traffic. Additionally, in some areas of the city, suburban patterns have resulted in less connectivity than is desired by the community. Transportation modes and land uses in the city need to be distributed so that residents have close and easy access to meet their basic needs and travel destinations.

Traffic congestion is a major concern among Ventura residents. Although traffic on local roads is generally free-flowing, a few key intersections and road segments experience congestion during peak traffic hours. Simply widening roads to add lanes will not solve traffic congestion. Instead, the system needs integrated solutions that improve mobility for all

The essential qualities of a properly functioning mobility system are:

1. Well connected, interesting components
2. Convenient accessibility
3. Integrated linkage of all modes
4. Comfort and safety
5. Design reflecting natural and urban context

means of travel. While walking, biking, and transit use are already popular, these alternative modes need to be enhanced and better linked. For example, bus and rail systems serve Ventura, but not thoroughly enough to provide a reasonable alternative to auto use for most travelers. And while pedestrian access exists in most areas of Ventura, the network lacks continuous routes in some key locations.

As expressed in the *Ventura Vision*, a top community priority is to minimize automobile use through a fully integrated multi-modal transportation system. The policies and actions in this chapter aim to achieve this objective.

Travel Modes

Walking

Sidewalks are arguably the most important component of the city's mobility system. As with circulation in general, the utility of pedestrian systems is inextricably linked to land use patterns. Combined with urban design elements, land use patterns influence how much walking can safely and effectively occur in the community. Circulation systems that are designed with pedestrians in mind tend to increase outdoor activity and community interaction, while those oriented toward motor vehicles tend to create disincentives to walking.

Ventura's pedestrian system consists of sidewalks, access ramps, crosswalks, linear park paths, and overpasses and tunnels. Special corridors such as the Beachfront Promenade, California Plaza, and Figueroa Plaza have been designated especially for pedestrians. The pedestrian system also includes neighborhood and park path systems, and dedicated trail facilities that are shared with bicyclists and other users.

Pedestrian paths need to be interesting, enjoyable, and lead to a destination, from the most simple – such as a pocket park – to more grand points of arrival, such as major civic spaces. Creating a network of paths that connect key features such as parks, schools, civic facilities, shops, and services is vital to the success of reducing dependence on the

automobile. Those most in need of pedestrian access include children, teenagers, and the elderly, as well as those who cannot afford a car or choose not to drive.

The main deficiency of Ventura's pedestrian system is its discontinuity. Some sections of thoroughfares lack sidewalks, and pedestrian connections between some key use areas are in need of repair. Crosswalks are prohibited along some corridors, and pedestrian signal phases are not always long enough for all walkers. Traffic-calming measures also are needed to improve walkability in many neighborhoods. Citizens have placed a high emphasis on improving the pedestrian network, recommending specific improvements such as:

- narrowing selected thoroughfare segments,
- improving sidewalks and road crossings,
- lengthening pedestrian signal phases,
- adding marked crossings at key intersections,
- developing safe and attractive walkways from Downtown and Midtown to the beach,
- ensuring that new development provides ample pedestrian access,
- creating trails along watercourses and through the hillsides, and
- improving pedestrian facilities near schools.

Figure 4-1 illustrates the three State defined classes of bikeway facilities:

- Bike Path (Class I) – Class I bike paths are separated from roads by distance or barriers, and cross-traffic by motor vehicles is minimized.
- Bike Lane (Class II) – Class II bikeways are roadway lanes reserved for bicycles. These lanes are painted with pavement lines and markings and are signed.
- Bike Route (Class III) – Class III bike routes share existing roads and provide continuity to other bikeways or designated preferred routes through high traffic areas. There are no separate lanes, and bike routes are established by placing signs that direct cyclists and warn drivers of the presence of bicyclists.

Policies and actions in this chapter intend to improve pedestrian access through this range of methods.

Biking

Because bicycles are an integral component of the city’s mobility system, they are allowed on *all* city thoroughfares. The City has adopted a General Bikeway Plan intended to create a safe, accessible, and interconnected network of bike paths, lanes, and routes that will ensure Ventura becomes and remains a truly bicycle-friendly community. The General Bikeway Plan is a flexible, comprehensive, and long-range guide for bicycle transportation and recreation planning, design, and budget decision-making. Accordingly, it is designed to:

- refine and implement City bicycle-related policies,
- establish bikeway design standards,
- enhance bicycle safety and education programs,
- set priorities and phasing for improvements and amenities depicted on the Select System of Bikeways map, and
- identify funding means and opportunities for interagency cooperation.

The City places high emphasis on improving the local bicycle network by following the recommendations of the General Bikeway Plan, which include:

- connecting schools, parks, activity areas, housing areas, and employment centers with bike paths and lanes, particularly in areas without thoroughfares,
- constructing additional Class I or Class II bikeways in a number of locations, including along the Santa Clara River and the coast to connect to the Ventura River Trail,
- installing bicycle racks,
- updating bicycle facility standards to ensure proper design and maintenance,
- constructing improvements to resolve bicycle/automobile conflicts,
- establishing a highly visible route identification and signage program that fits the character of the community, and
- mitigating impacts on bicyclists from new development and during and following construction of roadway projects.

Policies and actions in this chapter seek to improve bicycle access and safety by carrying out these recommendations.

Public Transit – Bus & Rail

Transit service in Ventura includes bus and rail operations (see Figure 4-2). South Coast Area Transit (SCAT) provides local bus service, Ventura Intercity Transit Authority (VISTA) runs regional routes, and Greyhound offers statewide and national connections. Metrolink provides rail service to and from Los Angeles – although on a very limited schedule, while Amtrak trains that stop in Ventura run between San Luis Obispo and San Diego.

Although local bus routes connect most activity centers, the East End is not well served, and more frequent service is needed to key destinations such as the beach and downtown. Metrolink and Amtrak need to be linked to each other and accessed by local bus routes. An agreement between the City and the Ventura County Transportation Commission calls for identifying a permanent Metrolink site, and the best way to integrate all of these services is with a major multi-modal transit center that also accommodates potential additional future alternative transportation modes.

SCAT buses are equipped with wheelchair lifts and adjustable steps to ensure access for all riders. SCAT also offers discounted fares for seniors and disabled riders, as well as dial-a-ride service. However, seniors and mobility-impaired persons also desire frequent fixed-route service in smaller vehicles, and all riders need upgraded amenities at a number of stops. Bus routes also need increased frequency and

stops to make transit a viable alternative to driving.

Other transit system needs include:

- reduced-emission vehicles,
- continued use of schedule synchronization to accommodate route transfers, and
- service to regional destinations such as California State University Channel Islands and airports.

Policies and actions in this Chapter aim to improve transit efficiency, encourage ridesharing, and preserve long-term transit options.



The Automobile and Types of Roadways

The most basic component of the mobility system is the *thoroughfare*, used not only by people who drive, but also by people who ride the bus, bike and walk. Thoroughfares encompass sidewalks, bicycle lanes, travel lanes, and are the most utilized means of travel in Ventura. This system is organized into the following classifications: local thoroughfares, collectors, and arterials (see Figure 4-3, Roadway Classification Plan – also known as “Circulation Plan”).

Local Thoroughfares

Local thoroughfares provide mobility within neighborhoods and are generally not shown on the Roadway Classification Plan. Local thoroughfares include *alleys*, *lanes*, and “*yield*” *streets*.

Collectors

Collectors serve as links between local thoroughfares. Collectors may front residential and neighborhood-serving commercial uses. Collectors can be configured as *boulevards*, *avenues*, *streets*, and *main streets*.

Arterials

Arterials are the primary mechanism for cross-town travel and serve the major centers of activity. These roads typically carry a high proportion of the total urban area travel. Arterials can be configured as *boulevards*, *avenues*, and *streets*.

Collector and arterial thoroughfare segments in the City are characterized in two ways that describe their physical features: *design* classification and *functional* classification. Design Classification defines the number of travel lanes using the following categories: Primary Arterial (6 lanes or more), Secondary Arterial (4 lanes), and Collector (2 lanes), as shown on the Roadway Classification Plan, Figure 4-3. Functional Classification describes how a thoroughfare is used: essentially as a *boulevard*, *avenue*, *street*, or *main street*.

Functional Classification also identifies whether roadways have medians, parking, bike lanes, and other streetscape attributes needed to achieve objectives other than just moving traffic, such as accommodating pedestrians, bicycles, and adjoining land uses and public spaces. Table 4-1 shows the design and functional classifications for thoroughfares in the City.

Ventura is mainly connected by 2-lane and 4-lane thoroughfares. The classification for each type of road segment represents a balance between vehicle capacity, pedestrian and bicycle access, parking requirements, streetscape character, and right-of-way limitations.

Boulevard

A multi-lane and generally urban corridor with a central, planted median.

Avenue

Avenues are typically multi-lane, short distance connectors, with a painted median, used in both residential and commercial areas, and often terminate at prominent buildings or plazas.

Table 4-1 Thoroughfare Sizes and Types

	Street Sizes (Engineering Design Classification)		
	Primary Arterial (6 or more lane roadway)	Secondary Arterial (4 lane roadway)	Collector (2 lane roadway)
Existing			
Future Widening			
Future Extension			
	Thoroughfare Types (Functional Classification)		
	Boulevard	Boulevard	Boulevard
	Avenue	Avenue	Avenue
		Street	Street
			Main Street

Source: Definitions for Design Classifications are the City's modifications to the American Association of State Highway and Transportation Officials (AASHTO) standards. Definitions for Functional Classifications are the City's modifications to the Traditional Neighborhood Development Street Design Guidelines.

Street

Street typically allows two way travel and may be multi-lane and does not have a central median and generally provides access to predominantly residential areas.

Main Street

Main streets have 2 vehicle lanes. Their main purpose is to provide low-speed access to commercial, mixed-uses, and higher density neighborhoods.

Consistency between the design and functional classifications is determined based on the number of through lanes. Temporary improvements, such as restriping to change the number of lanes are allowed, however a permanent improvement that moves the curbs and changes the number of lanes would require an amendment to this plan.

The *Ventura Vision* offers several key recommendations to improve the city thoroughfare system:

- add or enhance north-south arterials;
- consider an additional Santa Clara River bridge, Portola Avenue overcrossing of U.S. 101, and Johnson Drive overcrossing of Route 126; and
- soften the barrier impact of U.S. 101 by working with Caltrans to improve signage, aesthetics, undercrossings, and overcrossings.

Policies, actions, and the Roadway Classification Plan work together to address these recommendations. To improve the safety and functioning of the thoroughfare network and to maintain its compatibility with the character of the community, the policies and actions in this

chapter also call for upgrading problem thoroughfares and intersections, improving and constructing freeway ramps, and connecting unfinished roadways. Additional actions intend to protect views from scenic routes, including State-designated scenic highways.


Policy 4A: Ensure that the transportation system is safe and easily accessible to all travelers.

Action 4.1: Direct city transportation investment to efforts that improve user safety and keep the circulation system structurally sound and adequately maintained. First priority for capital funding will go to our pavement management program to return Ventura streets to excellent condition.


Action 4.2: Develop a prioritized list of projects needed to improve safety for all travel modes and provide needed connections and multiple route options.

Action 4.3: Provide transportation services that meet the special mobility needs of the community including youth, elderly, and disabled persons.


Action 4.4: Combine education with enforcement to instill safe and courteous use of the shared public roadway.

Action 4.5: Utilize existing roadways to meet mobility needs, and only consider additional travel lanes when other alternatives are not feasible. 

Action 4.6: Require new development to be designed with interconnected transportation modes and routes to complete a grid network.


Action 4.7: Update the traffic mitigation fee program to fund necessary citywide circulation system and mobility improvements needed in conjunction with new development. 


Action 4.8: Implement the City's Neighborhood Traffic Management Program and update as necessary to improve livability in residential areas.

Action 4.9: Identify, designate, and enforce truck routes to minimize the impact of truck traffic on residential neighborhoods. 


Action 4.10: Modify traffic signal timing to ensure safety and minimize delay for all users.

Action 4.11: Refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.


Action 4.12: Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles. 


Action 4.13: Require project proponents to analyze traffic impacts and provide adequate mitigation in the form of needed improvements, in-lieu fee, or a combination thereof. 


Policy 4B: Help reduce dependence on the automobile.


Action 4.14: Provide development incentives to encourage projects that reduce automobile trips. 

Action 4.15: Encourage the placement of facilities that house or serve elderly, disabled, or socioeconomically disadvantaged persons in areas with existing public transportation services and pedestrian and bicycle amenities.

Action 4.16: Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes. 


Action 4.17: Prepare and periodically update a Mobility Plan that integrates a variety of travel alternatives to minimize reliance on any single mode. 


Action 4.18: Promote the development and use of recreational trails as transportation routes to connect housing with services, entertainment, and employment. 


Action 4.19: Adopt new development code provisions that establish vehicle trip reduction requirements for all development. 


Action 4.20: Develop a transportation demand management program to shift travel behavior toward alternative modes and services.


Action 4.21: Require new development to provide pedestrian and bicycle access and

facilities as appropriate, including connected paths along the shoreline and watercourses. 

Action 4.22: Update the General Bikeway Plan as needed to encourage bicycle use as a viable transportation alternative to the automobile and include the bikeway plan as part of a new Mobility Plan. 

Action 4.23: Upgrade and add bicycle lanes when conducting roadway maintenance as feasible. 

Action 4.24: Require sidewalks wide enough to encourage walking that include ramps and other features needed to ensure access for mobility-impaired persons. 


Action 4.25: Adopt new development code provisions that require the construction of sidewalks in all future projects. 

Action 4.26: Establish a parking management program to protect the livability of residential neighborhoods, as needed.

Action 4.27: Extend stubbed-end streets through future developments, where appropriate, to provide necessary circulation within a developing area and for adequate internal circulation within and between neighborhoods. Require new developments in the North Avenue area, where applicable, to extend Norway Drive and Floral Drive to connect to Canada Larga Road; and connect the existing segments of Floral Drive. Designate

the extension of Cedar Street between Warner Street and south of Franklin Lane and the linking of the Cameron Street segments in the Westside community as high priority projects.


Policy 4C: Increase transit efficiency and options.


Action 4.28: Require all new development to provide for citywide improvements to transit stops that have sufficient quality and amenities, including shelters and benches, to encourage ridership. 

Action 4.29: Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.

Action 4.30: Work with public transit agencies to provide information to riders at transit stops, libraries, lodging, and event facilities.

Action 4.31: Work with public and private transit providers to enhance public transit service.


Action 4.32: Coordinate with public transit systems for the provision of additional routes as demand and funding allow. 

Action 4.33: Work with Amtrak, Metrolink, and Union Pacific to maximize efficiency of passenger and freight rail service to the City and to integrate and coordinate passenger rail service with other transportation modes. 

Action 4.34: Lobby for additional transportation funding and changes to Federal, State, and regional transportation policy that support local decision-making.

Action 4.35: The City shall pursue funding and site location for a multi-modal transit facility in coordination with VCTC, SCAT, U.P.R.R., Metrolink, Greyhound Bus Lines, and other forms of transportation.


Policy 4D: Protect views along scenic routes.


Action 4.36: Require development along the following roadways – including noise mitigation, landscaping, and advertising – to respect and preserve views of the community and its natural context. 

- State Route 33
- U.S. HWY 101
- Anchors Way
- Brakey Road
- Fairgrounds Loop
- Ferro Drive
- Figueroa Street
- Harbor Boulevard
- Main Street
- Navigator Drive
- North Bank Drive
- Poli Street/Foothill Road
- Olivas Park Drive
- Schooner Drive
- Spinnaker Drive
- Summit Drive

- Telegraph Road – east of Victoria Avenue
- Victoria Avenue – south of U.S. 101
- Wells Road

Action 4.37: Request that State Route 126 and 33, and U.S. HWY 101 be designated as State Scenic Highways.

Action 4.38: Continue to work with Caltrans to soften the barrier impact of U.S. HWY 101 by improving signage, aesthetics and undercrossings and overcrossings. 

Action 4.39: Maintain street trees along scenic thoroughfares, and replace unhealthy or missing trees along arterials and collectors throughout the City. 

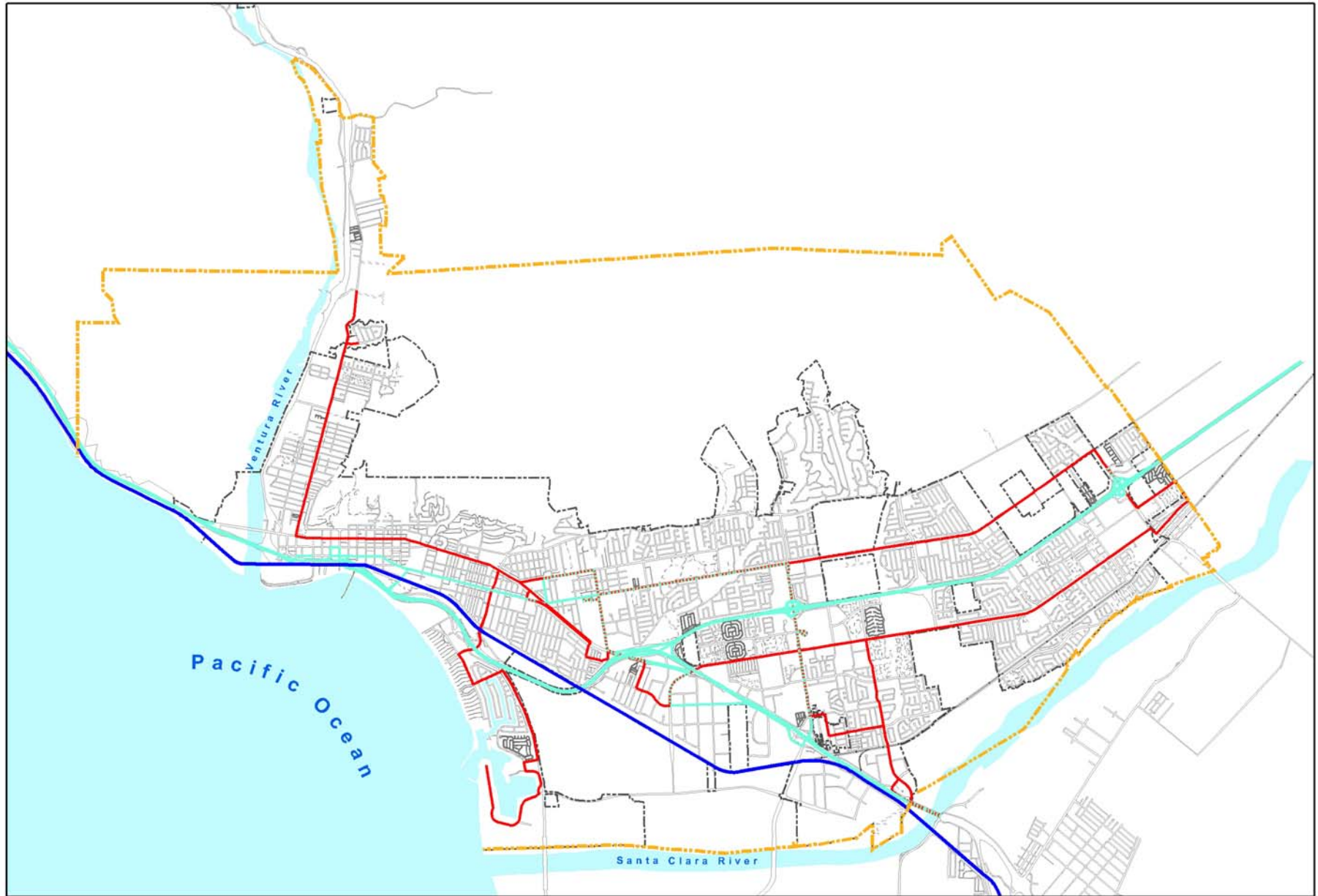


Note: Bike facilities shown on this figure are taken from the 1999 General Bikeway Plan and may change as updates to the General Bikeway Plan are completed.

Figure 4-1
Bicycle Facilities









This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

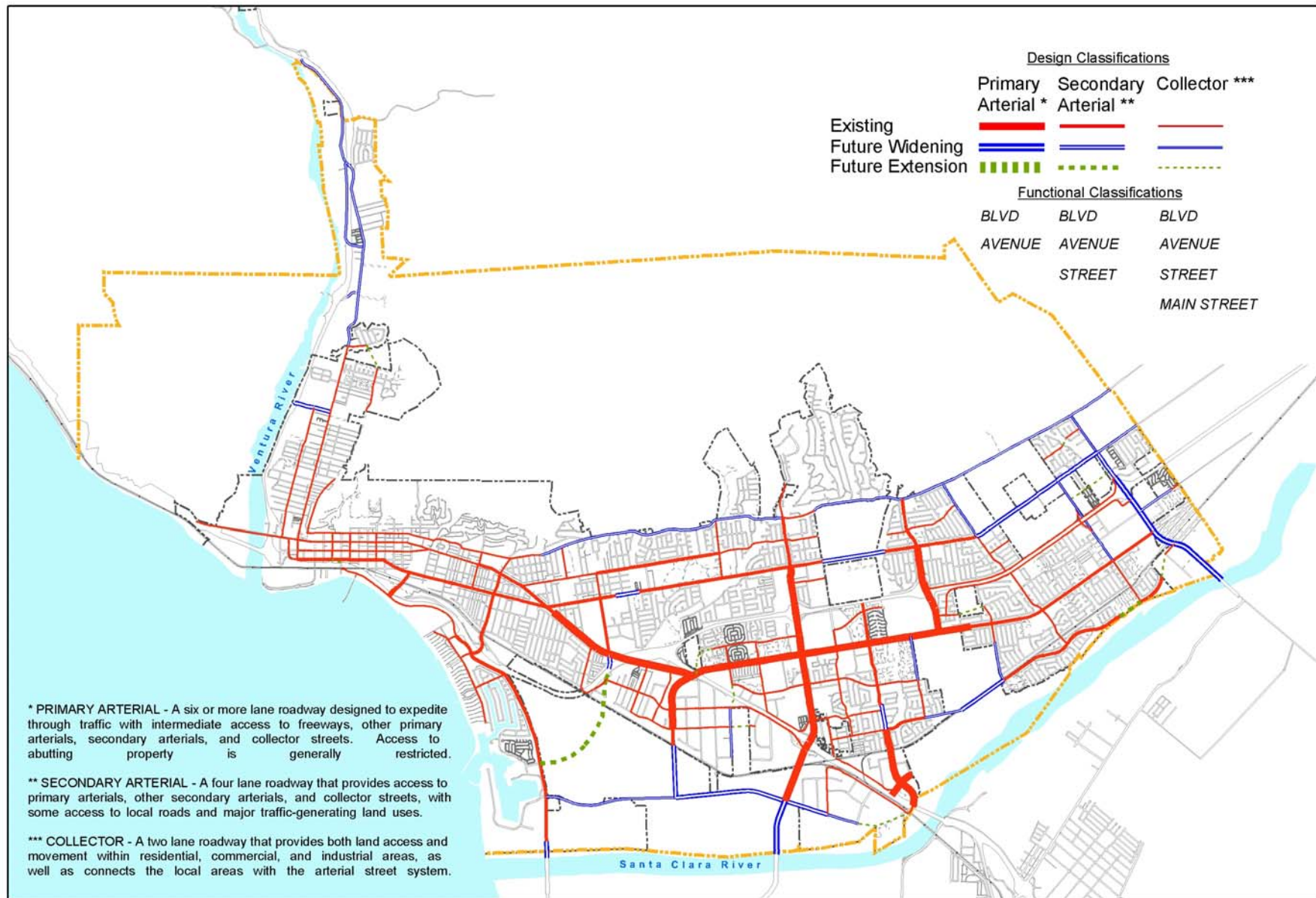


Note: Bus and Rail routes shown on this figure are current as of August 8, 2005 and may change as determined by each operator.

Figure 4-2
Bus and Rail Routes

Routes		Other	
SCAT		--- City Limits	
VISTA		--- Planning Boundary	
SCAT & VISTA			
RAIL			

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.



- - - City Limits
- - - Planning Boundary

Note: Future extensions shown are conceptual in nature, unless a specific alignment has been approved by the City Council.

Figure 4-3
Roadway Classification Plan



"Now, I truly believe, that we in this generation, must come to terms with nature, and I think we're challenged as mankind has never been challenged before to prove our maturity and our mastery, not of nature, but of ourselves."

— Rachel Carson
Biologist, Writer, Ecologist 1907-1964

5. OUR SUSTAINABLE INFRASTRUCTURE

Our goal is to safeguard public health, well-being and prosperity by providing and maintaining facilities that enable the community to live in balance with natural systems.

Essential Support Systems

Infrastructure is an extremely important though largely unnoticed foundation of quality of life in Ventura. Efficient water supply, wastewater treatment, and drainage systems are vital to most daily activities. These facilities on which the community depends need regular maintenance, and they frequently require upgrading both to meet the demands of a growing population and to be sensitive to environmental resources.

To ensure that citizens get high-quality drinking water, the City owns and operates a State-certified laboratory where water quality is tested continuously. Each City treatment plant is also run by State-certified operators who monitor water quality. As a result, City water exceeds State and federal water quality requirements.

The City employs conservation measures and emerging technology in its effort to achieve a high standard for wastewater treatment while protecting natural systems. As a result, treatment capability historically has outpaced community needs, with even peak flows typically reaching only 75 percent of plant capacity. Even so, further expanding the use of reclaimed water and

reducing water consumption will be vital to maintaining long-term water supplies.

Much of the storm drain system is aging and in need of repair or replacement, especially corrugated metal pipes in some of the older areas of Ventura. Collecting adequate fees that truly reflect the cost of serving development can help support City efforts to preclude additional deficiencies, and relying on and complementing natural drainage features can both help avoid the need for expensive and environmentally damaging channelization and improve the functioning of the overall drainage system.

Water Supply

The City provides drinking water, and water for fire protection, to households and businesses in Ventura through a complex system with more than 500 miles of distribution mains, 3 water treatment plants, 22 booster pump stations, 25 treated water reservoirs, and 13 wells. Five distinct sources provide surface and ground water to the City supply system:

- Casitas Municipal Water District
- Ventura River surface water intake, subsurface water and wells (Foster Park)
- Mound groundwater basin
- Oxnard Plain groundwater basin (Fox Canyon Aquifer)
- Santa Paula groundwater basin

The City also holds a State Water Project entitlement of 10,000 acre-feet per year;



however, new facilities would need to be constructed to transport this water to the City. The City updates its Urban Water Management Plan every two years (instead of every five years as required by State law) as part of its ongoing effort to ensure that City-managed water supplies will continue to accommodate demand in Ventura.

Meeting future water demands requires saving and reusing every drop possible. The City utilizes recycled water from its reclamation facility (a tertiary wastewater treatment plant) near the Harbor to augment the municipal water supply. Recycled water is used to irrigate City and private landscaping in the area and the Buenaventura and Olivas Park municipal golf courses. The remaining effluent is discharged to the Santa Clara River Estuary.

Largely as a result of conservation efforts, water consumption per city resident has generally declined (see Table 5-1). Projections anticipate that the City will continue to be able to meet consumer needs. Policies and actions in this chapter seek to refine demand management practices and conservation programs to further reduce per capita water use so that Ventura can sustain water resources for many more generations.

**Table 5-1
Historic and Projected Water Production (Acre Feet)**

Year	Estimated Population Served	Per Capita Use ¹	Treated Water Production	Raw Water Production	Total Water Production
Historic					
1980	73,774	0.236	17,381	4,766	22,147
1990	94,856	0.177	16,831	2,317	19,148
1995	99,668	0.165	16,428	1,602	18,030
1996	100,482	0.180	18,038	1,500	19,538
1997	101,096	0.178	18,002	1,829	19,831
1998	101,610	0.165	16,775	1,769	18,544
1999	102,224	0.192	19,658	1,067	20,725
2000	103,238	0.198	20,437	1,129	21,566
2001	104,153	0.173	18,071	889	18,960
2002	105,267	0.180	18,965	968	19,933
2003	106,782	0.183	19,510	846	20,356
Projected					
2005	109,465	0.179	19,594	1,000	20,594
2010	115,774	0.179	20,724	1,000	21,724
2015	122,447	0.179	21,918	1,000	22,918
2020	129,504	0.179	23,181	1,000	24,181

Sources: City of Ventura Urban Water Management Plan, Dec. 2000, City of Ventura 2004 Biennial Water Supply Report, as amended, September 2004.

¹ Per Capita use excludes raw water.

Wastewater Treatment

Ventura residents generate millions of gallons of wastewater each day, which is carried by more than 450 miles of sewer mains and 12 lift stations to the water reclamation facility in the Harbor area near the mouth of the Santa Clara River. While most residents receive sewer service directly from the City, three other sanitary sewer agencies with their own treatment facilities provide service to some citizens in the Montalvo, Saticoy, and North Ventura Avenue areas. As shown in Table 5-2, all local treatment facilities operate well below capacity.

About two-thirds of the wastewater treated locally is discharged to the Santa Clara River Estuary, as allowed by the Regional Water Quality Control Board. The remaining effluent is either transferred to recycling ponds, where some is delivered as reclaimed water, or it percolates to underground aquifers or evaporates. The policies and actions in this chapter call for improving treatment system efficiency to reclaim and reuse as much water as possible.

Table 5-2 Treatment Facilities

Treatment Facilities	Treatment Type	Capacity	Average Daily Flow
Ventura Water Reclamation Facility	Tertiary	14 MGD	9.0 MGD (68% capacity)
Montalvo Municipal Improvement District Treatment Plant	Secondary	0.36 MGD	0.242 MGD (67% capacity)
Saticoy Sanitary District Treatment Plant	Secondary ²	0.25 MGD	0.16 MGD (64% capacity)
Ojai Valley Sanitary District Treatment Plant	Tertiary	3 MGD	2.0 MGD (71% capacity)

² Includes nutrient removal prior to percolation.
Source: Individual agencies listed





Storm Drainage

Storm runoff travels from the hills above Ventura through the City until it is absorbed into the ground or reaches the Ventura River, the Santa Clara River, or the Pacific Ocean. To convey the occasional high flows associated with storms, the Ventura County Flood Control District oversees about 20 natural or concrete lined barrancas that serve as the major drainage courses for local watersheds. The City has about 20 miles of off-street drain system designed to convey runoff from all but the most severe of storms, in which case water also runs off via city streets.

Maintaining the barrancas and other watercourses that are not already lined with concrete as natural flood channels can help reduce peak flows by limiting water velocity. Incorporating natural features into drainage systems rather than hard treatment devices also can improve water quality and reduce maintenance costs. The policies and actions in this chapter seek to prevent increases in future storm water impacts by incorporating natural drainage and flood control features such as wildlife ponds and wetlands – instead of cement retention basins – into the storm drain system where possible. Such less intensive approaches not only cost less, but they also preserve environmental resources and protect water quality.


Policy 5A: Follow an approach that contributes to resource conservation.

Action 5.1: Require low flow fixtures, leak repair, and drought tolerant landscaping (native species if possible), plus emerging water conservation techniques, such as reclamation, as they become available. 


Action 5.2: Use natural features such as bioswales, wildlife ponds, and wetlands for flood control and water quality treatment when feasible. 

Action 5.3: Demonstrate low water use techniques at community gardens and city-owned facilities.


Action 5.4: Update the Urban Water Management plan as necessary in compliance with the State 1983 Urban Water Management Planning Act.


Action 5.5: Provide incentives for new residences and businesses to incorporate recycling and waste diversion practices, pursuant to guidelines provided by the Environmental Services Office. 


Policy 5B: Improve services in ways that respect and even benefit the environment.


Action 5.6: Require project proponents to conduct sewer collection system analyses to determine if downstream facilities are adequate to handle the proposed development. 

Action 5.7: Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage


requirements in order to determine if there are any system deficiencies or needed improvements for the proposed development. 


Action 5.8: Locate new development in or close to developed areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. 


Action 5.9: Update development fee and assessment district requirements as appropriate to cover the true costs associated with development. 


Action 5.10: Utilize existing waste source reduction requirements, and continue to expand and improve composting and recycling options. 


Action 5.11: Increase emergency water supply capacity through cooperative tie-ins with neighboring suppliers.


Action 5.12: Apply new technologies to increase the efficiency of the wastewater treatment system. 

Action 5.13: Increase frequency of city street sweeping, and post schedules at key points within each neighborhood. 

Action 5.14: Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City. 

Action 5.15: Establish assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist. 

Action 5.16: Require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff utilizing methods such as pervious paving material for parking and other paved areas to facilitate rainwater percolation and retention/detention basins that limit runoff to pre-development levels. 

Action 5.17: Require stormwater treatment measures within new development to reduce the amount of urban pollutant runoff in the Ventura and Santa Clara Rivers and other watercourses. 

Action 5.18: Work with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, and/or develop alternative means of disposal that will provide sufficient capacity for solid waste generated in the City.



"Leave all the afternoon for exercise and recreation, which are as necessary as reading. I will rather say more necessary because health is worth more than learning."

— Thomas Jefferson
3rd President of the United States
1801-1809

CITY OF
VENTURA

OUR ACTIVE COMMUNITY
ventura's general plan

6. OUR ACTIVE COMMUNITY

Our goal is to add to and enhance our parks and open spaces to provide enriching recreation options for the entire community.

Higher Standards

For many people, spending time outdoors and participating in recreational activities represent some of life’s most cherished rewards. Ventura’s superb public park, open space, and recreation system offers a myriad of ways to partake in these privileges. The city offers 34 developed parks, 45 miles of linear park and trail network, stellar beaches, specialized play and sports facilities and programs, communitywide events, senior and youth activities, and two 18-hole tournament class public golf courses. Figure 6-1 at the end of this chapter shows the locations of various public facilities in the city.

The City is committed to ensuring that its citizens have ample access to high quality spaces for leisure and active recreation. The City’s adopted standard of 10 acres per 1,000 residents has created far more park area than would be possible under the basic State level of 3 acres per 1,000, and also tops the more ambitious National Park and Recreation Association benchmarks for specific park types (see Table 6-1). The City continues to create customized facilities like the Community Park (approved by the voters pursuant to SOAR) to expand opportunities for local residents to enjoy healthy, active lifestyles.

Park Type	Standards	
	City of Ventura	National Park & Recreation Association
Neighborhood	2 acres	1.5 acres
Community	3 acres	2.5 acres
Citywide	5 acres	5 acres
Total	10 acres	9 acres

Sources: City of Ventura, www.nrpa.org.



City Parks and Open Space

The public park and open space system in Ventura includes neighborhood, community, citywide, and linear parks. As shown in Table 6-2, the City oversees nearly 600 acres of developed park facilities, plus the linear park network, which provides important connections among watersheds for both people and wildlife.



As the City continually strives to improve the quality of leisure and recreation opportunities for everyone in the community, it must address a number of challenges such as:

- modernizing existing facilities,
- finding appropriate land for new facilities,
- developing useful and enjoyable public spaces, such as plazas and mini-parks in urban settings,
- formalizing shared use arrangements for non-City facilities like school playfields,
- meeting increasing demand for athletic courts, fields and pools,
- provide opportunities for passive recreation, and
- providing services needed by youth, seniors, and residents with special needs.

Neighborhood Parks

Typically less than 8 acres each, these smaller parks primarily serve specific residential areas in the community. The 18 neighborhood parks in Ventura cover about 73 total acres. Any future development outside the current city limits will have to provide new neighborhood parks to serve the added population.



Community Parks

These parks are designed to offer specialized opportunities and facilities to residents of more than one neighborhood. Amenities in community parks may include formal athletic fields, courts, recreation buildings, preschool and youth play structures, group and individual picnic areas, and landscaped areas for informal activity or leisure.

Citywide Parks

These parks feature recreational opportunities that draw a wide range of age and interest groups from throughout the city. They offer a variety of attractive amenities, such as large open spaces, unique natural resources, interpretive centers, cultural amenities, group picnic areas, sports facilities, and equestrian, bicycling, and hiking trails. The Ventura Community Park also serves some citywide park functions and attracts visitors from outside the city with its high-quality playing fields and aquatic center.

Linear Parks

Ventura's unique linear park network intersperses trails and picnic areas among a mostly undeveloped web of barranca and riverbanks that provide valuable wildlife habitat and migration corridors. The linear parks also merge with a number of neighborhood and community parks, complementing developed recreation areas with natural riparian qualities. Extending trails through the linear park network can create additional opportunities for low-impact contact with nature, and in some cases even provide pleasant non-automobile commuting options.

Table 6-2 City Park Facilities

Park	Park Size (in acres)				
	Neighborhood Parks	Community Parks	Citywide Parks	Special Use Facilities	Total
Albinger Archaeological Museum				0.9	0.9
Arroyo Verde Park	2.0	23.0	104.3		129.3
Barranca Vista Park	8.7				8.7
Blanche Reynolds Park	3.4				3.4
Camino Real Park			38.2		38.2
Cemetery Memorial Park	7.1				7.1
Chumash Park	6.1				6.1
Downtown Mini-Park	0.4				0.4
Eastwood Park				0.7	0.7
Fritz Huntsinger Youth Sports Complex	4.3	14.0			18.3
Grant Park			107.3		107.3
Harry A. Lyon Park			10.7		10.7
Hobert Park	7.1				7.1
Juanamaria Park	5.0				5.0
Junipero Serra Park	2.7				2.7
Linear Park Network				46.0	46.0
Marina Park			15.3		15.3
Marion Cannon Park	5.0				5.0
Mission Park	1.5				1.5
Ocean Avenue Park	1.3				1.3
Olivas Adobe Historical Park				22.5	22.5
Ortega Adobe Historic Residence				0.3	0.3
Plaza Park	3.7				3.7
Promenade Park	1.0				1.0
Seaside Wilderness Park ^{1, 2}				24.0	24.0
Surfers Point at Seaside Park ¹				3.4	3.4
Ventura Community Park		100.0			100.0
Westpark	1.5	5.8			7.3
Total	60.8	142.7	275.8	97.8	577.1

Sources: City of Ventura, 2004. Note: several parks serve functions in more than one category.
¹ Acreage varies with ocean high levels.
² Acreage varies with fluctuations in Ventura River level.

As with most parks in the city, resources for linear park system improvements typically come through conditions placed on adjacent development. City regulations establish standards for park width, landscaping, fencing, lighting, and tree rows that apply specifically along barrancas, freeways, rivers, the shoreline, harbor, hillsides, and utility rights-of-way.



Recreation Programs


The City operates four neighborhood centers where recreation programs and senior services are available: the Ventura Avenue Adult Center, Senior Recreation Center, Barranca Vista Center, and Westpark Community Center. The City also offers a wide range of sports programs, including youth and adult sports programs, classes, aquatics, and corporate games. Other City-sponsored recreational activities include arts and environmental education, community gardening, recreation programs for special needs residents, and after-school activities and summer camps.


A variety of other recreation opportunities are available in Ventura in addition to City programs. Foremost among these are all of the activities possible at State beaches and developed waterfront areas. Other local non-City facilities include the County Fairgrounds and local golf courses. In addition, joint-use agreements allow city residents to use sports fields, pools, and gymnasiums during certain times at public schools and Ventura College.


The policies and actions in this chapter seek to further expand local park and recreation choices by:


- identifying sites for new parks,
- increasing public access to open space, including via linear park trails,
- collaborating with schools and other local agencies and organizations,
- ensuring universal and equal access to parks and recreation facilities, and
- allowing appropriate revenue-generating activities at City parks.


Policy 6A: Expand the park and trail network to link shoreline, hillside, and watershed areas.


Action 6.1: Develop new neighborhood parks, pocket parks, and community gardens as feasible and appropriate to meet citizen needs, and require them in new development. 

Action 6.2: Require higher density development to provide pocket parks, tot lots, seating plazas, and other aesthetic green spaces. 

Action 6.3: Work with the County to plan and develop trails that link the City with surrounding open space and natural areas, and require development projects to include trails when appropriate. 


Action 6.4: Request Flood Control District approval of public access along unchannelized watercourses for hiking. 

Action 6.5: Seek landowner permission to allow public access on properties adjacent to open space where needed to connect trails. 

Action 6.6: Update plans for and complete the linear park system as resources allow. 

Action 6.7: Work with the County of Ventura to initiate efforts to create public trails in the hillsides.


Action 6.8: Update and require periodic reviews of the Park and Recreation Workbook as necessary to reflect City objectives and community needs.

Action 6.9: Require dedication of land identified as part of the City's Linear Park System in conjunction with new development. 

Action 6.10: Evaluate and incorporate, as feasible, linear park segments in the General Bikeway Plan.

Action 6.11: Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.

Action 6.12: Update and carry out the Grant Park Master Plan.

Action 6.13: Foster the partnership between the City and Fair Board to improve Seaside Park. 

Policy 6B: Ensure equal access to facilities and programs.


Action 6.14: Improve facilities at City parks to respond to the requirements of special needs groups.


Action 6.15: Adjust and subsidize fees to ensure that all residents have the opportunity to participate in recreation programs.

Action 6.16: Update the project fee schedule as necessary to ensure that development provides its fair share of park and recreation facilities.

Policy 6C: Provide additional gathering spaces and recreation opportunities.

Action 6.17: Update and create new agreements for joint use of school and City recreational and park facilities.

Action 6.18: Offer programs that highlight natural assets, such as surfing, sailing, kayaking, climbing, gardening, and bird watching. 

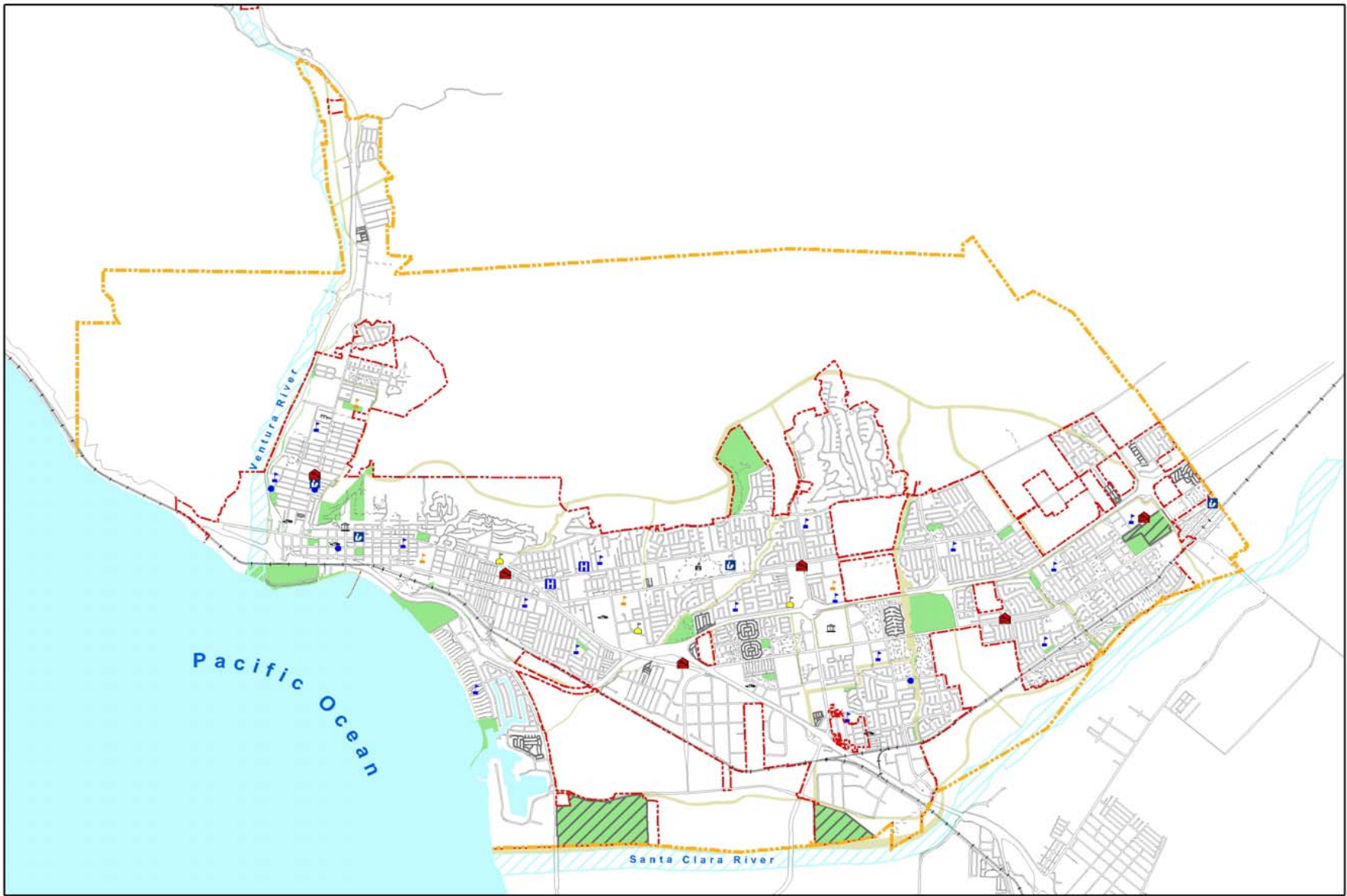
Action 6.19: Provide additional boating and swimming access as feasible. 

Action 6.20: Earmark funds for adequate maintenance and rehabilitation of existing skatepark facilities, and identify locations and funding for new development of advanced level skatepark facilities.

Policy 6D: Increase funding and support for park and recreation programs.

Action 6.21: Promote the use of City facilities for special events, such as festivals, tournaments, and races.

Action 6.22: Enter into concession or service agreements where appropriate to supplement City services.



- Police Station
- Fire Stations
- Hospitals
- Government Center
- Elementary School
- Middle School
- High School
- Community College
- Library
- Recreational Facilities
- Linear Park
- Parks
- Golf Courses
- City Limits
- Planning Area

Figure 6-1
Public Facilities

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.



"A city, like a living thing, is a united and continuous whole."

— Plutarch
ca. 50-120 AD, author of *Moralia*

7. OUR HEALTHY AND SAFE COMMUNITY

Our goal is to build effective community partnerships that protect and improve the social well-being and security of all our citizens.

Community Wellness

Keeping the small town feel of Ventura depends on working together as a community to look out for the well being of all residents, especially those most at risk. Community wellness requires comprehensive preventative care, as well as careful preparation for and response to dangers within the built environment and to risks posed by natural processes (see Figure 7-1).

Adequate shelter, sufficient medical services, walkable neighborhoods, and proper nutrition create an essential foundation for a healthy community. Reducing as much as possible the threat to people and property from earthquakes, landslides, floods, and fires further enhance the collective wellness of the city. In addition, a healthy Ventura community requires thorough protection from crime, and freedom from pollution, unwanted noise, and the threat of hazardous materials.

Alquist-Priolo designation requires a geologic investigation prior to the approval of a development permit to determine if a specific site within the zone is threatened by surface displacement from future fault movement.

Geologic and Flood Hazards

Ventura lies in an active geologic region and is therefore subject to a variety of seismic hazards, including ground shaking, liquefaction, and slope failure. State law requires the City to regulate development in mapped seismic hazard zones. Major faults in the city include the Ventura-Foothill (a State-designated Alquist-Priolo Earthquake Fault Zone), Oak Ridge, McGrath, Red Mountain and Country Club Faults. Areas closest to these faults are most likely to experience ground shaking or rupture in the event of an earthquake. Liquefaction during an earthquake is most likely to occur in areas with loose, granular soils where the water table lies within 50 feet of the surface. As the soil liquefies, buildings and other objects may tilt or sink.

Hillside stability varies based on slope, soil, rock type and groundwater depth. The hills north of Poli Street/Foothill Road have experienced many historic landslides and are prone to future movement. The City Hillside Management Program limits development in the area to minimize dangers from landsliding, erosion, flooding, and fire, and to retain natural and scenic character.

The Federal Emergency Management Agency regulates development along watercourses based on the likelihood of flooding: the basic benchmark – the 100-year flood – has a one percent chance of occurring in any given year. Although the mapped 100-year flood hazard areas for local rivers and barrancas are fairly limited in size, the largest recorded flood events along the Ventura

and Santa Clara Rivers, both following heavy rains in 1969, exceeded the 100-year flood zone. The policies and actions in this Chapter intend to limit harm from geologic and flood events by requiring detailed risk analyses and mitigation prior to development of sites in hazard prone areas.

Fire and Emergency Response

The Ventura Fire Department responds to fire, medical, and disaster calls from six stations in the city. The Department's goal is to reach the scene within 4 minutes 90% of the time. The Department has a reciprocal agreement with the County Fire Protection District to ensure that Ventura residents receive the swiftest service possible. The Department also has a responsibility to provide disaster preparedness for the City. Particular fire department concerns in the City include:



- the need for reliable and sustainable source of fire service revenue,
- lengthy response times to areas farthest from existing stations (See Figure 7-2),
- firefighter and support staffing levels that are far below the .98 firefighter per 1,000 population averages of other municipal fire departments with comparable city size, age, and population,
- the threat of wildland fire entering urban area, and
- the lack of fire protection systems in older structures.

The policies and actions in this Chapter aim to optimize firefighting and emergency response capabilities through oversight of new development, improved facilities, and added staff.



Police Protection

Ventura Police response to crimes in progress or alarm soundings averages less than six minutes, and less than sixteen minutes for most other calls. While the local crime rate is slightly higher than State average, the Department hopes to better engage the community in policing efforts to lower crime levels. As part of a Strategic Planning Process, the Department has established the following goals:

- reduce crime and the fear of crime
- improve the quality of life in neighborhoods
- enhance community and police partnerships
- develop personnel
- continued accountability

One-time grant funding has helped add officers dedicated to community crime prevention, gang control, and youth mentoring programs. As these grants end the City must face the challenge of funding these services. Actions in this Chapter seek to improve the full range of police services to maximize community safety by increasing staffing, outreach efforts, and public access to police services.

Noise

Noise is generally defined as unwanted sound. Its effects can range from annoyance to nuisances to health problems. State law requires the City to identify and address noise sources and establish projected noise levels for roadways, railroads, industrial uses, and other significant generators. The Noise Contours map (Figure 7-3) is used to help guide land use in a way that minimizes exposure of residents to excessive noise.

Vehicle traffic is by far the greatest source of noise affecting Ventura residents. Other sources include the Seaside Park raceway, the Grant Park shooting range, and railroad, commercial, and industrial activity. Homes, schools, hotels, and hospitals are considered sensitive receptors where excessive noise can interfere with normal activities.

Noise intensity is customarily measured on the decibel scale, an index of loudness. Sounds as faint as 10 decibels (dB) are barely audible, while noise over 120 dB can be painful or damaging to hearing (Table 7-1 shows some typical noise levels). A sound 10 dB higher than another is perceived as about twice as loud. A 5 dB change is readily noticeable, but a 3 dB difference is barely perceptible.

As shown in Table 7-2, normally acceptable outdoor noise in residential areas may reach 65 decibels. The Ldn label in the table indicates that sound is averaged over time to account for the fact that sources like traffic or aircraft may cause fluctuations of more than 20 dB over a few

seconds. CNEL refers to the fact that 5 dB is added to noise after 7 p.m. and 10 dB added from 10 p.m. to 7 a.m., when quieter conditions make sound more noticeable.

The State Building Code requires an acoustical study whenever outdoor noise would exceed 60 decibels at a proposed duplex, multifamily residence, hotel, motel or other attached dwelling. The study must show that the proposed project design would result in interior noise levels of 45 dB or less.

Although future increases in traffic are not expected to produce a significant change in perceived noise levels, other specific sound generators have been identified as problems in the community. The policies and actions in this chapter look to reduce the exposure of people in Ventura to these noise sources.

Table 7-1. Typical Noise Levels

Type of Noise or Environment	Decibels
Recording Studio	20
Soft Whisper; Quiet Bedroom	30
Busy Open-plan Office	55
Normal Conversation	60-65
Automobile at 20 mph 25 ft. away	65
Vacuum Cleaner 10 ft. away	70
Dump Truck at 50 mph 50 ft. away	90
Train Horn 100 ft. away	105
Claw Hammer; Jet Takeoff 200 ft. away	120
Shotgun at shooter's ear	140

**Table 7-2
Acceptable Noise Levels**

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE Ldn or CNEL, dBA						
	55	60	65	70	75	80	85
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
RESIDENTIAL - MULTI-FAMILY	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
TRANSIENT LODGING - MOTELS, HOTELS	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
PLAYGROUNDS, NEIGHBORHOOD PARKS	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE	[Yellow bar from 55 to 60]		[Cyan bar from 60 to 70]		[Dark teal bar from 70 to 75]		[Black bar from 75 to 80]

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: General Plan Guidelines, California Office of Planning and Research

Hazardous Materials

Hazardous materials include medical and industrial wastes, pesticides, herbicides, radioactive materials, and combustible fuels. Improper use, storage, transport, or disposal of these materials may result in harm to humans, surface or ground water degradation, air pollution, fire, or explosion. Most of the several hundred facilities in Ventura that use or store hazardous materials lie along Ventura Avenue or in the Arundell industrial district.

The Fire Department maintains a team specially trained and equipped to respond to hazardous materials emergencies. Additional equipment and personnel for large-scale hazardous materials incidents is available from the County Fire Protection District, the City of Oxnard, and the U.S. Naval Construction Battalion Center in Port Hueneme.

The Westside and North Avenue neighborhoods include about 30 brownfields: sites that may possess contaminated soils but also have potential for reuse. Cleanup of these sites will make them more attractive for redevelopment that can improve the neighborhoods and generate employment and tax revenue. The City has established a Brownfield Assessment Demonstration Pilot Program to fund site assessments and initiate remediation. The policies and actions in this chapter intend to minimize the risk of adverse health effects of hazardous materials by regulating their location and seeking funding for cleanup of brownfield sites to encourage their reuse.

Policy 7A: Encourage wellness through care and prevention.

Action 7.1: Work with interested parties to identify appropriate locations for assisted-living, hospice, and other care-provision facilities.

Action 7.2: Provide technical assistance to local organizations that deliver health and social services to seniors, homeless persons, low-income citizens, and other groups with special needs.


Action 7.3: Participate in school and agency programs to:


- provide healthy meals,
- combat tobacco, alcohol, and drug dependency,
- distribute city park and recreation materials through the schools, and
- distribute information about the benefits of proper nutrition and exercise.

Action 7.4: Enhance or create ordinances which increase control over ABC licensed premises.


Action 7.5: Investigate the creation of new land use fees to enhance funding of alcohol related enforcement, prevention and training efforts.

Policy 7B: Minimize risks from geologic and flood hazards.


Action 7.6: Adopt updated editions of the California Construction Codes and International Codes as published by the State of California and the International Code Council respectively. 


Action 7.7: Require project proponents to perform geotechnical evaluations and implement mitigation prior to development of any site: 

- with slopes greater than 10 percent or that otherwise have potential for landsliding,
- along bluffs, dunes, beaches, or other coastal features
- in an Alquist-Priolo earthquake fault zone or within 100 feet of an identified active or potentially active fault,
- in areas mapped as having moderate or high risk of liquefaction, subsidence, or expansive soils,
- in areas within 100-year flood zones, in conformance with all Federal Emergency Management Agency regulations.


Action 7.8: To the extent feasible, require new critical facilities (hospital, police, fire, and emergency service facilities, and utility “lifeline” facilities) to be located outside of fault and tsunami hazard zones, and require critical facilities within hazard zones to incorporate construction principles that resist damage and facilitate evacuation on short notice. 


Action 7.9: Maintain and implement the Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan.

Action 7.10: Require proponents of any new developments within the 100-year floodplain to implement measures, as identified in the Flood Plain Ordinance, to protect structures from 100-year flood hazards (e.g., by raising the finished floor elevation outside the floodplain). 

Action 7.11: Prohibit grading for vehicle access and parking or operation of vehicles within any floodway. 

Policy 7C: Optimize firefighting and emergency response capabilities.

Action 7.12: Refer development plans to the Fire Department to assure adequacy of structural fire protection, access for firefighting, water supply, and vegetation clearance. 

Action 7.13: Resolve extended response time problems by: 

- adding a fire station at the Pierpont/Harbor area,
- relocating Fire Station #4 to the Community Park site,
- increasing firefighting and support staff resources,
- reviewing and conditioning annexations and development applications, and
- require the funding of new services from fees, assessments, or taxes as new subdivisions are developed.

Action 7.14: Educate and reinforce City staff understanding of the Standardized Emergency Management System for the State of California.


Policy 7D: Improve community safety through enhanced police service.

Action 7.15: Increase public access to police services by:

- increasing police staffing to coincide with increasing population, development, and calls for service,
- increasing community participation by creating a Volunteers in Policing Program, and,
- require the funding of new services from fees, assessments, or taxes as new subdivisions are developed.


Action 7.16: Provide education about specific safety concerns such as gang activity, senior-targeted fraud, and property crimes.

Action: 7.17: Establish a nexus between police department resources and increased demands associated with new development.


Action 7.18: Continue to operate the Downtown police storefront. 


Action 7.19: Expand Police Department headquarters as necessary to accommodate staff growth.


Policy 7D: Minimize exposure to air pollution and hazardous substances.

Action 7.20: Require air pollution point sources to be located at safe distances from sensitive sites such as homes and schools. 

Action 7.21: Require analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are

identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval. 

Action 7.22: In accordance with Ordinance 93-37, require payment of fees to fund regional transportation demand management (TDM) programs for all projects generating emissions in excess of Ventura County Air Pollution Control District adopted levels. 


Action 7.23: Require individual contractors to implement the construction mitigation measures included in the most recent version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines. 

Action 7.24: Only approve projects involving sensitive land uses (such as residences, schools, daycare centers, playgrounds, medical facilities) within or adjacent to industrially designated areas if an analysis provided by the proponent demonstrates that the health risk will not be significant.


Action 7.25: Adopt new development code provisions that ensure uses in mixed-use projects do not pose significant health effects.


Action 7.26: Seek funding for cleanup of sites within the Brownfield Assessment Demonstration Pilot Program and other contaminated areas in West Ventura.


Action 7.27: Require proponents of projects on or immediately adjacent to lands in industrial,

commercial, or agricultural use to perform soil and groundwater contamination assessments in accordance with American Society for Testing and Materials standards, and if contamination exceeds regulatory action levels, require the proponent to undertake remediation procedures prior to grading and development under the supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or Regional Water Quality Control Board (depending upon the nature of any identified contamination). 


Action 7.28: Educate residents and businesses about how to reduce or eliminate the use of hazardous materials, including by using safer non-toxic equivalents.

Action 7.29: Require non-agricultural development to provide all necessary buffers, as determined by the Agriculture Commissioner's Office, from agricultural operations to minimize the potential for pesticide drift. 


Action 7.30: Require all users, producers, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use, or transport, and to notify the appropriate City, County, State and Federal agencies in the event of a violation. 


Action 7.31: Work toward voluntary reduction or elimination of aerial and synthetic chemical application in cooperation with local agricultural interests and the Ventura County agricultural commissioner. 


Policy 7E: Minimize the harmful effects of noise.


Action 7.32: Require acoustical analyses for new residential developments within the mapped 60 decibel (dBA) CNEL contour, or within any area designated for commercial or industrial use, and require mitigation necessary to ensure that: 


- Exterior noise in exterior spaces of new residences and other noise sensitive uses that are used for recreation (such as patios and gardens) does not exceed 65 dBA CNEL, and
- Interior noise in habitable rooms of new residences does not exceed 45 dBA CNEL with all windows closed.


Action 7.33: As funding becomes available, construct sound walls along U.S. 101, SR 126, and SR 33 in areas where existing residences are exposed to exterior noise exceeding 65 dBA CNEL. 

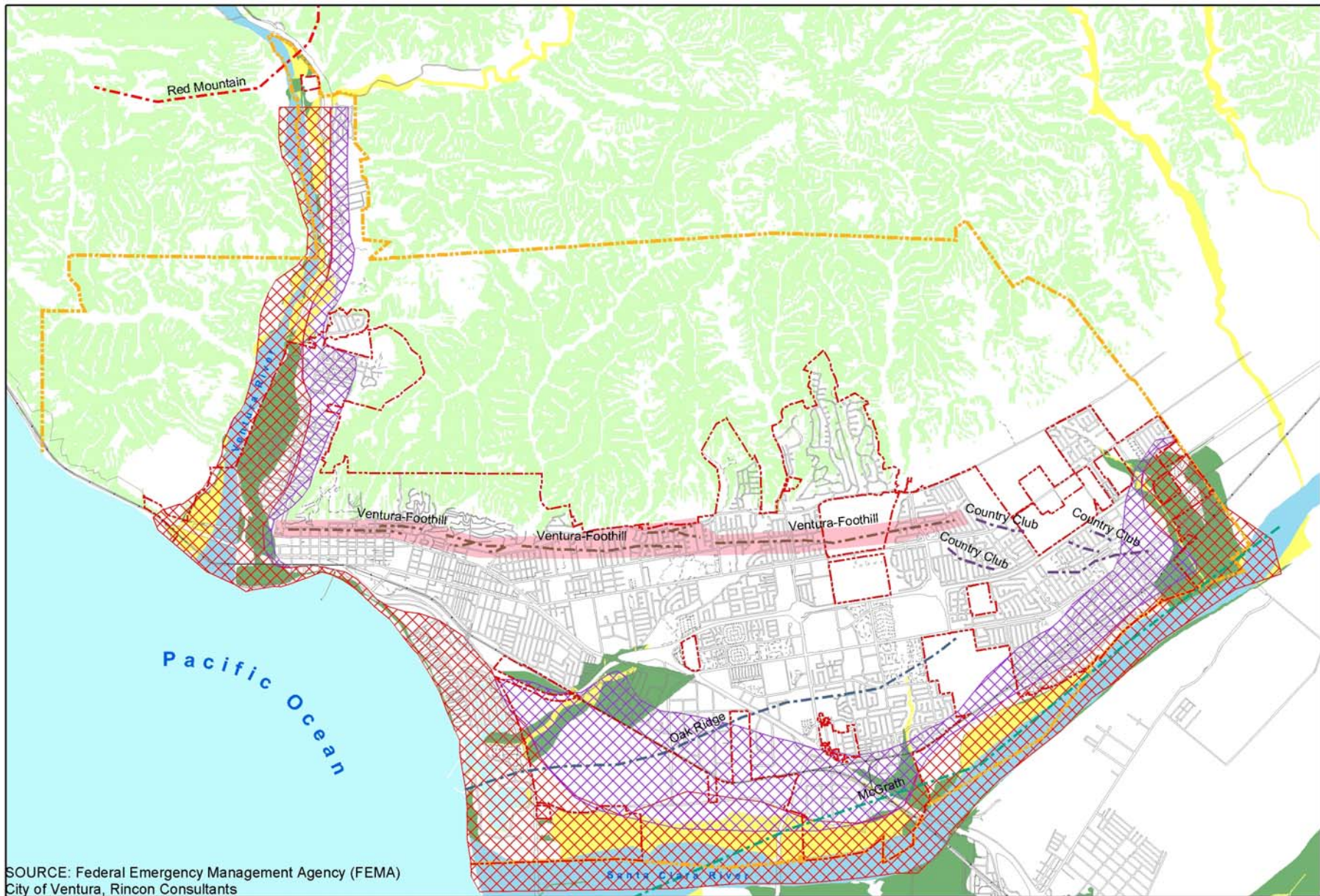
Action 7.34: Request that sound levels associated with concerts at the County Fairgrounds be limited to 70 dBA at the eastern edge of that property. 

Action 7.35: Request the termination of auto racing at the County fairgrounds. 

Action 7.36: Amend the noise ordinance to restrict leaf blowing, amplified music, trash collection, and other activities that generate complaints. 

Action 7.37: Use rubberized asphalt or other sound reducing material for paving and re-paving of City streets. 

Action 7.38: Update the Noise Ordinance to provide standards for residential projects and residential components of mixed-use projects within commercial and industrial districts. 



SOURCE: Federal Emergency Management Agency (FEMA)
City of Ventura, Rincon Consultants

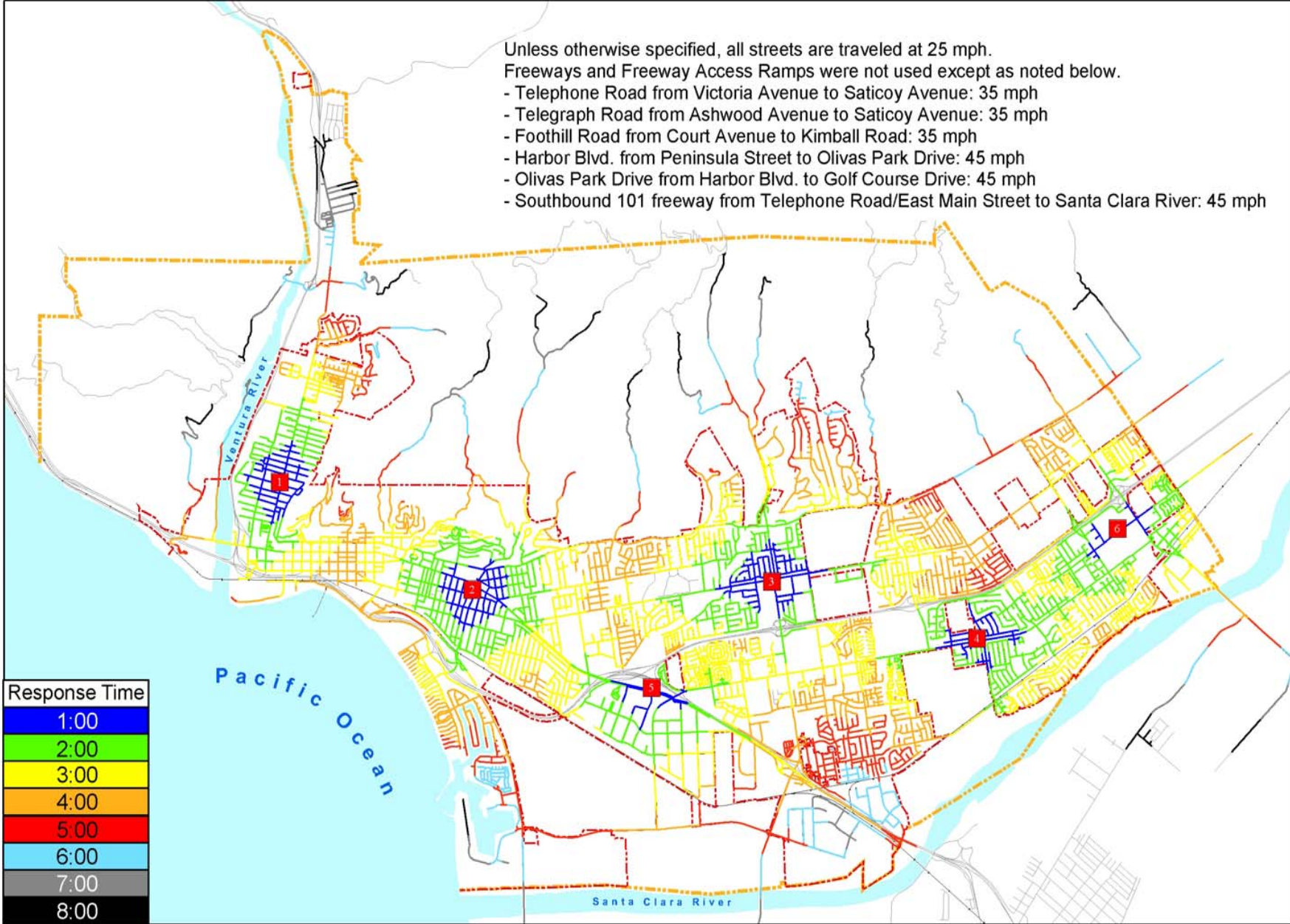
Figure 7-1
Natural Hazards

- | | | | |
|----------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|
| FEMA Flood Hazard Zones | Liquefaction Zones | Major Fault Systems | Other |
| Yellow box: A (100-yr floodzone) | Red cross-hatch: High Water Table | Dashed blue line: Country Club | Dashed red line: City Limits |
| Green box: B (500-yr floodzone) | Purple cross-hatch: Low Water Table | Dashed green line: McGrath | Dashed orange line: Planning Boundary |
| Blue box: Floodway | | Dashed black line: Oak Ridge | Light green box: >30% Slope |
| | | Dashed red line: Red Mountain | |
| | | Dashed black line: Ventura-Foothill | |

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

Unless otherwise specified, all streets are traveled at 25 mph.
 Freeways and Freeway Access Ramps were not used except as noted below.

- Telephone Road from Victoria Avenue to Saticoy Avenue: 35 mph
- Telegraph Road from Ashwood Avenue to Saticoy Avenue: 35 mph
- Foothill Road from Court Avenue to Kimball Road: 35 mph
- Harbor Blvd. from Peninsula Street to Olivas Park Drive: 45 mph
- Olivas Park Drive from Harbor Blvd. to Golf Course Drive: 45 mph
- Southbound 101 freeway from Telephone Road/East Main Street to Santa Clara River: 45 mph



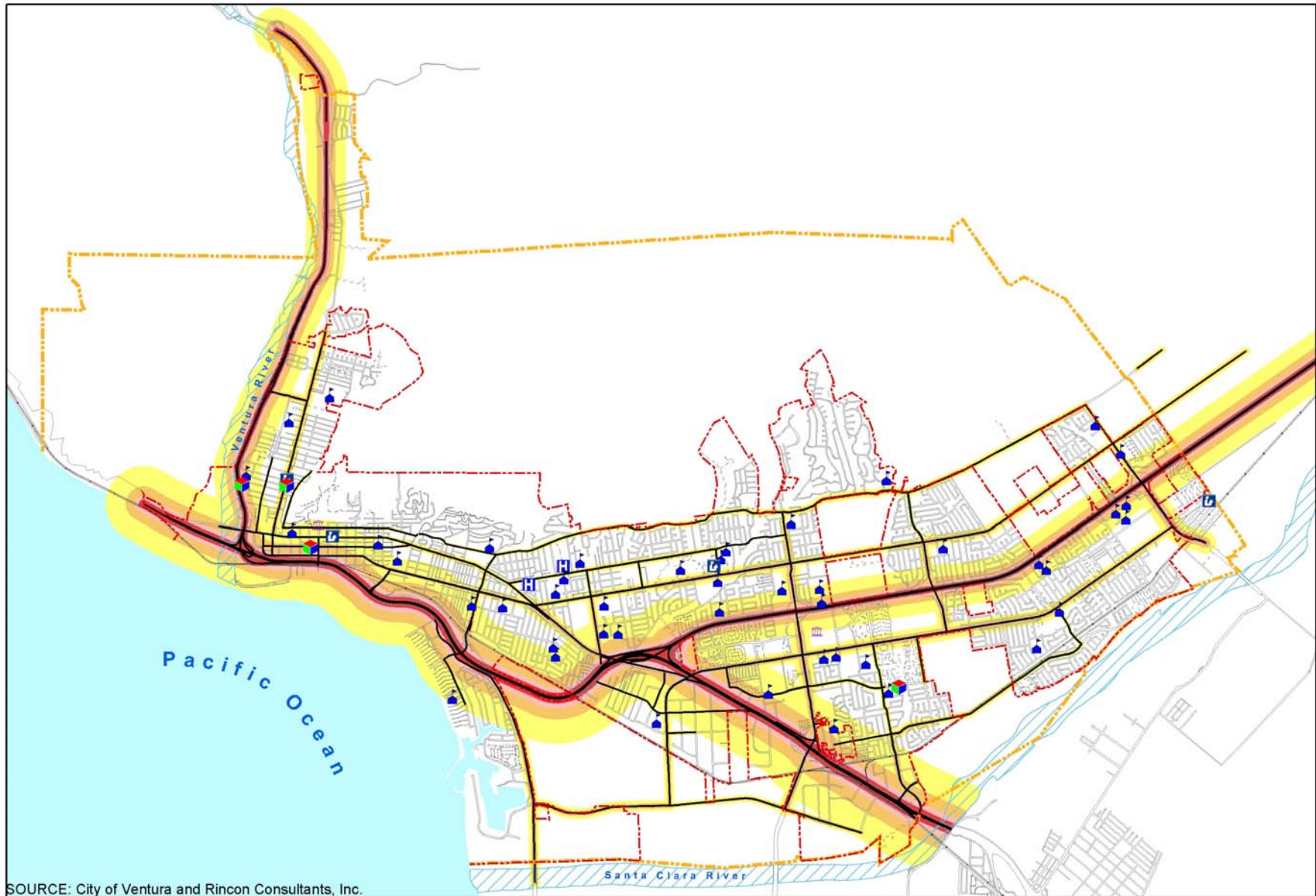
Response Time	
1:00	
2:00	
3:00	
4:00	
5:00	
6:00	
7:00	
8:00	

SOURCE: City of Ventura

- City Limits
- Planning Boundary
- Existing Fire Stations 1-6

Figure 7-2
 Fire Response Time

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.



SOURCE: City of Ventura and Rincon Consultants, Inc.

Figure 7-3
Noise Contours

Noise Contours

- | | | | | |
|------------------------------------|-------|--------------------|--------------------|-------------------|
| 60dBA | 70dBA | Recreation Centers | Library | City Limits |
| 65dBA | 75dBA | Hospitals | Government Centers | Planning Boundary |
| Countoured Streets (Over 5000 ADT) | | Schools | | |

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.



"A vigorous culture capable of making corrective, stabilizing changes depends heavily on its educated people, and especially upon their critical capacities and depth of understanding."

— Jane Jacobs
Dark Age Ahead

8. OUR EDUCATED COMMUNITY

Our goal is to encourage academic excellence and life-long learning resources to promote a highly-educated citizenry.

Lifelong Learning

Education is more important than ever before as the foundation for the vitality of informed community participation in Ventura. The *Ventura Vision* calls for the city to be “a community dedicated to educational excellence and an emphasis on lifelong learning.” A truly educated community is key to achieving most of the goals in this General Plan because:

- In the 21st Century information economy a highly educated and skilled workforce is vital to community prosperity,
- Education and the institutions that provide it are critical to achieving environmental and cultural leadership, and
- An educated and informed citizenry is essential to sound planning and decision-making.

While Ventura has a comparatively well-educated population (see Table 8-1), the high costs of doing business and finding housing in the city will force even greater emphasis on businesses and jobs that require ever-higher levels of skill. The need and desire for lifelong learning will require relentlessly expanding educational resources and access to them in the years ahead. Plus, the assets that strong educational institutions provide

are necessary to bring a rich cultural life to the community as well.

Ventura can build on an impressive base of well-regarded public schools, array of private alternatives, major community college, satellite university campuses, expanding media-training institute, law school, and three branch libraries, among other educational resources. The key to becoming renowned as a local “learning community” lies in creating stronger linkages between these existing resources and integrating them into the physical and social landscape of our community.

Leveraging our Assets

Excellence in public education is the top priority for the Ventura Unified School District (whose boundaries extend beyond the city). In Ventura, the District manages 16 elementary schools, four middle schools, three high schools, and one continuation high school, plus independent study and adult education programs.

In addition to District schools, the city also is home to more than a dozen private schools (see Table 8-2), serving 13 percent of elementary and high school students living in Ventura, according to the 2000 Census. Figure 6-1 shows school locations in the city.

**Table 8-1
Education Level**

Schooling Completed	Percent of Population
High School	21.7
Some College	28.2
Associate Degree only	9.6
Bachelors Degree only	15.4
Graduate Degree	9.3
High School Diploma & Above	84.1
Associate Degree & Above	34.2

Source: 2001 Ventura County Economic Outlook

**Table 8-2
Private Schools**

School	Grades
First Baptist Day	K-5
St. Augustine Academy	4-12
Sacred Heart	K-8
Ventura Missionary Christian Day	K-8
College Heights Christian	K-8
St. Bonaventure High School	9-12
Holy Cross	K-8
Our Lady of The Assumption	K-8
St. Paul's Parish Day	K-8
Grace Lutheran Christian Day	K-6
Jameson	K-12
Ventura County Christian	K-12
Hill Road Montessori Preschool	K-3
Wells Road Baptist Academy	K-12

Most public schools operate at or near capacity (see Table 8-3), and continuing growth in Ventura requires the District to search for sites for new schools (see Table 8-4). Developers of new projects are required to dedicate land or pay fees for school purposes, and any major annexation of land outside the city is likely to have to provide a school site to serve new resident children. Still, the scarcity and cost of suitable sites means that greater thought will need to be given to shared facility use and other non-traditional approaches to expanding capacity.

Table 8-3. Ventura Unified School District Enrollment

Schools – No.	Students	Capacity
Elementary – 17	8,093	95%
Middle – 4	4,304	93%
High - 3	4,820	85%
TOTAL	17,217	92%

Source: Ventura Unified School District, 2003

Table 8-4. Public School Demand

School Type	Students/School	School Needs	Acres Needed ¹
Elementary	600	4	40
Middle	1,000	1	20
High	2,000	1	40
TOTAL		6	100

1. Assumes 10 acres for elementary schools, 20 acres for middle schools, and 40 acres for high schools.

Source: Ventura Unified School District, 2003

Ventura is increasingly becoming recognized as a center for higher education. Ventura College is a highly respected two-year school with more than 12,000 students, providing everything from a

distinguished transfer opportunity for the University of California to certificates and associates degrees in important fields such as manufacturing and nursing. Students also can obtain four-year degrees in certain fields at the UCSB Ventura Center. Brooks Institute of Photography provides education in photojournalism, filmmaking, and related fields, providing the city with a significant cultural asset. Residents can earn graduate degrees in law, public policy, and education at the Ventura campuses of California Lutheran University, Azusa Pacific University, the Ventura College of Law, and the Southern California Institute of Law. The opening of the nearby California State University Channel Islands has drawn many students and faculty to live in Ventura, especially those in creative fields.

Combined, these institutions of higher learning provide Ventura with tremendous educational assets. Through the policies and actions in this chapter, the City is committed to nurturing these institutions, creating synergy among them, and instilling both cultural and economic opportunities.

Libraries of the Future

The County public library system in Ventura currently operates three branch libraries that serve about 200,000 visits annually (see Table 8-5). But in a digital age where more and more content is available online, the traditional book borrowing function is becoming outmoded. Library administrators and staff, the City’s Library Advisory Commission, and patrons have all pointed to needs for adding library space, extending operating hours, and updating and expanding learning resources.

At a more fundamental level, the ideas of what constitutes a library and how it fits the patterns of a learning community need to be reexamined. Integration with school libraries, including the Ventura College Learning Center, is a top priority for this reevaluation, as embodied in the policies and actions in this chapter.

City and Community Programs

Traditional classroom settings alone cannot provide the complete set of educational skills and experience needed by people of all ages. The City provides a variety of learning opportunities, including youth and adult art programs, environmental education, adaptive recreation programs, youth after-school activities, and summer camps. Community organizations also provide a range of classes and experiences, including tours, museums, lectures, and hands-on activities. Expanding venues for such activities and promoting participation in them are key challenges.

Policies and actions in this chapter seek to expand lifelong learning opportunities for everyone in the community.

Table 8-5. Local Libraries

Library	Card-Holders	2003-2004 Patronage	Hours Open Weekly	Facility Size (sq. ft.)
E. P. Foster	48,195	366,134	54	31,000
H. P. Wright			39	12,000
Avenue			25	3,000

Source: Ventura County Library Administration, 2005

Policy 8A: Reach out to institutions and educators to advance lifelong learning.

Action 8.1: Work closely with schools, colleges, and libraries to provide input into site and facility planning.


Action 8.2: Organize a regional education summit to generate interest in and ideas about learning opportunities.


Action 8.3: Adopt joint-use agreements with libraries, schools, and other institutions to maximize use of educational facilities.

Action 8.4: Distribute information about local educational programs.

Policy 8B: Increase the availability and diversity of learning resources.

Action 8.5: Install infrastructure for wireless technology and computer networking in City facilities.

Action 8.6: Establish educational centers at City parks. 

Action 8.7: Work with the State Parks Department to establish a marine learning center at the Harbor. 

Action 8.8: Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development.

Policy 8C: Reshape public libraries as 21st Century learning centers.

Action 8.9: Complete a new analysis of community needs, rethinking the role of public libraries in light of the ongoing advances in information technology and the changing ways that individuals and families seek out information and life-long learning opportunities.

Action 8.10: Reassess the formal and informal relationships between our current three branch public libraries and school libraries – including the new Ventura College Learning Resource Center – as well as joint use of facilities for a broader range or compatible public, cultural, and educational uses.

Action 8.11: Develop a Master Plan for Facilities, Programs, and Partnerships to create an accessible, robust, and vibrant library for the 21st Century system, taking into consideration that circulation of books is no longer the dominant function but will continue to be an important part of a linked network of learning centers.

Action 8.12: Develop formal partnerships, funding, capital strategies, and joint use agreements to implement the new libraries Master Plan.



"Whatever you can do, or dream you can,
begin it. Boldness has genius, power and
magic in it."

— Johann Wolfgang von Goethe

CITY OF
VENTURA

OUR CREATIVE COMMUNITY
ventura's general plan

9. OUR CREATIVE COMMUNITY

Our goal is to become a vibrant cultural center by weaving the arts and local heritage into everyday life.

A Rich Foundation

Local history, artistic expression, and cultural diversity play vital roles in making Ventura a vibrant and interesting place. The heritage of Chumash civilization, which developed over the course of about 9,000 years, and influences of Mexican settlement establish a rich tableau for the modern development of the city. Art in museums, galleries, and public places, as well as space and energy devoted to the creation of artwork and crafts connect the community in complex and fundamental ways. Cultural expression in the form of festivals and informal gatherings provide additional and essential bonds that strengthen the community.

Historic Context

Abundant food and water, temperate climate, and ample material for tool manufacturing attracted early local inhabitants. Chumash peoples were living in a string of coastal villages when Spanish explorers arrived in 1542. Shisholop village (at the south end of present-day Figueroa Street) was a thriving Chumash provincial capital at the time of the Spanish arrival. Other Chumash villages and burial sites have been found in what are now the North Avenue and Saticoy neighborhoods, as well as north of the Ventura River. Mexican settlers began to arrive in earnest

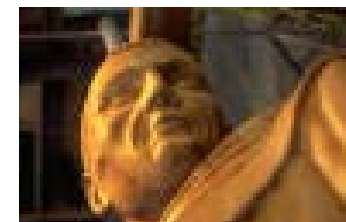
**Table 9-1
Key Historical and Cultural Sites**

Site	Description
Albinger Museum	Artifacts spanning 3,500 years excavated from a site next to the Mission are on display in this former adobe at 113 East Main Street.
Downtown	Downtown Ventura is home to a variety of 19 th Century buildings that house restaurants and retail establishments in a small-town setting with a variety of cultural amenities.
Olivas Adobe Park	Completed in 1849 for the Raymundo ranching family, the well-preserved hacienda at 4200 Olivas Park Road is utilized as concert and banquet facility.
Ortega Adobe	Built in 1857, the adobe is only remaining example of the middle class homes that once lined West Main Street. The building has since been used as a police station and restaurant.
San Buenaventura Mission	Built in 1782, the Mission anchors the western part of the downtown area and is still used for regular Catholic services.
Santa Gertrudis Chapel	The Chapel was originally completed around 1809. The site is located along Highway 33 near Foster Park.
San Miguel Chapel	The site is located at Thompson Boulevard and Palm Street. The original chapel dated back to the early 1800s.
Ventura County Museum of History and Art	The museum at 100 East Main Street houses exhibits featuring local artists and historical artifacts. Expansion plans include a 200-seat auditorium and a gallery with touring exhibits.

Source: City of Ventura

after the founding of Mission San Buenaventura in 1782.

More than 90 historic sites have been identified in the planning area (which includes areas outside the city). Notable ones include the Mission, the Ortega and Olivas Adobes, and the locations of the Santa Gertrudis and San Miguel Chapels (See Table 9-1 and Figure 9-1). Many of the existing buildings in Ventura were constructed between 1880 and 1940, a period that coincided with development of the railroads and harbor. City



Hall (formerly the County Courthouse) and the Mission aqueduct are listed as landmarks on the National Register of Historic Places, and structures in the following historic districts are protected by City architectural controls:

- the grounds within the Mission District,
- the Mitchell block (south of Thompson Boulevard between Chestnut and Fir Streets),
- the Selwyn Shaw block (north of Poli Street between Ann and Hemlock Streets), and
- the Simpson Tract (west of Ventura Avenue between Simpson and Prospect Streets).



Arts and Culture

When the City first adopted a Community Cultural Plan in 1992, Ventura's creative community was in its fledgling stage. Few of the now-thriving professional art and cultural organizations existed (see Table 9-2). A burgeoning visual artist community had made the city its home, but was fairly invisible except to the more intrepid arts supporters and collectors.

Since completion of that plan, the City has either implemented or initiated all of its recommendations, which were developed through extensive public involvement. As a result, the growth of the cultural community has been extraordinary. Now Ventura is home to a wealth of active artists and arts organizations. From 1994-2004, the budgets of arts organizations in Downtown Ventura alone increased from \$500,000 to more than \$4 million.

Ventura also now has a complement of major cultural institutions unique for a city of its size, including the Ventura Music Festival, the Rubicon Theatre Company, the Ventura County Museum of History and Art, and Focus on the Masters. The individual artists who live and work in the city continue to comprise a major part of its cultural fabric, and are highlighted in popular cultural events like the Downtown ArtWalks.

A strong focus of the City's general is to build the arts infrastructure of Ventura. A strong cultural infrastructure is the foundation of a healthy arts

ecosystem: this includes *places* (for arts creation, sales, exhibition, performance, rehearsal, living), *people* (artists, audiences, patrons), and *organizations* (production, support, and presentation).

In keeping with the community's respect for its roots, the Ventura arts scene remains authentic, no small feat in today's competitive environment. While many communities focus on importing Broadway shows or big-name art exhibits to increase their profile, Ventura successfully continues to highlight local artists, architecture, culture, history, and the environment – the unique threads that together comprise the rich tapestry of the Ventura community. Policies and actions in this chapter call for continuing to build the cultural foundations of the community by involving everyone in the production, support, and presentation of art and cultural programs, installing art in public places, providing working and display space for local artists, and identifying a site for an arts and cultural center.





**Table 9-2
Art and Cultural Institutions**

Name	Description	Years in Operation	Annual Patronage
Buenaventura Arts Association	Fine art gallery in downtown Ventura.	50	5,000
Channelaire Chorus	Women's chorus	42	2,500
City of Ventura Cultural Affairs Division	Supports local arts organizations; produces cultural programs (ArtWalks, Street Fairs, Music Under the Stars, Arts Education classes, grants, public art, etc.)	13	132,000
Focus on the Masters	Documentation of extraordinary artists (photographs, audio and video interviews)	10	15,000
Kids' Art	Ongoing, free kids' creative arts programs	12	350
Music 4 Kids	After school music instruction at Boys & Girls Clubs	4	800
Plexus Dance Theater	Professional modern dance performances	20	1,400
Rubicon Theater	Regional theater – classic and contemporary	6	37,000
San Buenaventura Foundation for the Arts	Arts umbrella organization - supports development of the Cultural Center and produces Arts Explosion	5	5,900
Ventura Area Theater Sports	Live improvisational theater in downtown Ventura	15	5,000
Ventura Artists' Union	Art gallery and weekly arts shows on California Plaza	15	17,000
Ventura College Opera Workshop	Opera and theater company at Ventura College	21	4,500
Ventura County Ballet	Ballet school with twice annual performances	6	11,000
Ventura County Master Chorale	Professional vocal music ensemble	23	6,000
Ventura County Museum of History and Art	Museum featuring exhibits on the history and art of Ventura County	26	55,000
Ventura Music Festival	Annual concert festival presenting international and local performers	11	9,000

Policy 9A: Increase public art and cultural expression throughout the community.

Action 9.1: Require works of art in public spaces per the City’s Public Art Program Ordinance.

Action 9.2: Sponsor and organize local art exhibits, performances, festivals, cultural events, and forums for local arts organizations and artists. 

Action 9.3: Expand outreach and publicity by: 

- promoting locally produced art and local cultural programs
- publishing a monthly calendar of local art and cultural features,
- distributing the *State of the Arts* quarterly report, and
- offering free or subsidized tickets to events.

Action 9.4: Support the creative sector through training and other professional development opportunities.

Action 9.5: Work with the schools to integrate arts education into the core curriculum.

Action 9.6: Promote the cultural and artistic expressions of Ventura’s underrepresented cultural groups.


Action 9.7: Offer ticket subsidy and distribution programs and facilitate transportation to cultural offerings.

Policy 9B: Meet diverse needs for performance, exhibition, and workspace.


Action 9.8: Increase the amount of live-work development, and allow its use for production, display, and sale of art.


Action 9.9: Work with community groups to locate sites for venues for theater, dance, music, and children’s programming.

Policy 9C: Integrate local history and heritage into urban form and daily life.


Action 9.10: Provide incentives for preserving structures and sites that are representative of the various periods of the city’s social and physical development. 


Action 9.11: Organize and promote multi-cultural programs and events that celebrate local history and diversity.


Action 9.12: Allow adaptive reuse of historic buildings. 


Action 9.13: Work with community groups to identify locations for facilities that celebrate local cultural heritage, such as a living history Chumash village and an agricultural history museum. 


Policy 9D: Ensure proper treatment of archeological and historic resources.


Action 9.14: Require archaeological assessments for projects proposed in the Coastal Zone and other areas where cultural resources are likely to be located. 

Action 9.15: Suspend development activity when archaeological resources are discovered, and require the developer to retain a qualified archaeologist to oversee handling of the resources in coordination with the Ventura County Archaeological Society and local Native American organizations as appropriate. 

Action 9.16: Pursue funding to preserve historic resources. 


Action 9.17: Provide incentives to owners of eligible structures to seek historic landmark status and invest in restoration efforts. 


Action 9.18: Require that modifications to historically-designated buildings maintain their character. 


Action 9.19: For any project in a historic district or that would affect any potential historic resource or structure more than 40 years old, require an assessment of eligibility for State and federal register and landmark status and appropriate mitigation to protect the resource. 


Action 9.20: Seek input from the City's Historic Preservation Commission on any proposed

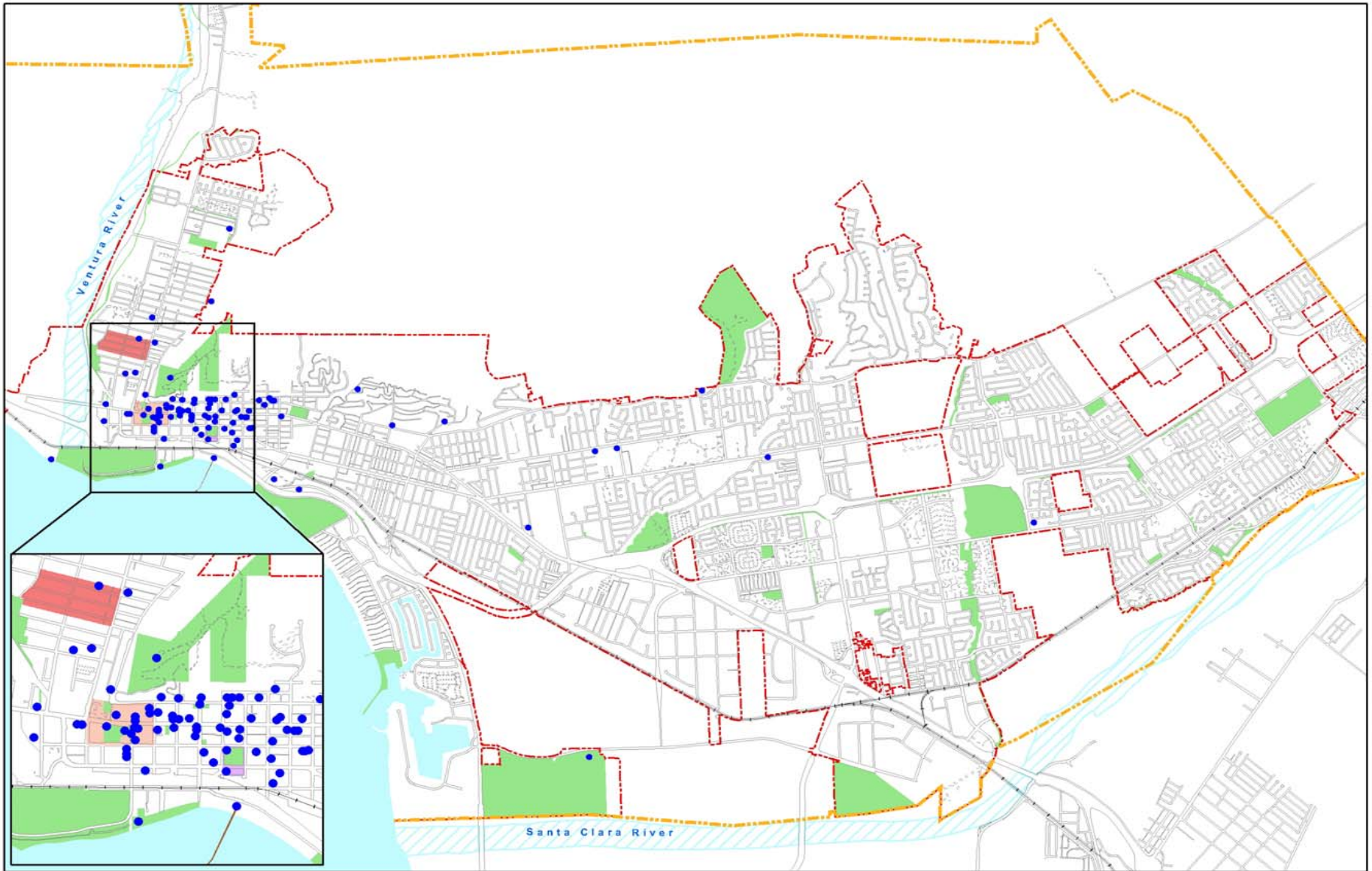
development that may affect any designated or potential landmark. 

Action 9.21: Update the inventory of historic properties. 

Action 9.22: Create a set of guidelines and/or policies directing staff, private property owners, developers, and the public regarding treatment of historic resources that will be readily available at the counter. 

Action 9.23: Complete and maintain historic resource surveys containing all the present and future components of the historic fabric within the built, natural, and cultural environments. 

Action 9.24: Create a historic preservation element. 



- Historical Sites
- City Limits
- Mission Historic District
- Mitchell Block Historic District
- Selwyn Shaw Historic District
- Simpson Tract Historic District
- Parks
- Planning Area

Figure 9-1
Historic Districts and Sites

This map is a product of the City of San Buenaventura, California. Although reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.



"Never believe that a few caring people can't change the world. For indeed, that's all who ever have."

— Margaret Mead
Renowned Anthropologist

10. OUR INVOLVED COMMUNITY

Our goal is to strive to work together as a community to achieve the Ventura Vision through civic engagement, partnerships, and volunteer service.

Civic Engagement

It is not enough to have a vision of smart growth for Ventura. Achieving that vision requires the active and ongoing participation of an engaged and active community. Fortunately, Ventura builds on a strong foundation: thousands of Ventura citizens are involved in their schools and places of worship and give their time to civic, cultural, and charitable organizations. City Commissions, the Community Councils, the Chamber of Commerce and other well-established avenues provide opportunities for community leadership.

This is what Alexis De Toqueville celebrated in his famous book, *Democracy in America*, calling our nation, “the one country in the world, day in and day out, that makes use of an unlimited freedom of association.” Yet today in Ventura, as all across America, there is concern about the health of our democracy. Sociologist Robert Putnam gained national attention with his research showing that “by almost every measure, Americans’ direct engagement in politics and government has fallen steadily and sharply over the last generation.”

Among the symptoms in Ventura have been a decline in voter turnout in recent local elections – (a 36% drop from 1995 through 2003.) Over those years, the ability to build consensus about future development has been undermined by sharply polarized divisions, showdowns at the ballot box, and often rancorous public hearings. The complaint often recurs that planning decisions are made without adequate notice or consideration of the views of those affected. Many citizens criticize the City decision-making process as convoluted and counterproductive.

Moreover, ongoing participation of an engaged community requires civic places where citizens can come together. It is not insignificant that a decline in public participation and the quality of civic discourse has paralleled the loss of civic places in our cities. Historically, governments provided open spaces and buildings that were at the center of a community, physically and symbolically. Town squares and plazas, often faced by a hall for formal gathering and civic engagement, have all but disappeared. The poverty of American public places was apparent after the Columbine High School shooting in Colorado, when citizens gathered to mourn, not in a shared place for people, but in a parking lot.

Nearly everyone agrees we can and should do better. The best model for doing this was the citywide effort to craft the *Ventura Vision*. Thousands participated in a year-long partnership encompassing City government, non-profit organizations, community groups, business,

schools and individual residents to chart the community's future.

The vision of an “involved community” was described in the *Ventura Vision* report as: seeking “broad community collaboration; more widely publicizing city government services, planning processes and policies; better involvement of typically under-represented groups such as youth, seniors and ethnic minorities in community planning; and developing public parks, plazas, neighborhood greenways and other spaces that promote civic interaction and events.”

Since that vision was adopted by the City Council in 2000, the City has worked to implement it, building on existing community assets and strengthening the linkages and interconnections that already exist among people, organizations, and shared community goals. A remarkable example of broad community collaboration earned attention throughout Southern California in late 2004. Facing the prospect of winter flooding, the City undertook to evacuate homeless people living in the channel of the Ventura River. This was accomplished by a partnership involving non-profit social service agencies, faith-based organizations, City staff, business leaders, community volunteers and the affected homeless population.

There are many more models of successful community collaboration in Ventura, including: the restoration of the pier, the community's rich array of after-school programs, the implementation of the 1992 Cultural Plan, the 2004 Downtown

Charrette, the 2005 Midtown Design Charrette and the establishment of conservancies to preserve the Grant Park cross and Ventura's cherished hillsides.

City government has learned from these efforts to reach broadly and deeply into the community. Civic engagement and trust are built when City representatives actively seek to involve everyone in positive and transparent partnerships. That goal requires a continually evolving effort to promote participation:

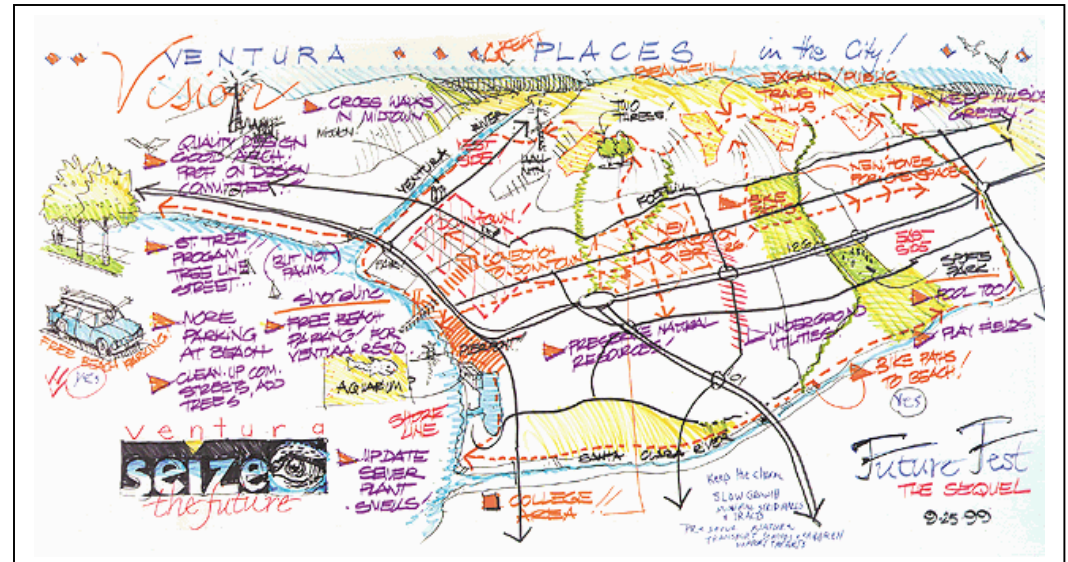
- through proactive and interactive media outreach in the press, on the web, on radio and television,
- by striving to include everyone in decision making and making it convenient for them to participate by seeking them out in their neighborhoods and gathering places like schools, houses of worship and public spaces, and
- through community dialogues, workshops, charrettes, town hall forums, and community councils, in addition to formal public hearings.

More effort needs to be put into building consensus about future growth and change upfront through community planning, rather than waiting until specific development projects are proposed. That effort will continue with the work to craft a citywide “form-based code” and concentrated planning efforts for specific neighborhoods and districts.

Focused attention should be paid to making our public decision-making processes easier to understand and participate in. Citizens have little time or patience for complicated planning and entitlement processes that drag on for years. By establishing clearer rules and public processes for applying them, the policies and actions in this chapter will enable more citizens to feel that they will be heard and their contributions valued. By involving a wider range of the community in clearly setting Ventura's planning goals and standards of quality, we can devote more time to achieving those goals and less time wrangling over specific proposals.

Ventura also needs to reestablish places for civic discourse. While the City will continue to encourage the use of our beautiful City Hall for its historic role of government by and for the people, we also need a hierarchy of civic spaces citywide that are strategically located in neighborhood centers and accessible by pedestrians (see Chapter Three, Action 3.8). Every neighborhood should have access to a physical location designated for public gathering and civic purposes.

Our long-range vision is to build an ethic and a fabric of robust civic engagement – what De Toqueville called “the habits of the heart.” His phrase evokes what the Ventura Vision called “direct engagement in public affairs” through “participation, hard work and collaboration . . . sustaining Ventura as an exceptional place.” The policies and actions in this chapter aim to do just that.



Policy 10A: Work collaboratively to increase citizen participation in public affairs.

Action 10.1: Conduct focused outreach efforts to encourage all members of the community – including youth, seniors, special needs groups, and non-English speakers – to participate in City activities.

Action 10.2: Obtain public participation by seeking out citizens in their neighborhoods and gathering places such as schools, houses of worship and public spaces.

Action 10.3: Invite civic, neighborhood, and non-profit groups to assist with City project and program planning and implementation.

Action 10.4: Provide incentives for City staff to participate in community and volunteer activities.

Action 10.5: Invite seniors to mentor youth and serve as guides at historical sites.

Action 10.6: Offer internships in City governance, and include youth representatives on public bodies.

Action 10.7: Continue to offer the Ambassadors program to obtain citizens assistance with City projects.

Policy 10B: Raise awareness of City operations and be clear about City objectives.

Action 10.8: Utilize the City website as a key source of information and expand it to serve as a tool for civic engagement.


Action 10.9: Publish an annual report that evaluates City performance in such areas as conservation, housing, and economic development.


Action 10.10: Continue to improve the user-friendliness of the media that communicate information about the City,

including the website, cable channels, newsletters, kiosks, and water billing statements.

Policy 10 C: Work at the neighborhood level to promote citizen engagement.

Action 10.11: Establish a clear policy toward the scope, role, boundaries, and jurisdiction of neighborhood Community Councils citywide, with the objectives of strengthening their roles in decision-making.

Action 10.12: Establish stronger partnerships with neighborhood Community Councils to set area priorities for capital investment, community policing, City services, commercial investment, physical planning, education, and other concerns, to guide both City policies and day-to-day cooperation and problem-solving. 

Action 10.13: Recognizing that neighborhood empowerment must be balanced and sustained by overall City policies and citywide vision and resources – establish a citywide Neighborhood Community Congress where local neighborhood Community Councils can collaborate and learn from each other. 

Action 10.14: Establish clear liaison relationships to foster communication, training, and involvement efforts between the City, neighborhood Community Councils and other community partners, including the Ventura Unified School District and business, civic, cultural and religious groups.




JOE VIVINO









DONNA GRANATA


"Individual commitment to a group effort, that is what makes a team work, a company work, a society work, a civilization work."






— Vince Lombardi
Author of *What It Takes To Be #1*, 2001

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		

Number	Action	Lead Entity	Timeframe
1.1	 Adhere to the policies and directives of the California Coastal Act in reviewing and permitting any proposed development in the Coastal Zone.	CD [CP]	Ongoing
1.2	 Prohibit non-coastal-dependent energy facilities within the Coastal Zone, and require any coastal-dependent facilities including pipelines and public utility structures to avoid coastal resources (including recreation, habitat, and archaeological areas) to the extent feasible, or to minimize any impacts if development in such areas is unavoidable.	CD [CP]	Ongoing
1.3	 Work with the State Department of Parks and Recreation, Ventura County Watershed Protection Agency, and the Ventura Port District to determine and carry out appropriate methods for protecting and restoring coastal resources, including by supplying sand at beaches under the Beach Erosion Authority for Control Operations and Nourishment (BEACON) South Central Coast Beach Enhancement program.	PW [E]	Ongoing
1.4	 Require new coastal development to provide non-structural shoreline protection that avoids adverse impacts to coastal processes and nearby beaches.	CD [CP]	Ongoing
1.5	 Collect suitable material from dredging and development, and add it to beaches as needed and feasible.	PW [E]	Ongoing
1.6	 Support continued efforts to decommission Matilija Dam to improve the sand supply to local beaches.	PW [U]	Long-term
1.7	Update the Hillside Management Program to address and be consistent with the Planning Designations as defined and depicted on the General Plan Diagram.	CD [LRP]	Short-term

APPENDIX A

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program		

Number	Action	Lead Entity	Timeframe
1.8	 Buffer barrancas and creeks that retain natural soil slopes from development according to state and Federal guidelines.	CD [LD]	Ongoing
1.9	 Prohibit placement of material in watercourses other than native plants and required flood control structures, and remove debris periodically.	PW [MS/P]	Ongoing
1.10	 Remove concrete channel structures as funding allows, and where doing so will fit the context of the surrounding area and not create unacceptable flood or erosion potential.	PW [MS/P]	Long-term
1.11	 Require that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or "natural" areas.	CD [LRP]	Short-term
1.12	Update the provisions of the Hillside Management Program as necessary to ensure protection of open space lands.	CD [LRP]	Mid-term
1.13	Recommend that the City's Sphere of Influence be coterminous with existing City limits in the hillsides in order to preserve the hillsides as open space.	CD [LRP]	Short-term
1.14	Work with established land conservation organizations toward establishing a Ventura hillsides preserve.	PW [P]	Long-term
1.15	Actively seek local, state, and Federal funding sources to achieve preservation of the hillsides.	PW [P]	Mid-term
1.16	 Comply with directives from regulatory authorities to update and enforce stormwater quality and watershed protection measures that limit impacts to aquatic ecosystems and that preserve and restore the beneficial uses of natural watercourses and wetlands in the city.	PW	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	





Number	Action	Lead Entity	Timeframe
1.17	Require development to mitigate its impacts on wildlife through the development review process.	CD [CP]	Ongoing
1.18	Require new development adjacent to rivers, creeks, and barrancas to use native or non-invasive plant species, preferably drought tolerant, for landscaping.	CD [CP] PW [P]	Ongoing
1.19	Require projects near watercourses, shoreline areas, and other sensitive habitat areas to include surveys for State and/or federally listed sensitive species and to provide appropriate buffers and other mitigation necessary to protect habitat for listed species.	CD [LRP]	Long-term
1.20	Conduct coastal dredging in accordance with the U.S. Army Corps of Engineers and California Department of Fish and Game requirements in order to avoid impacts to sensitive fish and bird species.	PW [E]	Ongoing
1.21	Work with State Parks on restoring the Alessandro Lagoon and pursue funding cooperatively.	PW [P]	Long-term
1.22	Adopt development code provisions to protect mature trees as defined by minimum height, canopy, and/or tree trunk diameter.	CD [LRP]	Short-term
1.23	Require, where appropriate, the preservation of healthy tree windrows associated with current and former agricultural uses, and incorporate trees into the design of new developments.	CD [CP]	Short-term
1.24	Require new development to maintain all indigenous tree species or provide adequately sized replacement native trees on a 3:1 basis.	CD [CP]	Ongoing
1.25	Purchase and use recycled materials and alternative and renewable energy sources as feasible in	AS [P]	Ongoing

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department	CS [CA] = Cultural Affairs
AS [P] = Purchasing	CS [GS/AS] = Golf Services/Adult Sports
CA = City Attorney	CS [SS] = Social Services
CD = Community Development Department	FD = Fire Department
CD [A] = Administration	FD [IS] = Inspection Services
CD [CP] = Current Planning	HR = Human Resources Department
CD [LRP] = Long Range Planning	PD = Police Department
CD [ED] = Economic Development	PW = Public Works Department
CD [LD] = Land Development	PW [E] = Engineering
CD [RDA] = Redevelopment Agency	PW [P] = Parks
CC = City Council	PW [MS] = Maintenance Services
CM = City Manager's Department	PW [U] = Utilities
CM [CE] = Civic Engagement	
CS = Community Services Department	
CS [CR] = Community Recreation	

Short-term = 0-5 years
Mid-term = 5-10 years
Long-term = 10-20 years
Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program

Number	Action	Lead Entity	Timeframe
	City operations.		
1.26	 Reduce pesticide use in City operations.	PW [P]	Mid-term
1.27	Utilize green waste as biomass/compost in City operations.	PW [P]	Mid-term
1.28	Purchase low-emission City vehicles, and convert existing gasoline-powered fleet vehicles to cleaner fuels as technology becomes available.	PW [MS]	Mid-term
1.29	 Require all City funded projects that enter design and construction after January 1, 2006 to meet a design construction standard equivalent to the minimum U.S. Green Building Council LEED™ Certified rating in accordance with the City's Green Building Standards for Private and Municipal Construction Projects.	FD [IS]	Short-term
1.30	Provide information to businesses about how to reduce waste and pollution and conserve resources.	PW [MS]	Short-term
1.31	 Provide incentives for green building projects in both the public and private sectors to comply with either the LEED™ Rating System, California Green Builder, or the Residential Built Green program and to pursue registration and certification; incentives include "Head-of-the-Line" discretionary processing and "Head-of-the-Line" building permit processing.	FD [IS]	Short-term
1.32	 Apply for grants, rebates, and other funding to install solar panels on all City-owned structures to provide at least half of their electric energy requirements.	PW	Ongoing






<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
1.33	Publicly acknowledge individuals and businesses that implement green construction and building practices.	FD [IS]	Ongoing
2.1	Track economic indicators for changes that may affect City land resources, tax base, or employment base, such as terms and conditions of sale or lease of available office, retail, and manufacturing space.	CD [ED]	Ongoing
2.2	Prepare an economic base analysis that identifies opportunities to capture retail sales in sectors where resident purchasing has leaked to other jurisdictions.	CD [ED]	Short-term
2.3	Maintain and update an Economic Development Strategy to implement City economic goals and objectives.	CD [ED]	Ongoing
2.4	Map priority locations for commercial and industrial development and revitalization, including a range of parcel sizes targeted for high-technology, non-durables manufacturing, finance, business services, tourism, and retail uses.	CD	Short-term
2.5	Share economic and demographic information with organizations that may refer businesses to Ventura.	CD [ED]	Ongoing
2.6	Encourage intensification and diversification of uses and properties in districts, corridors, and neighborhood centers, including through assembly of vacant and underutilized parcels.	CD [ED]	Ongoing

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department	CS [CA] = Cultural Affairs
AS [P] = Purchasing	CS [GS/AS] = Golf Services/Adult Sports
CA = City Attorney	CS [SS] = Social Services
CD = Community Development Department	FD = Fire Department
CD [A] = Administration	FD [IS] = Inspection Services
CD [CP] = Current Planning	HR = Human Resources Department
CD [LRP] = Long Range Planning	PD = Police Department
CD [ED] = Economic Development	PW = Public Works Department
CD [LD] = Land Development	PW [E] = Engineering
CD [RDA] = Redevelopment Agency	PW [P] = Parks
CC = City Council	PW [MS] = Maintenance Services
CM = City Manager's Department	PW [U] = Utilities
CM [CE] = Civic Engagement	
CS = Community Services Department	
CS [CR] = Community Recreation	
	Short-term = 0-5 years
	Mid-term = 5-10 years
	Long-term = 10-20 years
	Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program

Number	Action	Lead Entity	Timeframe
2.7	Partner with local commerce groups to recruit companies and pursue funding for business development and land re-utilization.	CD [ED]	Ongoing
2.8	Carry out Housing Element programs that provide housing to all segments of the local workforce.	CD	Ongoing
2.9	Expedite review for childcare facilities that will provide support to local employees.	CD [CP]	Short-term
2.10	Expedite review of the entitlement process for installation of infrastructure necessary to support high technology and multimedia companies.	CA	Mid-term
2.11	 Allow mixed-use development in commercial and industrial districts as appropriate.	CD [LRP]	Short-term
2.12	 Allow uses such as conference centers with resort amenities on appropriately sized and located parcels.	CD [LRP]	Short-term
2.13	Market the city to businesses that link agriculture with high technology, such as biotechnology enterprises.	CD [ED]	Ongoing
2.14	 Partner with local farms to promote farmers markets and high quality locally grown food.	CS	Ongoing
2.15	 Provide incentives for use of waterfront parcels for recreation, visitor-serving commerce, restaurant, marina, and fishing uses.	CD [ED]	Short-term
2.16	 Work with the State to create year-round commercial opportunities at the fairgrounds.	CD [ED]	Long-term


KEY TO ABBREVIATIONS










AS = Administrative Services Department
 AS [P] = Purchasing
 CA = City Attorney
 CD = Community Development Department
 CD [A] = Administration
 CD [CP] = Current Planning
 CD [LRP] = Long Range Planning
 CD [ED] = Economic Development
 CD [LD] = Land Development
 CD [RDA] = Redevelopment Agency
 CC = City Council
 CM = City Manager's Department
 CM [CE] = Civic Engagement
 CS = Community Services Department
 CS [CR] = Community Recreation

CS [CA] = Cultural Affairs
 CS [GS/AS] = Golf Services/Adult Sports
 CS [SS] = Social Services
 FD = Fire Department
 FD [IS] = Inspection Services
 HR = Human Resources Department
 PD = Police Department
 PW = Public Works Department
 PW [E] = Engineering
 PW [P] = Parks
 PW [MS] = Maintenance Services
 PW [U] = Utilities


Short-term = 0-5 years
 Mid-term = 5-10 years
 Long-term = 10-20 years






Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program

Number	Action	Lead Entity	Timeframe
2.17	 Partner with the Harbor District and National Park Service to promote Channel Islands tours and develop a marine learning center.	CS	Long-term
2.18	 Prioritize uses within the Harbor Specific Plan area as follows: (1) coastal dependent, (2) commercial fishing, (3) coastal access, and (4) visitor serving commercial and recreational uses.	CD	Short-term
2.19	 Partner with hotels and the Chamber of Commerce to promote city golf courses.	CS [GS/AS]	Long-term
2.20	 Promote outdoor recreation as part of an enhanced visitor opportunity strategy.	CS	Mid-term
3.1	 Preserve the stock of existing homes by carrying out Housing Element programs.	CD	Ongoing
3.2	 Enhance the appearance of districts, corridors, and gateways (including views from highways) through controls on building placement, design elements, and signage.	CD [LRP]	Short-term
3.3	 Require preservation of public view sheds and solar access.	CD [CP]	Short-term
3.4	 Require all shoreline development (including anti-erosion or other protective structures) to provide public access to and along the coast, unless it would duplicate adequate access existing nearby, adversely affect agriculture, or be inconsistent with public safety, military security, or protection of fragile coastal resources.	CD [CP]	Ongoing
3.5	 Establish land development incentives to upgrade the appearance of poorly maintained or	FD [IS]	Mid-term

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation	CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action
 = Action included in the Land Use Plan of the City's Local Coastal Program	


Number	Action	Lead Entity	Timeframe
	otherwise unattractive sites, and enforce existing land maintenance regulations.		
3.6	 Expand and maintain the City's urban forest and thoroughfare landscaping, using native species, in accordance with the City's Park and Development Guidelines and Irrigation and Landscape Guidelines.	PW [P]	Ongoing
3.7	Evaluate whether lot coverage standards should be changed based on neighborhood character.	CD [LRP]	Short-term
3.8	 Adopt new development code provisions that designate neighborhood centers, as depicted on the General Plan Diagram, for a mixture of residences and small-scale, local-serving businesses.	CD [LRP]	Short-term
3.9	 Adopt new development code provisions that designate areas within districts and corridors for mixed-use development that combines businesses with housing and focuses on the redesign of single-use shopping centers and retail parcels into walkable, well connected blocks, with a mix of building types, uses, and public and private frontages.	CD [LRP]	Short-term
3.10	 Allow intensification of commercial areas through conversion of surface parking to building area under a districtwide parking management strategy in the Downtown Specific Plan.	CD [LRP]	Short-term
3.11	 Expand the downtown redevelopment area to include parcels around future transit areas and along freeway frontage.	CD [RDA]	Mid-term
3.12	The City will work with the hospitals on the new Development Code treatment for the Loma Vista corridor, which includes both hospitals.	CD [LRP]	Short-term




S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
3.13	Assess whether the City's Affordable Housing Programs respond to current needs, and modify them as necessary within State mandated Housing Element updates	CD	Ongoing
3.14	Utilize infill development, to the extent possible, to accommodate the targeted number and type of housing units described in the Housing Element	CD [LRP]	Ongoing
3.15	Adopt new development code provisions that ensure compliance with Housing Element objectives.	CD [LRP]	Short-term
3.16	Renew and modify greenbelt agreements as necessary to direct development to already urbanized areas.	CD [LRP]	Long-term
3.17	Continue to support the Guidelines for Orderly Development as a means of implementing the General Plan, and encourage adherence to these Guidelines by all the cities, the County of Ventura, and the Local Agency Formation Commission (LAFCO); and work with other nearby cities and agencies to avoid sprawl and preserve the rural character in areas outside the urban edge.	CD [LRP]	Ongoing
3.18	Complete community or specific plans, subject to funding, for areas such as Westside, Midtown, Downtown, Wells, Saticoy, Pierpont, Harbor, Loma Vista/Medical District, Victoria Corridor, and others as appropriate. These plans will set clear development standards for public and private investments, foster neighborhood partnerships, and be updated as needed.	CD [LRP]	Ongoing
3.19	Preparation of the new Development Code will take into account existing or proposed community or specific plans to ensure efficient use of City resources and ample citizen input.	CD [LRP]	Short-term

APPENDIX A


<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		




Number	Action	Lead Entity	Timeframe
3.20	Pursuant to SOAR, adopt development code provisions to “preserve agricultural and open space lands as a desirable means of shaping the City’s internal and external form and size, and of serving the needs of the residents.”	CD [LRP]	Short-term
3.21	 Adopt performance standards for non-farm activities in agricultural areas that protect and support farm operations, including requiring non-farm uses to provide all necessary buffers as determined by the Agriculture Commissioner’s Office.	CD [LRP]	Short-term
3.22	 Offer incentives for agricultural production operations to develop systems of raw product and product processing locally.	CD [ED]	Mid-term
3.23	 Develop and adopt a form-based Development Code that emphasizes pedestrian orientation, integration of land uses, treatment of streetscapes as community living space, and environmentally sensitive building design and operation.	CD [LRP]	Short-term
3.24	Revise the Residential Growth Management Program (RGMP) with an integrated set of growth management tools including: <ul style="list-style-type: none"> Community or specific plans and development codes based on availability of infrastructure and transit that regulate community form and character by directing new residential development to appropriate locations and in ways that integrate with and enhance existing neighborhoods, districts and corridors; appropriate mechanisms to ensure that new residential development produces high-quality 	CD [LRP]	Short-term

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	designs and a range of housing types across all income levels; and, <ul style="list-style-type: none"> • numeric limitations linked to the implementation of community or specific plans and development codes and the availability of appropriate infrastructure and resources; within those limitations, the RGMP should provide greater flexibility for timing new residential development. 		
3.25	Establish first priority growth areas to include the districts, corridors, and neighborhood centers as identified on the General Plan Diagram; and second priority areas to include vacant undeveloped land when a community plan has been prepared for such (within the City limits).	CD [LRP]	Short-term
3.26	Establish and administer a system for the gradual growth of the City through identification of areas set aside for long-term preservation, for controlled growth, and for encouraged growth.	CD [LRP]	Mid-term
3.27	Require the use of techniques such as digital simulation and modeling to assist in project review.	CD [CP]	Short-term
3.28	Revise the planning processes to be more user-friendly to both applicants and neighborhood residents in order to implement City policies more efficiently.	CD [CP]	Short-term
4. OUR ACCESSIBLE COMMUNITY			
4.1	Direct city transportation investment to efforts that improve user safety and keep the circulation system structurally sound and adequately maintained. First priority for capital funding will go to our pavement management program to return Ventura streets to excellent conditions.	PW [E]	Ongoing

APPENDIX A

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		

Number	Action	Lead Entity	Timeframe
4.2	Develop a prioritized list of projects needed to improve safety for all travel modes and provide needed connections and multiple route options.	PW [E]	Short-term
4.3	Provide transportation services that meet the special mobility needs of the community including youth, elderly, and disabled persons.	PW [E]	Ongoing
4.4	Combine education with enforcement to instill safe and courteous use of the shared public roadway.	CS	Ongoing
4.5	 Utilize existing roadways to meet mobility needs, and only consider additional travel lanes when other alternatives are not feasible.	CD [LRP]	Ongoing
4.6	Require new development to be designed with interconnected transportation modes and routes to complete a grid network.	CD [CP]	Short-term
4.7	 Update the traffic mitigation fee program to fund necessary citywide circulation system and mobility improvements needed in conjunction with new development.	CD [LD]	Short-term
4.8	Implement the City's Neighborhood Traffic Management Program and update as necessary to improve livability in residential areas.	PW [E]	Ongoing
4.9	 Identify, designate, and enforce truck routes to minimize the impact of truck traffic on residential neighborhoods.	PW [E]	Ongoing
4.10	Modify traffic signal timing to ensure safety and minimize delay for all users.	PW [E]	Short-term

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	






Number	Action	Lead Entity	Timeframe
4.11	Refine level of service standards to encourage use of alternative modes of transportation while meeting state and regional mandates.	PW [E]	Short-term
4.12	Design roadway improvements and facility modifications to minimize the potential for conflict between pedestrians, bicycles, and automobiles.	PW [E]	Ongoing
4.13	Require project proponents to analyze traffic impacts and provide adequate mitigation in the form of needed improvements, in-lieu fee, or a combination thereof.	CD [LD]	Ongoing
4.14	Provide development incentives to encourage projects that reduce automobile trips.	CD [CP]	Short-term
4.15	Encourage the placement of facilities that house or serve elderly, disabled, or socioeconomically disadvantaged persons in areas with existing public transportation services and pedestrian and bicycle amenities.	CD [CP]	Ongoing
4.16	Install roadway, transit, and alternative transportation improvements along existing or planned multi-modal corridors, including primary bike and transit routes, and at land use intensity nodes.	PW [E]	Ongoing
4.17	Prepare and periodically update a Mobility Plan that integrates a variety of travel alternatives to minimize reliance on any single mode.	CD [LRP]	Short-term
4.18	Promote the development and use of recreational trails as transportation routes to connect housing with services, entertainment, and employment.	PW [P]	Ongoing
4.19	Adopt new development code provisions that establish vehicle trip reduction requirements for all development.	CD [LRP]	Short-term

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department	CS [CA] = Cultural Affairs
AS [P] = Purchasing	CS [GS/AS] = Golf Services/Adult Sports
CA = City Attorney	CS [SS] = Social Services
CD = Community Development Department	FD = Fire Department
CD [A] = Administration	FD [IS] = Inspection Services
CD [CP] = Current Planning	HR = Human Resources Department
CD [LRP] = Long Range Planning	PD = Police Department
CD [ED] = Economic Development	PW = Public Works Department
CD [LD] = Land Development	PW [E] = Engineering
CD [RDA] = Redevelopment Agency	PW [P] = Parks
CC = City Council	PW [MS] = Maintenance Services
CM = City Manager's Department	PW [U] = Utilities
CM [CE] = Civic Engagement	
CS = Community Services Department	
CS [CR] = Community Recreation	

Short-term = 0-5 years
Mid-term = 5-10 years
Long-term = 10-20 years
Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program


Number	Action	Lead Entity	Timeframe
4.20	Develop a transportation demand management program to shift travel behavior toward alternative modes and services.	PW [E]	Mid-term
4.21	 Require new development to provide pedestrian and bicycle access and facilities as appropriate, including connected paths along the shoreline and watercourses.	PW [E/P]	Short-term
4.22	 Update the General Bikeway Plan as needed to encourage bicycle use as a viable transportation alternative to the automobile and include the bikeway plan as part of a new Mobility Plan.	PW [E]	Mid-term
4.23	 Upgrade and add bicycle lanes when conducting roadway maintenance as feasible.	PW [E]	Ongoing
4.24	 Require sidewalks wide enough to encourage walking that include ramps and other features needed to ensure access for mobility-impaired persons.	PW [E]	Short-term
4.25	 Adopt new development code provisions that require the construction of sidewalks in all future projects, where appropriate.	CD [LRP]	Short-term
4.26	Establish a parking management program to protect the livability of residential neighborhoods, as needed.	CD [LRP]	Short-term
4.27	Extend stubbed-end streets through future developments, where appropriate, to provide necessary circulation within a developing area and for adequate internal circulation within and between neighborhoods. Require new developments in the North Avenue area, where applicable, to extend Norway Drive and Floral Drive to connect to Canada Larga Road; and connect the existing segments of Floral Drive. Designate the extension of Cedar Street between Warner Street and	PW [E]	Mid-term


S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	south of Franklin Lane and the linking of the Cameron Street segments in the Westside community as high priority projects.		
4.28	Require all new development to provide for citywide improvements to transit stops that have sufficient quality and amenities, including shelters and benches, to encourage ridership.	PW [E]	Short-term
4.29	Develop incentives to encourage City employees and local employers to use transit, rideshare, walk, or bike.	HR	Mid-term
4.30	Work with public transit agencies to provide information to riders at transit stops, libraries, lodging, and event facilities.	PW [E]	Ongoing
4.31	Work with public and private transit providers to enhance public transit service.	PW [E]	Mid-term
4.32	Coordinate with public transit systems for the provision of additional routes as demand and funding allow.	PW [E]	Long-term
4.33	Work with Amtrak, Metrolink, and Union Pacific to maximize efficiency of passenger and freight rail service to the City and to integrate and coordinate passenger rail service with other transportation modes.	PW [E]	Mid-term
4.34	Lobby for additional transportation funding and changes to Federal, State, and regional transportation policy that support local decision-making.	PW [E]	Ongoing
4.35	The City shall pursue funding and site location for a multi-modal transit facility in coordination with VCTC, SCAT, U.P.R.R., Metrolink, Greyhound Bus Lines, and other forms of	PW [E]	Mid-term

APPENDIX A


<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		








Number	Action	Lead Entity	Timeframe
	transportation.		
4.36	<p> Require development along the following roadways – including noise mitigation, landscaping, and advertising – to respect and preserve views of the community and its natural context.</p> <ul style="list-style-type: none"> • State Route 33 • U.S. HWY 101 • Anchors Way • Brakey Road • Fairgrounds Loop • Ferro Drive • Figueroa Street • Harbor Boulevard • Main Street • Navigator Drive • North Bank Drive • Poli Street/Foothill Road • Olivas Park Drive • Schooner Drive 	CD [CP]	Ongoing

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	<ul style="list-style-type: none"> Spinnaker Drive Summit Drive Telegraph Road – east of Victoria Avenue Victoria Avenue – south of U.S. 101 Wells Road 		
4.37	Request that State Route 126 and 33, and U.S. HWY 101 be designated as State Scenic Highways.	CD [LRP]	Short-term
4.38	Continue to work with Caltrans to soften the barrier impact of U.S. HWY 101 by improving signage, aesthetics and undercrossings and overcrossings.	PW [E/P]	Ongoing
4.39	Maintain street trees along scenic thoroughfares, and replace unhealthy or missing trees along arterials and collectors throughout the City.	PW [P]	Ongoing
5. OUR SUSTAINABLE INFRASTRUCTURE			
5.1	Require low flow fixtures, leak repair, and drought tolerant landscaping (native species if possible), plus emerging water conservation techniques, such as reclamation, as they become available.	CD [CP]	Ongoing
5.2	Use natural features such as bioswales, wildlife ponds, and wetlands for flood control and water quality treatment when feasible.	PW [MS/P]	Ongoing
5.3	Demonstrate low water use techniques at community gardens and city-owned facilities.	PW [U/P]	Mid-term

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation	CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action
 = Action included in the Land Use Plan of the City's Local Coastal Program	


Number	Action	Lead Entity	Timeframe
5.4	Update the Urban Water Management plan as necessary in compliance with the State 1983 Urban Water Management Planning Act.	PW [U]	Ongoing
5.5	 Provide incentives for new residences and businesses to incorporate recycling and waste diversion practices, pursuant to guidelines provided by the Environmental Services Office.	PW [MS]	Ongoing
5.6	 Require project proponents to conduct sewer collection system analyses to determine if downstream facilities are adequate to handle the proposed development.	PW [U]	Ongoing
5.7	 Require project proponents to conduct evaluations of the existing water distribution system, pump station, and storage requirements in order to determine if there are any system deficiencies or needed improvements for the proposed development.	PW [U]	Ongoing
5.8	 Locate new development in or close to developed areas with adequate public services, where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.	CD [LRP]	Ongoing
5.9	 Update development fee and assessment district requirements as appropriate to cover the true costs associated with development.	AS	Mid-term
5.10	 Utilize existing waste source reduction requirements, and continue to expand and improve composting and recycling options.	PW [MS]	Mid-term
5.11	Increase emergency water supply capacity through cooperative tie-ins with neighboring suppliers.	PW [U]	Mid-term
5.12	 Apply new technologies to increase the efficiency of the wastewater treatment system.	PW [U]	Mid-term








S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
5.13	Increase frequency of city street sweeping, and post schedules at key points within each neighborhood.	PW [MS]	Mid-term
5.14	Develop a financing program for the replacement of failing corrugated metal storm drain pipes in the City.	PW [MS]	Short-term
5.15	Establish assessment districts or other financing mechanisms to address storm drain system deficiencies in areas where new development is anticipated and deficiencies exist.	PW [MS]	Mid-term
5.16	Require new developments to incorporate stormwater treatment practices that allow percolation to the underlying aquifer and minimize offsite surface runoff utilizing methods such as pervious paving material for parking and other paved areas to facilitate rainwater percolation and retention/detention basins that limit runoff to pre-development levels.	CD [LD]	Ongoing
5.17	Require stormwater treatment measures within new development to reduce the amount of urban pollutant runoff in the Ventura and Santa Clara Rivers and other watercourses.	CD [LD]	Ongoing
5.18	Work with the Ventura Regional Sanitation District and the County to expand the capacity of existing landfills, site new landfills, and/or develop alternative means of disposal that will provide sufficient capacity for solid waste generated in the City.	PW [MS]	Long-term

APPENDIX A

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		


Number	Action	Lead Entity	Timeframe
6. OUR ACTIVE COMMUNITY			
6.1	 Develop new neighborhood parks, pocket parks, and community gardens as feasible and appropriate to meet citizen needs, and require them in new development.	PW [P]	Long-term
6.2	 Require higher density development to provide pocket parks, tot lots, seating plazas, and other aesthetic green spaces.	CD [CP]	Short-term
6.3	 Work with the County to plan and develop trails that link the City with surrounding open space and natural areas, and require development projects to include trails when appropriate.	PW [P]	Ongoing
6.4	 Request Flood Control District approval of public access to unchannelized watercourses for hiking.	PW [P]	Mid-term
6.5	 Seek landowner permission to allow public access on properties adjacent to open space where needed to connect trails.	PW [P]	Ongoing
6.6	 Update plans for and complete the linear park system as resources allow.	PW [P]	Long-term
6.7	Work with the County of Ventura to initiate efforts to create public trails in the hillside area.	PW [P]	Mid-term
6.8	Update and require periodic reviews of the Park and Recreation Workbook as necessary to reflect City objectives and community needs.	PW [P]	Mid-term
6.9	 Require dedication of land identified as part of the City's Linear Park System in conjunction with new development.	PW [P]	Ongoing

S U M M A R Y O F A C T I O N S


<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	




Number	Action	Lead Entity	Timeframe
6.10	Evaluate and incorporate, as feasible, linear park segments in the General Bikeway Plan.	PW [E]	Ongoing
6.11	Update standards for citywide public parks and open space to include an expanded menu of shared park types, and identify locations and potential funding sources for acquiring new facilities in existing neighborhoods.	PW [P]	Short-term
6.12	Update and carry out the Grant Park Master Plan.	PW [P]	Mid-term
6.13	Foster the partnership between the City and Fair Board to improve Seaside Park.	CD [ED]	Ongoing
6.14	Improve facilities at City parks to respond to the requirements of special needs groups.	PW [P]	Mid-term
6.15	Adjust and subsidize fees to ensure that all residents have the opportunity to participate in recreation programs.	CS [CR]	Short-term
6.16	Update the project fee schedule as necessary to ensure that development provides its fair share of park and recreation facilities.	PW [P]	Short-term
6.17	Update and create new agreements for joint use of school and City recreational and park facilities.	CS [CR] PW [P]	Mid-term
6.18	Offer programs that highlight natural assets, such as surfing, sailing, kayaking, climbing, gardening, and bird watching.	CS [CR]	Ongoing
6.19	Provide additional boating and swimming access as feasible.	PW	Long-term

APPENDIX A


<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
 = Action included in the Land Use Plan of the City's Local Coastal Program		





Number	Action	Lead Entity	Timeframe
6.20	Earmark funds for adequate maintenance and rehabilitation of existing skatepark facilities, and identify locations and funding for new development of advanced level skatepark facilities.	PW [P]	Mid-term
6.21	Promote the use of City facilities for special events, such as festivals, tournaments, and races.	CS [CA]	Ongoing
6.22	Enter into concession or service agreements where appropriate to supplement City services.	PW	Ongoing
7. OUR HEALTHY AND SAFE COMMUNITY			
7.1	Work with interested parties to identify appropriate locations for assisted-living, hospice, and other care-provision facilities.	CS [SS]	Short-term
7.2	Provide technical assistance to local organizations that deliver health and social services to seniors, homeless persons, low-income citizens, and other groups with special needs.	CS [SS]	Ongoing
7.3	Participate in school and agency programs to: <ul style="list-style-type: none"> ◆ provide healthy meals, ◆ combat tobacco, alcohol, and drug dependency, ◆ distribute city park and recreation materials through schools, and ◆ distribute information about the benefits of proper nutrition and exercise. 	CS [SS]	Ongoing
7.4	Enhance or create ordinances which increase control over ABC licensed premises.	PD	Mid-term
7.5	Investigate the creation of new land use fees to enhance funding of alcohol related enforcement, prevention and training efforts.	PD	Mid-term

<p>KEY TO ABBREVIATIONS AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		

Number	Action	Lead Entity	Timeframe
7.6	 Adopt updated editions of the California Construction Codes and International Codes as published by the State of California and the International Code Council respectively.	FD [IS]	Ongoing
7.7	 Require project proponents to perform geotechnical evaluations and implement mitigation prior to development of any site: <ul style="list-style-type: none"> • with slopes greater than 10 percent or that otherwise have potential for landsliding, • along bluffs, dunes, beaches, or other coastal features • in an Alquist-Priolo earthquake fault zone or within 100 feet of an identified active or potentially active fault, • in areas mapped as having moderate or high risk of liquefaction, subsidence, or expansive soils, • in areas within 100-year flood zones, in conformance with all Federal Emergency Management Agency regulations. 	CD [CP/LD]	Ongoing
7.8	 To the extent feasible, require new critical facilities (hospital, police, fire, and emergency service facilities, and utility “lifeline” facilities) to be located outside of fault and tsunami hazard zones, and require critical facilities within hazard zones to incorporate construction principles that resist damage and facilitate evacuation on short notice.	FD	Ongoing
7.9	Maintain and implement the Standardized Emergency Management System (SEMS) Multihazard Functional Response Plan.	FD	Ongoing

APPENDIX A


KEY TO ABBREVIATIONS	
AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation	CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action
 = Action included in the Land Use Plan of the City's Local Coastal Program	



Number	Action	Lead Entity	Timeframe
7.10	 Require proponents of any new developments within the 100-year floodplain to implement measures, as identified in the Floodplain Ordinance, to protect structures from 100-year flood hazards (e.g., by raising the finished floor elevation outside the floodplain).	FD [IS]	Ongoing
7.11	 Prohibit grading for vehicle access and parking or operation of vehicles within any floodway.	FD [IS]	Ongoing
7.12	 Refer development plans to the Fire Department to assure adequacy of structural fire protection, access for firefighting, water supply, and vegetation clearance.	CD [CP]	Ongoing
7.13	 Resolve extended response time problems by: <ul style="list-style-type: none"> • adding a fire station at the Pierpont/Harbor area, • relocating Fire Station #4 to the Community Park site, • increasing firefighting and support staff resources, • reviewing and conditioning annexations and development applications, and • require the funding of new services from fees, assessments, or taxes as new subdivisions are developed. 	FD	Long-term
7.14	Educate and reinforce City staff understanding of the Standardized Emergency Management System for the State of California.	FD	Ongoing
7.15	Increase public access to police services by: <ul style="list-style-type: none"> • increasing police staffing to coincide with increasing population, development, and calls for 	PD	Ongoing

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	service, <ul style="list-style-type: none"> • increasing community participation by creating a Volunteers in Policing Program, and • require the funding of new services from fees, assessments, or taxes as new subdivisions are developed. 		
7.16	Provide education about specific safety concerns such as gang activity, senior-targeted fraud, and property crimes.	PD	Ongoing
7.17	Establish a nexus between police department resources and increased service demands associated with new development.	PD	Mid-term
7.18	Continue to operate the Downtown police storefront.	PD	Ongoing
7.19	Expand Police Department headquarters as necessary to accommodate staff growth	PD	Mid-term
7.20	Require air pollution point sources to be located at safe distances from sensitive sites such as homes and schools.	FD [IS]	Short-term
7.21	Require analysis of individual development projects in accordance with the most current version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines and, when significant impacts are identified, require implementation of air pollutant mitigation measures determined to be feasible at the time of project approval.	FD [IS]	Ongoing
7.22	In accordance with Ordinance 93-37, require payment of fees to fund regional transportation demand	CD [LD]	Ongoing

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation	CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action
 = Action included in the Land Use Plan of the City's Local Coastal Program	


Number	Action	Lead Entity	Timeframe
	management (TDM) programs for all projects generating emissions in excess of Ventura County Air Pollution Control District adopted levels.		
7.23	 Require individual contractors to implement the construction mitigation measures included in the most recent version of the Ventura County Air Pollution Control District Air Quality Assessment Guidelines.	PW [E]	Ongoing
7.24	Only approve projects involving sensitive land uses (such as residences, schools, daycare centers, playgrounds, medical facilities) within or adjacent to industrially designated areas if an analysis provided by the proponent demonstrates that the health risk will not be significant.	CD [CP]	Ongoing
7.25	Adopt new development code provisions that ensure uses in mixed-use projects do not pose significant health effects.	CD [LRP]	Short-term
7.26	Seek funding for cleanup of sites within the Brownfield Assessment Demonstration Pilot Program and other contaminated areas in West Ventura.	CD [ED]	Mid-term
7.27	 Require proponents of projects on or immediately adjacent to lands in industrial, commercial, or agricultural use to perform soil and groundwater contamination assessments in accordance with American Society for Testing and Materials standards, and if contamination exceeds regulatory action levels, require the proponent to undertake remediation procedures prior to grading and development under the supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or Regional Water Quality Control Board (depending	FD [IS]	Ongoing







S U M M A R Y O F A C T I O N S

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	upon the nature of any identified contamination).		
7.28	Educate residents and businesses about how to reduce or eliminate the use of hazardous materials, including by using safer non-toxic equivalents.	PW [MS]	Ongoing
7.29	Require non-agricultural development to provide buffers, as determined by the Agriculture Commissioner's Office, from agricultural operations to minimize the potential for pesticide drift.	CD [CP]	Short-term
7.30	Require all users, producers, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use, or transport, and to notify the appropriate City, County, State and Federal agencies in the event of a violation.	FD [IS]	Ongoing
7.31	Work toward voluntary reduction or elimination of aerial and synthetic chemical application in cooperation with local agricultural interests and the Ventura County agricultural commissioner.	FD [IS]	Mid-term
7.32	Require acoustical analyses for new residential developments within the mapped 60 decibel (dBA) CNEL contour, or within any area designated for commercial or industrial use, and require mitigation necessary to ensure that: <ul style="list-style-type: none"> • Exterior noise in exterior spaces of new residences and other noise sensitive uses that are used for recreation (such as patios and gardens) does not exceed 65 dBA CNEL, and • Interior noise in habitable rooms of new residences does not exceed 45 dBA CNEL with all windows closed. 	FD [IS]	Ongoing

APPENDIX A


KEY TO ABBREVIATIONS	
AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation	CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action
 = Action included in the Land Use Plan of the City's Local Coastal Program	



Number	Action	Lead Entity	Timeframe
7.33	 As funding becomes available, construct sound walls along U.S. 101, SR 126, and SR 33 in areas where existing residences are exposed to exterior noise exceeding 65 dBA CNEL.	PW [E]	Long-term
7.34	 Request that sound levels associated with concerts at the County Fairgrounds be limited to 70 dBA at the eastern edge of that property.	CS	Short-term
7.35	 Request the termination of auto racing at the County fairgrounds	CS	Short-term
7.36	 Amend the noise ordinance to restrict leaf blowing, amplified music, trash collection, and other activities that generate complaints.	FD [IS]	Short-term
7.37	 Use rubberized asphalt or other sound reducing material for paving and re-paving of City streets.	PW [E]	Ongoing
7.38	 Update the Noise Ordinance to provide standards for residential projects and residential components of mixed-use projects within commercial and industrial districts.	CD [LRP]	Short-term
8.1	Work closely with schools, colleges, and libraries to provide input into site and facility planning.	CS	Ongoing
8.2	Organize a regional education summit to generate interest in and ideas about learning opportunities.	CS	Mid-term
8.3	Adopt joint-use agreements with libraries, schools, and other institutions to maximize use of educational facilities.	CS	Mid-term
8.4	Distribute information about local educational programs.	CS	Mid-term

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
8.5	Install infrastructure for wireless technology and computer networking in City facilities.	AS	Short-term
8.6	Establish educational centers at City parks.	PW [P] CS	Mid-term
8.7	Work with the State Parks Department to establish a marine learning center at the Harbor.	PW [P]	Long-term
8.8	Work with the Ventura Unified School District to ensure that school facilities can be provided to serve new development.	CD [LRP]	Ongoing
8.9	Complete a new analysis of community needs, rethinking the role of public libraries in light of the ongoing advances in information technology and the changing ways that individuals and families seek out information and life-long learning opportunities.	CS	Mid-term
8.10	Reassess the formal and informal relationships between our current three branch public libraries and school libraries – including the new Ventura College Learning Resource Center – as well as joint use of facilities for a broader range or compatible public, cultural, and educational uses.	CS	Mid-term
8.11	Develop a Master Plan for Facilities, Programs, and Partnerships to create an accessible, robust, and vibrant library for the 21 st Century system, taking into consideration that circulation of books is no longer the dominant function but will continue to be an important part of a linked network of learning centers.	CS	Mid-term
8.12	Develop formal partnerships, funding, capital strategies, and joint use agreements to implement the	CS	Ongoing

APPENDIX A

<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p>	<p>Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
<p> = Action included in the Land Use Plan of the City's Local Coastal Program</p>		

Number	Action	Lead Entity	Timeframe
	new libraries Master Plan.		
9. OUR CREATIVE COMMUNITY			
9.1	Require works of art in public spaces per the City's Public Art Program Ordinance.	CD [CP]	Mid-term
9.2	 Sponsor and organize local art exhibits, performances, festivals, cultural events, and forums for local arts organizations and artists.	CS	Ongoing
9.3	 Expand outreach and publicity by: <ul style="list-style-type: none"> ◆ promoting locally produced art and local cultural programs, ◆ publishing a monthly calendar of local art and cultural features, ◆ distributing the <i>State of the Arts</i> quarterly report, and ◆ offering free or subsidized tickets to events. 	CS	Ongoing
9.4	Support the creative sector through training and other professional development opportunities.	CS	Short-term
9.5	Work with the schools to integrate arts education into the core curriculum	CS	Short-term
9.6	Promote the cultural and artistic expressions of Ventura's underrepresented cultural groups.	CS	Mid-term
9.7	Offer ticket subsidy and distribution programs and facilitate transportation to cultural offerings.	CS	Ongoing
9.8	Increase the amount of live-work development, and allow its use for production, display, and sale of	CD [LRP]	Ongoing









<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
	art.		
9.9	Work with community groups to locate sites for venues for theater, dance, music, and children's programming.	CS [CR]	Mid-term
9.10	Provide incentives for preserving structures and sites that are representative of the various periods of the city's social and physical development.	CD [LRP]	Mid-term
9.11	Organize and promote multi-cultural programs and events that celebrate local history and diversity.	CS [CA]	Ongoing
9.12	Allow adaptive reuse of historic buildings.	CD [LRP]	Short-term
9.13	Work with community groups to identify locations for facilities that celebrate local cultural heritage, such as a living history Chumash village and an agricultural history museum.	CS [CA]	Long-term
9.14	Require archaeological assessments for projects proposed in the Coastal Zone and other areas where cultural resources are likely to be located.	CD [CP]	Ongoing
9.15	Suspend development activity when archaeological resources are discovered, and require the developer to retain a qualified archaeologist to oversee handling of the resources in coordination with the Ventura County Archaeological Society and local Native American organizations as appropriate.	CD [CP]	Ongoing
9.16	Pursue funding to preserve historic resources.	CS	Ongoing

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department	CS [CA] = Cultural Affairs
AS [P] = Purchasing	CS [GS/AS] = Golf Services/Adult Sports
CA = City Attorney	CS [SS] = Social Services
CD = Community Development Department	FD = Fire Department
CD [A] = Administration	FD [IS] = Inspection Services
CD [CP] = Current Planning	HR = Human Resources Department
CD [LRP] = Long Range Planning	PD = Police Department
CD [ED] = Economic Development	PW = Public Works Department
CD [LD] = Land Development	PW [E] = Engineering
CD [RDA] = Redevelopment Agency	PW [P] = Parks
CC = City Council	PW [MS] = Maintenance Services
CM = City Manager's Department	PW [U] = Utilities
CM [CE] = Civic Engagement	
CS = Community Services Department	
CS [CR] = Community Recreation	
	Short-term = 0-5 years
	Mid-term = 5-10 years
	Long-term = 10-20 years
	Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program

Number	Action	Lead Entity	Timeframe
9.17	 Provide incentives to owners of eligible structures to seek historic landmark status and invest in restoration efforts.	CD [LRP]	Short-term
9.18	 Require that modifications to historically-designated buildings maintain their character.	CD [CP]	Ongoing
9.19	 For any project in a historic district or that would affect any potential historic resource or structure more than 40 years old, require an assessment of eligibility for State and federal register and landmark status and appropriate mitigation to protect the resource.	CD [CP]	Ongoing
9.20	 Seek input from the City's Historic Preservation Commission on any proposed development that may affect any designated or potential landmark.	CD [CP]	Ongoing
9.21	 Update the inventory of historic properties.	CD [LRP]	Ongoing
9.22	 Create a set of guidelines and/or policies directing staff, private property owners, developers, and the public regarding treatment of historic resources that will be readily available at the counter.	CD [LRP]	Short-term
9.23	 Complete and maintain historic resource surveys containing all the present and future components of the historic fabric within the built, natural, and cultural environments.	CD [LRP]	Ongoing
9.24	 Create a historic preservation element.	CD [LRP]	Long-term
10. OUR INVOLVED COMMUNITY			
10.1	Conduct focused outreach efforts to encourage all members of the community – including youth, seniors, special needs groups, and non-English speakers – to participate in City activities.	CM [CE]	Short-term

S U M M A R Y O F A C T I O N S



<p>KEY TO ABBREVIATIONS</p> <p>AS = Administrative Services Department AS [P] = Purchasing CA = City Attorney CD = Community Development Department CD [A] = Administration CD [CP] = Current Planning CD [LRP] = Long Range Planning CD [ED] = Economic Development CD [LD] = Land Development CD [RDA] = Redevelopment Agency CC = City Council CM = City Manager's Department CM [CE] = Civic Engagement CS = Community Services Department CS [CR] = Community Recreation</p>	<p>CS [CA] = Cultural Affairs CS [GS/AS] = Golf Services/Adult Sports CS [SS] = Social Services FD = Fire Department FD [IS] = Inspection Services HR = Human Resources Department PD = Police Department PW = Public Works Department PW [E] = Engineering PW [P] = Parks PW [MS] = Maintenance Services PW [U] = Utilities</p> <p style="text-align: right;">Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action</p>
= Action included in the Land Use Plan of the City's Local Coastal Program	

Number	Action	Lead Entity	Timeframe
10.2	Obtain public participation by seeking out citizens in their neighborhoods and gathering places such as schools, houses of worship and public spaces.	CM [CE]	Ongoing
10.3	Invite civic, neighborhood, and non-profit groups to assist with City project and program planning and implementation.	CD	Ongoing
10.4	Provide incentives for City staff to participate in community and volunteer activities.	HR	Short-term
10.5	Invite seniors to mentor youth and serve as guides at historical sites.	CS	Short-term
10.6	Offer internships in City governance, and include youth representatives on public bodies.	CS	Mid-term
10.7	Continue to offer the Ambassadors program to obtain citizens assistance with City projects.	PW	Ongoing
10.8	Utilize the City website as a key source of information and expand it to serve as a tool for civic engagement.	CM [CE]	Short-term
10.9	Publish an annual report that evaluates City performance in such areas as conservation, housing, and economic development.	CD	Mid-term
10.10	Continue to improve the user-friendliness of the media that communicate information about the City, including the website, cable channels, newsletters, kiosks, and water billing statements.	CM [CE]	Short-term
10.11	Establish a clear policy toward the scope, role, boundaries, and jurisdiction of neighborhood Community Councils citywide, with the objectives of strengthening their roles in decision-making.	CD [LRP]	Mid-term

APPENDIX A

KEY TO ABBREVIATIONS	
AS = Administrative Services Department	CS [CA] = Cultural Affairs
AS [P] = Purchasing	CS [GS/AS] = Golf Services/Adult Sports
CA = City Attorney	CS [SS] = Social Services
CD = Community Development Department	FD = Fire Department
CD [A] = Administration	FD [IS] = Inspection Services
CD [CP] = Current Planning	HR = Human Resources Department
CD [LRP] = Long Range Planning	PD = Police Department
CD [ED] = Economic Development	PW = Public Works Department
CD [LD] = Land Development	PW [E] = Engineering
CD [RDA] = Redevelopment Agency	PW [P] = Parks
CC = City Council	PW [MS] = Maintenance Services
CM = City Manager's Department	PW [U] = Utilities
CM [CE] = Civic Engagement	
CS = Community Services Department	
CS [CR] = Community Recreation	
	Short-term = 0-5 years Mid-term = 5-10 years Long-term = 10-20 years Ongoing = May require short-, mid-, and long-term action

 = Action included in the Land Use Plan of the City's Local Coastal Program

Number	Action	Lead Entity	Timeframe
10.12	 Establish stronger partnerships with neighborhood Community Councils to set area priorities for capital investment, community policing, City services, commercial investment, physical planning, education, and other concerns, to guide both City policies and day-to-day cooperation and problem-solving.	CD [LRP]	Ongoing
10.13	 Recognizing that neighborhood empowerment must be balanced and sustained by overall City policies and citywide vision and resources – establish a citywide Neighborhood Community Congress where local neighborhood Community Councils can collaborate and learn from each other.	CM[CE]	Mid-term
10.14	Establish clear liaison relationships to foster communication, training, and involvement efforts between the City, neighborhood Community Councils and other community partners, including the Ventura Unified School District and business, civic, cultural and religious groups.	CM [CE]	Short-term

ORDINANCE NO. 95-33

AN ORDINANCE OF THE PEOPLE OF THE CITY OF SAN BUENAVENTURA ADOPTING AN ORDINANCE AMENDING THE COMPREHENSIVE PLAN WITH RESPECT TO THE PRESERVATION OF AGRICULTURAL LANDS.

The people of the City of San Buenaventura do hereby ordain as follows:

Section 1. Findings and Purpose.

A. The protection of existing agricultural and watershed lands is of critical importance to present and future residents of the City of San Buenaventura (City of Ventura). Agriculture has been and remains the major contributor to the economy of the City and County of Ventura, creating employment for many people, directly and indirectly, and generating substantial tax revenues for the City.

B. In particular, the City of Ventura and surrounding area, with its unique combination of soils, micro-climate and hydrology, has become one of the finest growing regions in the world. Vegetable and fruit production from the County of Ventura and in particular production from the soils and silt from the Santa Clara and Ventura rivers have achieved international acclaim, enhancing the City's economy and reputation.

C. Uncontrolled urban encroachment into agricultural and watershed areas will impair agriculture and threaten the public health, safety and welfare by causing increased traffic congestion, associated air pollution, and potentially serious water problems, such as pollution, depletion, and sedimentation of available water resources. Such urban encroachment would eventually result in both the unnecessary, expensive extension of public services and facilities and inevitable conflicts between urban and agricultural uses.

D. The unique character of the City of Ventura and quality of life of City residents depend on the protection of a substantial amount of open space lands. The protection of such lands not only ensures the continued viability of agriculture, but also protects the available water supply and contributes to flood control and the protection of wildlife, environmentally sensitive areas, and irreplaceable natural resources.

E. The Resolution by which the City of Ventura adopted its Comprehensive Plan on August 28, 1989, Resolution No. 89-103, at page 4, contains in part the following “mitigation measures” in recognition of the importance of preserving agriculture resources:

“Any potential significant adverse impacts are mitigated by substantially limiting the amount of agricultural land converted from an agricultural land use designation limiting the amount of prime farmland converted, and by making the various agricultural land areas designated for potential development subject to conditions which narrowly limit the possible land use.”

F. The Comprehensive Plan sets out as Objective 4 (at II-9) the desire to:

“Continue to preserve agricultural and other open space lands within the City’s Planning Area.”

And, the Comprehensive Plan describes as the first Goal of its Resource Element (at II-3) the objective to:

“Preserve agricultural and open space lands as a desirable means of shaping the City’s internal and external form and size, and of serving the needs of residents.”

G. The purpose of this initiative is to ensure that the Goals and Objectives of the Comprehensive Plan are inviolable by transitory short-term political decisions and that agricultural, watershed and open space lands are not prematurely or unnecessarily converted to other non-agricultural or non-open space uses without public debate and a vote of the people. Accordingly, the initiative ensures that until December 31, 2030, the general plan provisions governing agricultural land use designation and intent may not be change except by vote of the people. In addition, the initiative provides that any lands designated as “Agriculture Use”, referring to both “Agricultural Use (not to be reconsidered until after the Year 2010” and Agricultural/Institutional” on the City of Ventura’s General Plan “Land Use Plan Map” adopted by the City Council by Resolution 89-103 on August 28, 1989, as amended through February 1, 1995, will remain designated as Agricultural Use until December 31, 2030, unless the land is redesignated to another land use category by vote of the people, or redesignated by the City Council for the City of San Buenaventura pursuant to the procedures set forth in this initiative.

H. This initiative allows the City Council to redesignate agriculture lands only if certain findings can be made, including (among other things) that the land is proven to be unsuitable for any form of agriculture and redesignation is necessary to avoid an unconstitutional taking of property without just compensation.

Section 2. General Plan Amendment.

The Agricultural Lands Preservation Initiative hereby reaffirms and readopts until December 31, 2030, The “Agricultural Use” designations as defined in the City of San Buenaventura Comprehensive Plan adopted August 28, 1989, as amended through February 1, 1995, at pages III-25 and III-26, with the modification that the “target date” is extended from 2010 until after December 31, 2030.

The following terminology shall replace the current “Agricultural Use” designation defined at page III-25 of The Plan:

Agricultural Use

The Agricultural Use (not to be reconsidered until after the Year 2030) category identifies those lands that are designated for agricultural use on the Land Use Plan Map.

The target date of 2030 associated with the Agricultural Use designation indicates a review date after which agriculturally designated lands may be reconsidered for urban uses. However, during the life of this plan as amended by initiative, it is intended that only agricultural uses are permitted on these lands, except as such lands may be appropriate to public open space and recreational usage. Furthermore, any updates to this Plan are not intended to imply that development would necessarily be appropriate at that time.

In addition, the initiative hereby reaffirms and readopts until December 31, 2030, the “Agricultural” designations set forth on the of the City of Ventura Comprehensive Plan “Land Use Plan Map” adopted by the City Council on August 28, 1989, as amended through February 1, 1995, which map is incorporated herein by reference, modified, as appropriate, to delete the reference year 2010 and replace it with the reference year 2030.

Finally, the text of the Amendment Procedures of the City of Ventura Comprehensive Plan adopted August 28, 1989, as amended through February 1, 1995, (at XI-I) shall be amended to add a new subsection which provides:

Limitation on General Plan Amendments Relating to “Agricultural Use”

- a) Until December 31, 2030, the provisions and designations governing the intent for lands designated “Agricultural Use” of the Land Use Element and Resource Element adopted on August 28, 1989, as amended through February 1, 1995, shall not be amended unless such amendment is approved by vote of the people.
- b) All those lands designated as “Agricultural Use” in the City of Ventura Comprehensive Plan “Land Use Plan Map” adopted by the City Council on August 28, 1989 as amended through February 1, 1995, shall remain so designated until December 31, 2030 unless redesignated to another general plan land use category by vote of the people, or redesignated by the City Council pursuant to the procedures set forth in subsections c) or d), below.
- c) Except as provided in subsection d), below, land designated as “Agricultural Use” may be redesignated by the City Council to a land use other than “Agricultural Use” as defined by the Comprehensive Plan adopted by the City Council on August 28, 1989, as amended through February 1, 1995, only if the City Council makes all of the following findings supported by the evidence:
 - i) The land is immediately adjacent to areas developed in a manner comparable to the proposed use;
 - ii) Adequate public services and facilities are available and have the capacity and capability to accommodate the proposed use;
 - iii) The proposed use is compatible with agricultural uses, does not interfere with accepted agricultural practices, and does not adversely affect the stability of land use patterns in the area;
 - iv) The land proposed for redesignation has not been used for agricultural purposes in the past 2 years and is unusable for agriculture due to its topography, drainage, flooding, adverse soil conditions or other physical reasons; and

- v) The land proposed for redesignation pursuant to this subsection (c) does not exceed 40 acres for any one landowner in any calendar year, and one landowner may not obtain redesignation in the Comprehensive Plan of “Agricultural Use” land pursuant to this subsection (c) more often than every other year. Landowners with any unity of interest are considered one landowner for purposes of this limitation.
- d) Land designated as “Agricultural Use” on the Land Use Plan Map may be redesignated to another land use category by the City Council if each of the following conditions are satisfied:
 - i) The City Council makes a finding that the application of the provisions of Section 2 (a) would constitute an unconstitutional taking of the landowners’ property; and
 - ii) In permitting the redesignation, the City Council allows additional land uses only to the extent necessary to avoid said unconstitutional taking of the landowner’s property.
- e) Approval by a vote of the people is accomplished when a Comprehensive Plan amendment is placed on the ballot through any procedure provided for in the Election Code, and a majority of the voters vote in favor of it. Whenever the City Council adopts an amendment requiring approval by a vote of the people pursuant to the provisions of this subsection, the City Council’s action shall have no effect until after such a vote is held and a majority of the voters vote in favor of it. The City Council shall follow the provisions of the Election Code in all matters pertaining to such an election.

Section 3. Implementation.

A. Upon the effective date of this initiative, the initiative shall be deemed inserted in the City of Ventura’s Comprehensive Plan as an amendment thereof; except, that if the four amendments of the mandatory elements of the general plan permitted by state law for any given calendar year have already been utilized in 1995, prior to the effective date of this initiative, this Comprehensive Plan amendment shall be deemed inserted in the City’s General Plan on January 1, 1996. At such time as this Comprehensive Plan amendment is deemed inserted in the City’s Comprehensive Plan (hereinafter, the “insertion date”) any provisions of the City’s Zoning Ordinance inconsistent with that amendment shall not be enforced to the extent of the inconsistency. Within 180 days of the insertion date, the City shall complete

such revisions of its Comprehensive Plan, including, but not limited to, the Comprehensive Plan Land Use Plan Map adopted by the City Council on August 28, 1989, (as amended through February 1, 1995) and accompanying test, as are necessary to achieve consistency with all provisions of this initiative. Also, within 180 days of the insertion date, the City Council shall complete such revisions of its Zoning Ordinance and other land use regulations as are necessary to conform to and be consistent with all provisions of this initiative.

B. The provisions of this initiative shall prevail over any revisions to the City of Ventura's Comprehensive Plan as amended through February 1, 1995, or to the City of Ventura's Land Use Plan Map as amended through February 1, 1995 which conflict with the initiative. Except as provided in Section 4 below, upon the specific plans, tentative or final subdivision maps, parcel maps, conditional use permits, building permits or other ministerial or discretionary entitlements for use not yet approved or issued shall not be approved or issued unless consistent with the policies and provisions of this initiative.

Section 4. Exemptions for Certain Projects.

This initiative shall not apply to or affect any property owner whose property has acquired any of the following prior to its effective date:

- A. A vested right pursuant to state law;
- B. A validly approved and fully executed development agreement with the City; or
- C. Approval of a vesting tentative map.

Section 5. Severability.

If any portion of this initiative is declared invalid by a court, the remaining portions are to be considered valid.

Section 6. Amendment or Repeal.

This initiative may be amended or repealed only by the voters at a general election.

STATE OF CALIFORNIA)
COUNTY OF VENTURA) ss
CITY OF SAN BUENAVENTURA)

I, BARBARA J. KAM, City Clerk of the City of San Buenaventura, California, do hereby certify that the foregoing Ordinance was adopted by the voters of the City of San Buenaventura at the General Municipal Election held on November 7, 1995 and subsequently declared adopted by the City Council of the City of San Buenaventura on November 27, 1995. The Ordinance shall take effect December 7, 1995. This ordinance shall not be repealed or amended except by a vote of the people, unless provision is otherwise made in the original ordinance.

Dated this 30th day of November, 1995.

Barbara J. Kam, CMC
City Clerk

Ventura Hillside Voter Participation Measure

The people of the City of San Buenaventura do ordain as follows:

Section 1. Title

This measure shall be known as the Ventura Hillside Voter Participation Measure.

Section 2. Purpose

The overall purpose of this measure is to allow City voters to participate in the review process relating to non-exempt development projects that may be proposed in a certain portion of the “Hillside Area” of the City as defined in the City’s Comprehensive Plan Update to the Year 2010 (hereafter the “Comprehensive Plan”). The portion of the Hillside Area under consideration lies generally north of the City, constitutes an area approximately 9108 acres in size, and is further depicted as the “Hillside Voter Participation Area” indicated in Exhibit “A” attached hereto and made a part hereof. The proposed Hillside Voter Participation Area (also referred to from time to time hereafter as “HVP Area” or “HVPA”) is outside the Ventura City limits, but it is within the “Planning Area” of the City of San Buenaventura as further indicated on Exhibit “A.” The Comprehensive Plan Land Use Map currently designates the properties within the proposed Hillside Voter Participation Area as “Hillside Planned Residential” or “HPR” rather than “Agricultural” and, therefore, these properties are not subject to the Save Our Agricultural Resources (“SOAR”) Initiative adopted by the voters in 1995.

In the recent past, some property owners within the proposed Hillside Voter Participation Area have publicly presented initial proposals to develop those properties with a combination of residential uses and open space and recreational areas proposed to include, among other things, hiking and equestrian trails for use by the public. In the course of public meetings and informational workshops discussing these proposals, it has become apparent that there is a high level of public concern over potential issues of scenic resource protection, open space and recreational opportunities, infrastructure needs, traffic circulation, and other development-related issues arising from any proposed changes in the use of this important part of the City’s Planning Area. This measure, in recognition of this heightened public concern, is intended to provide the electorate of the City of San Buenaventura with an opportunity to vote on the approval of any such development proposals or any similar proposals to extend urban services to the Hillside Voter Participation Area or develop property in the Hillside Voter Participation Area with urbanized land uses.

More particularly, this measure proposes to amend the Comprehensive Plan of the City of San Buenaventura by adding a requirement that approvals for extensions of “urban services” (defined in the City’s Hillside Management Program as the provision of domestic water and sewers) or any proposed “urbanized uses of land” (as defined herein) in the Hillside Voter Participation Area cannot be granted without prior approval by a majority vote of the electorate.

Section 3. Comprehensive Plan Amendment

The following text shall be inserted into the Land Use Element of the Comprehensive Plan at page 111-8 thereof:

Hillside Voter Participation Area

The electorate of the City of Ventura has adopted a Hillside Voter Participation Area (Ventura HVP Area). Its purpose, principles, implementation procedures, and methodologies for amendment are set forth in this Comprehensive Plan amendment.

A. PURPOSE

The City of Ventura Hillside Area, with its unique topography, viewsheds, watershed lands; its unique microclimate and hydrology, and its diversity of plant and wildlife resources, is one of the finest scenic resources in the Southern California region. The Comprehensive Plan recognizes the unique and important qualities and potential of the Hillside Area in, among other provisions, the declaration of specialized Objectives and Policies for the Hillside Area in the Resources Element of the Plan and the Plan’s requirements for continuing operation of, and compliance with, the City’s Hillside Management Program.

This Comprehensive Plan amendment is intended to provide for an increased level of public awareness and participation in the development review process applicable to that portion of the Hillside Area described and depicted in Exhibit “A” as the “Hillside Voter Participation Area.” It is further intended to provide assurance to the public that any proposed development in the Hillside Voter Participation Area appropriately takes into account the Area’s unique combination of viewshed, watershed, open space, scenic area, and environmentally sensitive habitat, and that agricultural, viewshed, watershed, and open space lands in the Hillside Voter Participation Area are not converted to urban or other non-open space uses without public discussion and a vote of the people. Increasing citizen participation in the development review process through the establishment of a Hillside Voter Participation Area enhances the City’s sense of community, allows for development unique to the City of Ventura, and promotes the efficient use of the City’s infrastructure.

More specifically, this Comprehensive Plan amendment is intended to provide an opportunity for the public to be involved in insuring that any development projects proposed in the Hillside Voter Participation Area, shall, at a minimum:

1. Maintain the scenic character of the hillsides in areas of future development, by preserving significant natural landmarks and scenic ridgelines and slopes.
2. Provide increased recreational opportunities for existing and future hillside and other City residents, by improving access to existing parks and establishing additional parks or open, non-developed areas in conjunction with future hillside development.
3. Maximize public access to hillside open space and recreation areas, by establishing a system of linear parks and hiking trails along scenic ridges and barrancas.
4. Minimize the impact of hillside development on sensitive natural habitats and historical or archaeological resources.

B. PRINCIPLES

Inappropriate urban encroachment into Hillside open space, viewshed, watershed, scenic areas, and biological resource areas would have the potential to impact sensitive environmental areas, unwarrantedly intrude on open space, diminish the quality of life and threaten the public health, safety and welfare by leading to increased traffic congestion, associated air pollution, erosion, alteration of sensitive lands in watershed areas and causing potentially serious water problems, such as pollution, depletion and sedimentation of available water resources not only for the City of Ventura, but for its jurisdictional neighbors. Inappropriate urban encroachment could further result in the unwarranted extension of public services and facilities into sensitive areas.

The unique character of the City of Ventura and quality of life of City residents depends on the appropriate protection of the Hillside Area's substantial amount of open space, viewshed, watershed, scenic resources, and biological resources. The increased public awareness and involvement in the fate of such lands through the implementation of this Comprehensive Plan amendment will provide the public a special opportunity to assure that future generations of Ventura citizens will not be deprived of the benefits of access to a viable water supply, flood and erosion control, protection of viewsheds, wildlife, environmentally sensitive areas, open space and recreational areas, and irreplaceable natural resources.

C. IMPLEMENTATION

(1) There is hereby established a Ventura Hillside Voter Participation Area (Ventura HVP Area). The Ventura HVP Area is that portion of the Hillside Area delineated and depicted in Exhibit “A” of this Comprehensive Plan amendment (hereafter, the “HVP Area Map”). As shown on the HVP Area Map, the southern boundary of the HVP Area generally follows the northern segment of the City’s incorporated limit as established by the Local Agency Formation Commission for the City of Ventura, except as the HVP boundary line runs northerly of some small residential lots on or near Foothill Road west of Arroyo Verde Park as further depicted on Exhibit “A.” East of Harmon Barranca, the HVP Area boundary generally follows the alignment of Foothill Road eastward to the boundary of the City’s Planning Area. The northerly boundary of the HVP Area continues, generally, as the northern boundary of the City’s Planning Area. The westerly boundary of the HVP Area alternately follows the City limit boundary or Sphere of Influence boundary easterly of the North Avenue area. The foregoing narrative description is intended to be general in nature and all of the foregoing is more particularly depicted and described in Exhibit “A’

Insofar as the HVP Area boundary described and depicted in this Comprehensive Plan amendment, including Exhibit “A” hereto, is said or shown to be coterminous with either the City’s incorporated limit or the City’s Sphere of Influence boundary, or with the boundary of the City’s Planning Area, such references are intended to be, and shall be construed to be, the location of the City limit boundary or Sphere of Influence boundary or boundary of the City’s Planning Area. as applicable, as each of those boundaries are established for the City of Ventura as of January 1, 2001. Although the HVP Area boundary is established, in part, in generally the same location as the City limit boundary, or in some instances, the Sphere of Influence boundary, the establishment of the HVP Area boundary is not intended to and shall in no way inhibit the Local Agency Formation Commission from changing or altering the City limit boundary or Sphere of Influence boundary in accordance with State law. The boundary of the HVP Area, although incidentally coterminous as of one point in time with the City limit boundary or Sphere of Influence boundary or boundary of the City’s Planning Area, is independent from these boundaries in legal significance and purpose. While the City limit boundary or Sphere of Influence boundary may be, from time to time, altered by the Local Agency Formation Commission, or the boundary of the City’s Planning Area may be changed, the HVP Area boundary shall not be changed except as provided herein.

(2) Until December 31, 2030, the City of Ventura shall not extend urban services into, and shall not authorize urbanized uses of land within, the Ventura Hillside Voter Participation Area unless otherwise authorized by a vote of the people, except for the purpose of construction of public potable water facilities, public parks or other city government facilities or as otherwise provided or excepted herein. Upon the effective date of this Hillside Voter Participation Area Comprehensive

Plan amendment, the City and its departments, boards, commissions, officers and employees shall not grant, or by inaction allow to be approved by operation of law, any Comprehensive Plan amendment, rezoning, specific plan, subdivision map, conditional use permit, building permit or any other ministerial or discretionary entitlement, which is inconsistent with the purposes of this Comprehensive Plan amendment, unless in accordance with the amendment procedures of Section 4 of this Comprehensive Plan amendment.

(3) “Urbanized uses of land” shall mean any development that would require the establishment of new community sewer systems or the significant expansion of existing community sewer systems; or, would result in the creation of residential densities greater than one primary residential unit per 40 acres in area; or, would result in the establishment of commercial or industrial uses that are neither agriculturally-related nor related to the production of mineral resources.

(4) The Land Use Map is amended to reflect the existence of the Ventura Hillside Voter Participation Area as generally described in paragraph (1) above and as depicted in Exhibit “A,” attached hereto.

(5) The Hillside Voter Participation Area, as defined herein, may not be amended, altered, revoked or otherwise changed prior to December 31, 2030, except by vote of the people or by the City Council pursuant to the procedures set forth in Section 4 of this Comprehensive Plan amendment. For purposes of this Ordinance, approval by a vote of the people is accomplished when a Comprehensive Plan amendment is placed on the ballot through any procedure provided for in the Election Code, and a majority of the voters vote in favor of it. Whenever the City Council adopts an amendment requiring approval by a vote of the people pursuant to the provisions of this subsection, the City Council’s action shall have no effect until after such a vote is held and a majority of the voters vote in favor of it. The City Council shall follow the provisions of the Election Code in all matters pertaining to such an election.

Section 4. Changes to Area: Procedures.

Until December 31, 2030, the foregoing Purposes, Principles and Implementation provisions of this Comprehensive Plan amendment, and the Hillside Voter Participation Area may be amended only by a vote of the people commenced pursuant to the initiative process by the public, or pursuant to the procedures set forth below:

A. The City Council may amend the boundary of the Hillside Voter Participation Area depicted on Exhibit “A” if it finds such amendment to be in the public interest, provided that the amended boundary enlarges said Hillside Voter Participation Area established by this Comprehensive Plan amendment.

B. The City Council, following at least one public hearing for presentation by an applicant and the public, and after compliance with the California Environmental Quality Act, may amend the Hillside Voter Participation Area described herein, based on substantial evidence in the record, if the City Council makes each of the following findings:

- (1) Application of the provisions of subsections (A) or (B) of the amendment procedures set forth in this Section 4 are unworkable and failure to amend the Hillside Voter Participation Area would constitute an unconstitutional taking of a landowner's property for which compensation would be required or would deprive the landowner of a vested right; and
- (2) The amendment and associated land use designations will allow additional land uses only to the minimum extent necessary to avoid said unconstitutional taking of the landowner's property or to give effect to the vested right.

C. The City Council, following at least one public hearing for presentations by an applicant and the public, and after compliance with the California Environmental Quality Act, may place any amendment to the Hillside Voter Participation Area or the provisions of this Comprehensive Plan amendment on the ballot pursuant to the mechanisms provided by state law.

D. The Comprehensive Plan may be reorganized and individual provisions, including the provisions of this ordinance, maybe renumbered or reordered in the course of ongoing updates of the Comprehensive Plan in accordance with the requirements of state law.

Section 5. No Changes to Save Our Agricultural Resources Initiative

Any restrictions imposed upon the City of San Buenaventura limiting the City's ability to redesignate, or allow development of, property designated "Agricultural" that are in effect as a result of the "SOAR" initiative approved by the voters in 1995 and adopted by the City Council as Ordinance No. 95-33 shall remain in full force and effect and shall not be amended, modified, altered, or abridged by the adoption of this ordinance.

Section 6. Exemptions:

The provisions of this ordinance do not apply to:

A. Construction or reconstruction of, or related to, public potable water facilities, public parks or other city government facilities; or

B. Construction or reconstruction of no more than one residential dwelling unit, and incidental uses or structures related thereto, on an individual parcel of land that is lawfully established of record as of the effective date of this Comprehensive Plan amendment and that is contiguous to the City's incorporation boundary but only to the extent that such a legally established parcel is developed with, or proposed to be developed with, no more than one residential dwelling unit; or

C. Any development that would result in the creation of residential densities equal to or less than one primary residential unit per 40 acres in area; or, would result in the establishment of commercial or industrial uses that are agriculturally-related or related to the production of mineral resources; or

D. Any development project that has obtained, as of the effective date of this Comprehensive Plan amendment, a vested right pursuant to state or local law; or

E. Uses that are "incidental" (as the City's Zoning Ordinance defines "incidental uses") to uses lawfully established as of the effective date of this Comprehensive Plan amendment.

Section 7. Interpretation

This ordinance shall be broadly construed in order to achieve the purposes stated in this ordinance. It is the intent of the voters that the provisions of this measure shall be interpreted by the City and others in a manner that promotes public participation in decision-making relating to future development proposals within in the Hillside Voter Participation Area.

Section 8. Insertion Date

A. Upon the effective date of this ordinance, Sections 3, 4, 5, 6, and 7 of this ordinance shall be deemed inserted in the Comprehensive Plan and the Land Use Map referred to in Part C of Section 3 shall be deemed amended even though the reprinting may not occur until it can be carried out by the staff of the City of San Buenaventura.

B. The Comprehensive Plan in effect at the time the City Council decided to place this measure on the ballot, and the Comprehensive Plan as amended by this ordinance, comprise an integrated, internally consistent and compatible statement of policies for the City of San Buenaventura. In order to ensure that the Comprehensive Plan remains an integrated, internally consistent and compatible statement of policies and to ensure that the actions of the voters in enacting this ordinance are given effect, any provision of the Comprehensive Plan that is adopted between July 23, 2001 and the effective date of this ordinance, to the extent that such provision is inconsistent with this ordinance, shall be amended as soon as possible and in the manner and time required by state law to ensure consistency between such provision and Section 3 of this ordinance. In the alternative, such interim-enacted inconsistent provisions shall be repealed.

Section 9. Amendment or Repeal

This ordinance may be amended or repealed only by the voters of the City of San Buenaventura at an election held in accordance with state law, except as expressly provided by Section 4 herein.

The people of the City of San Buenaventura do ordain as follows:

Section 1. Title

This measure shall be known as the Ventura Community Park SOAR Amendment.

Section 2. Purpose

The purpose of this measure is to allow the City to develop a Community Park on a parcel of property located at the northwest corner of the intersection of Kimball Road and Telephone Road. The subject property, which is approximately 100 acres in size, is further described in Exhibit "A," attached hereto and made a part hereof, and is hereafter referred to as the "Property." Most of the Property is outside the Ventura City limits but within the "Planning Area" of the City of San Buenaventura and therefore covered by the City's Comprehensive Plan Update to the Year 2010 (hereafter the "Comprehensive Plan"). The Property is currently designated "Agricultural" under the Comprehensive Plan and, therefore, also subject to the 1995 Save Our Agricultural Resources ("SOAR") Initiative.

The City is proposing to develop the Property with community-oriented public park facilities that may include, among other things, athletic fields, an aquatic facility, a community center and other related buildings and structures for use by the public. If this measure is approved, the City may also construct and operate a fire station on a portion of the Property.

This initiative proposes to amend the Comprehensive Plan of the City of San Buenaventura, by changing the designation of the Property in the Comprehensive Plan Land Use Plan Map from "Agricultural" (or "A") to "Parks" (or "P"). This will allow the City of San Buenaventura to potentially develop the Property with a Community Park without being restricted by the SOAR Initiative.

Section 3. Comprehensive Plan Amendment

Part A.

The following paragraph titled “Parks Uses” is hereby added to the Land Use Element of the Comprehensive Plan, more particularly, to the provisions of the Serra Community Intent and Rationale Statement on page III-96, to read as follows:

“Parks Uses: The Parks Land Use Plan designation is applied to an approximately 100-acre site at the northwest corner of Kimball Road and Telephone Road for the purpose of developing a multi-purpose community-oriented public park on this site. It is further intended that this site should be zoned to the “P” (Parks) zone if and when it is annexed to the City. Design Review should be carried out by the City's Planning Commission prior to the development of any Recreation Services use types on the site to assure that the range of community park uses potentially permitted on the site by the "P" zone are well integrated on the site and compatible with adjacent land uses.”

Part B.

The Property is deleted from the discussion of “Agricultural Uses” in the Serra Community provisions of the Land Use Element of the Comprehensive Plan. To that end, the final paragraph with the heading “Agricultural Use” beginning at the bottom of page III-95 and ending at the top of page III-96 is hereby revised to read as follows:

“Agricultural Use: A 297-acre area between Telephone Road and the Southern Pacific Railroad and a 172-acre area between Bristol Road and the Santa Clara River are designated Agricultural Use, not to be reconsidered until after the Year 2010, to preserve their existing agricultural character.”

Part C.

The Land Use Plan Map incorporated in the Comprehensive Plan is hereby amended, and official copies thereof shall be revised by City staff, to reflect the foregoing amendments to the text of the Land Use Element.

Section 4. Zoning

Upon annexation to the City of San Buenaventura, the zoning classification for the Property shall be “P” (Parks) and the Official Zoning District Map incorporated in the Zoning Ordinance shall, by this Measure, be amended, and official copies thereof shall be revised by City staff, to reflect the foregoing zone change to the Property.

Section 5. Save Open-Space and Agricultural Resources

Any restrictions imposed upon the City of San Buenaventura limiting the City’s ability to redesignate, or allow development of, property designated “Agricultural” that are in effect on the day that this Initiative is approved by the voters shall remain in full force and effect except as to the Property. The City of San Buenaventura may allow development of a community park on the Property in accordance with this ordinance.

Section 6. Interpretation

This ordinance shall be broadly construed in order to achieve the purposes stated in this ordinance. It is the intent of the voters that the provisions of this ordinance shall be interpreted by the City of San Buenaventura and others in a manner that facilitates the development of a community park on the Property in accordance with the purposes of this ordinance.

Section 7. Insertion Date

Part A. Upon the effective date of this ordinance, Part A and Part B of Section 3 of this ordinance shall be deemed inserted in the Comprehensive Plan and the Land Use Map referred to in Part C of Section 3 shall be deemed amended even though the reprinting may not occur until it can be carried out by the staff of the City of San Buenaventura.

Part B. The Comprehensive Plan in effect at the time the City Council decided to place this measure on the ballot, and the Comprehensive Plan as amended by this ordinance, comprise an integrated, internally consistent and compatible statement of policies for the City of San Buenaventura.

V E N T U R A C O M M U N I T Y P A R K S O A R A M E N D M E N T

In order to ensure that the Comprehensive Plan remains an integrated, internally consistent and compatible statement of policies and to ensure that the actions of the voters in enacting this ordinance are given effect, any provision of the Comprehensive Plan that is adopted between [the date the City Council decided to place this measure on the ballot] and the effective date of this ordinance, to the extent that such provision is inconsistent with this ordinance, shall be amended as soon as possible and in the manner and time required by state law to ensure consistency between such provision and Section 3 of this ordinance. In the alternative, such interim-enacted inconsistent provisions shall be repealed.

Section 8. Amendment or Repeal

Section 3 and Section 4 of this ordinance may be amended or repealed only by the voters of the City of San Buenaventura at an election held in accordance with state law.

The people of the City of San Buenaventura do ordain as follows:

Section 1. Title

This ordinance shall be known as the First Assembly of God Land Initiative.

Section 2. Purpose

The purpose of this ordinance is to allow the First Assembly of God (hereafter “Church”) to develop a property located at the northwest corner of the intersection of Montgomery Avenue and Northbank Drive. Such property is 25.59 acres and is further described in Exhibit A, attached hereto and made a part hereof, and is hereafter referred to as “Property”. The Church wishes to develop the Property in accordance with City of San Buenaventura Ordinance No 95-33 (commonly known as “SOAR”) guidelines for a sanctuary, related Church buildings, and athletic fields for use by the community of San Buenaventura.

Since the Property is within the sphere of influence of the City of San Buenaventura, this ordinance (1) amends the Comprehensive Plan Update to the Year 2010 (hereafter the “General Plan”) of the City of San Buenaventura, and (2) rezones the Property to the R-1 Single Family zone with a subzone of R-1-1AC. This will allow the City of San Buenaventura to annex the Property with a restricted land use that is compatible with the Church’s development of the Property.

Section 3. General Plan Amendment

Part A.

The second paragraph under the heading “Residential Uses” appearing on page III-94 of the General Plan describes the areas that may be used for low-density, single family homes in the Serra Community area of the City of San Buenaventura. The single family use (designated as SF in the General Plan) is the most restrictive land use that will allow the Church to build a sanctuary, related church buildings, and athletic fields. Section 4 of this initiative will further restrict the Property by pre-zoning the Property and requiring a minimum of one acre for each parcel. This will make the Property unattractive for single family development but still acceptable for the Church sanctuary, related Church buildings, and athletic fields. This ordinance adds the Church’s 25.59 acre parcel to the SF land use.

The second paragraph under the heading “Residential Uses” appearing on page III-94 of the General Plan is hereby amended to read as follows:

“The SF category is applied to an approximately 3-acre site at the southeast corner of Henderson and Petit Avenue, a 1.7-acre site southerly of Darling Road extended, and a 25.59-acre site located at the northwest corner of Montgomery Avenue and Northbank Drive.”

Part B.

The final paragraph with the heading “Agricultural Use” beginning at the bottom of page III-95 and ending at the top of page III-96 of the General Plan describes that portion of the Serra Community area of the City of San Buenaventura which may only be used for agricultural uses. This ordinance deletes the Church’s 25.59 acre parcel from the agricultural use category.

The final paragraph with the heading “Agricultural Use” beginning at the bottom of page III-95 and ending at the top of page III-96 of the General Plan is hereby amended to read as follows:

“Agricultural Use: A 100-acre site at the northwest corner of Kimball Road and Telephone, a 297-acre area between Telephone Road and the Southern Pacific Railroad except for the 25.59-acre site located at the northwest corner of Montgomery Avenue and Northbank Drive, and a 172-acre area between Bristol Road and the Santa Clara River are designated Agricultural Use, not to be reconsidered until after the Year 2010, to preserve their existing agricultural character.”

Part C.

The map of the Land Use Plan contained in the General Plan shall be redrafted to reflect the foregoing amendments.

Section 4. Zoning

The most restrictive zoning in the City of San Buenaventura which will allow the Church to build a sanctuary, related Church buildings, and athletic fields on the Property is an R-1 Single Family zone with a subzone of R-1-1AC. The R-1-1AC subzone restricts the Property by requiring a minimum of one acre for each parcel. This will make the Property unattractive for single family development but still acceptable for the Church's sanctuary, related Church buildings, and athletic fields.

Therefore, upon annexation of the Property to the City of San Buenaventura the zoning designation for the Property shall be the R-1 Single Family zone with a subzone of R-1-1AC.

Section 5. Save Open-Space and Agricultural Resources

Any restrictions imposed upon the City of San Buenaventura limiting the City's ability to annex property and allow development of such property shall remain in full force and effect except as to the 25.59-acres of the Property.

Section 6. Construction

This ordinance shall be broadly construed in order to achieve the purposes stated in this ordinance. It is the intent of the voters that the provisions of this ordinance shall be interpreted by the City of San Buenaventura and others in a manner that facilitates the development of the Property in accordance with the purposes of this ordinance.

Section 7. Insertion Date

Part A. Upon the effective date of this ordinance, Part A and Part B of Section 3 of this ordinance shall be deemed inserted in the General Plan and the Land Use Map referred to in Part C of Section 3 shall be deemed amended even though the reprinting may not occur until deemed convenient by the City of San Buenaventura.

Part B. The General Plan in effect at the time the Notice of Intention to circulate this initiative was submitted to the City Clerk of the City of San Buenaventura, and the General Plan as amended by this ordinance, comprise an integrated, internally consistent and compatible statement of policies for the City of San Buenaventura. In order to ensure that the General Plan remains an integrated, internally consistent and compatible statement of policies and to ensure that the actions of the voters in enacting this ordinance are given effect, any provision of the General Plan that is adopted between the Notice of Intention and the effective date of this ordinance, to the extent that such provision is inconsistent with this ordinance, shall be amended as soon as possible and in the manner and time required by state law to ensure consistency between such provision and Section 3 of this ordinance. In the alternative, such interim-enacted inconsistent provisions shall be repealed.

Section 8. Amendment or Repeal

Section 3 and Section 4 of this ordinance may be amended or repealed only by the voters of the City of San Buenaventura at an election held in accordance with state law.

EXHIBIT "A"

PARCEL 1:

That portion of Subdivision 98 of Rancho Santa Paula y Saticoy, in the county of Ventura, state of California, as per map recorded in book "A" pag3 290 of Miscellaneous Records (Transcribed Records from Santa Barbara County), in the office of the county recorder of said county, described as follows:

Beginning at the point of intersection of the centerline of the right of way of the Southern Pacific Railroad and the boundary line between Subdivisions 98 and 99 of said Rancho Santa Paula y Saticoy; thence from said point of beginning,

1st: - North 10° 30' West 9.482 chains, more or less, to the southeast corner of that certain Parcel of land conveyed to Charles H. Fowler, by deed dated March 18, 1892, recorded in book 36 page 86 of Deeds; thence,

2nd: - South 79° 30' West 19.25 chains, along the south line of said lands of Charles H. Fowler, to the northeast corner of that certain Parcel of land as conveyed to Emma J. Tyler, by deed dated June 20, 1894, recorded in book 43 page 90 of Deeds; thence,

3rd: - South 10° 30' East 18.982 chains, more or less, along the east line of said lands of Emma J. Tyler, to a point in the centerline of the right of way of the Southern Pacific Railroad; thence along same,

4th: - North 53° 15' East 22.57 chains, more or less, to the point of beginning.

EXCEPT a strip of parcel of land 50 feet wide lying adjoining and immediately west of the east line of the above described land, conveyed to the County of Ventura, as a public highway, by deed recorded July 12, 1889, in book 28 page 338 of Deeds.

ALSO EXCEPT that portion thereof conveyed to the Southern Pacific Railroad Company by deed recorded January 27, 1887 in book 18 page 146 of Deeds.

RESERVING unto the grantor herein, all oil, gas and mineral rights in and to said land, without however, any right of surface entry in and to a depth of 500 feet.

PARCEL 3:

That certain parcel in Lot 99 of the Rancho Santa Paula y Saticoy, marked "not a part of this subdivision" on the map of Tract No. 1333-1, in the City of San Buenaventura, county of Ventura, state of California, as per map recorded in book 30 page 51 of Maps, in the office of the county recorder of said county, and lying northwesterly of the Southern Pacific Railroad right of way, easterly of Bristol Road and southwesterly of Montgomery Avenue, as shown on said map.

RESERVING unto the grantor herein, all oil, gas and mineral rights in and to said land, without however, any right of surface entry in and to a depth of 500 feet from the surface thereof.



"The desire for community is a constant of human nature."

— Steven Price
Urban Advantage
Berkeley, California

CITY OF
VENTURA

A T T A C H M E N T S

ventura's general plan

21ST CENTURY TOOL KIT

Prelude

The 2005 Ventura General Plan envisions a new direction to protect and preserve its citizens' quality of life. This direction is based on the recognition that zoning and land development, as practiced for the past several decades, has not served our citizens, our city, or our environment as well as it should.

Currently, the two most successful movements created to alleviate this situation are "Smart Growth" and "New Urbanism." Smart Growth is a government initiated approach against sprawl that addresses underlying policy from the top-down, and is primarily marketed by government and similar agencies. New Urbanism is a grass roots, market response to outdated zoning and land use policy as it impacts development and the physical properties of the public realm. Its chief advocates are architects and town designers.

Smart Growth grew out of early New Urbanist work, and both are concerned with the real outcomes of the built environment and how it affects communities environmentally, economically, culturally, and socially.

The Ahwahnee Principles and the Charter for the New Urbanism, listed below, were created early on as "constitutions" that governed these movements. Both are valuable tools that Ventura would be wise to include in its 21st Century Tool Kit to understand and solve long-standing problems associated with growth and change.

AHWAHNEE PRINCIPLES**Preamble:**

Existing patterns of urban and suburban development seriously impair our quality of life. The symptoms are: more congestion and air pollution resulting from our increased dependence on automobiles, the loss of precious open space, the need for costly improvements to roads and public services, the inequitable distribution of economic resources, and the loss of a sense of community. By drawing upon the best from the past and the present, we can plan communities that will more successfully serve the needs of those who live and work within them. Such planning should adhere to certain fundamental principles.

Community Principles

1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.

2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network.
7. The community should have a center focus that combines commercial, civic, cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well-defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.
15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

Regional Principles

1. The regional land-use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting a continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

Implementation Principles

1. The general plan should be updated to incorporate the above principles.
2. Rather than allowing developer-initiated, piecemeal development, local governments should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.

3. Prior to any development, a specific plan should be prepared based on these planning principles.
4. Plans should be developed through an open process and participants in the process should be provided visual models of all planning proposals.

CONGRESS FOR THE NEW URBANISM

THE CONGRESS FOR THE NEW URBANISM views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community building challenge.

WE STAND for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

WE RECOGNIZE that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent supportive physical framework.

WE ADVOCATE the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

WE REPRESENT a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

WE DEDICATE ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment.

We assert the following principles to guide public policy, development practice, urban planning, and design:

The region: Metropolis, city, and town

1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.
2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.
3. The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.
4. Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.
5. Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs.
6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
7. Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.
8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.
9. Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

The neighborhood, the district, and the corridor

1. The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.
2. Neighborhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.
3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.
4. Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.
5. Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers.
6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.
7. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods, and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.
8. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.
9. A range of parks, from tot-lots and village greens to ball fields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.

The block, the street, and the building

1. A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.
2. Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.
3. The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.
4. In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.
5. Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.
6. Architecture and landscape design should grow from local climate, topography, history, and building practice.
7. Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.
8. All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.
9. Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society.

Congress of the New Urbanism, 140 S. Dearborn St., Suite 310, Chicago, IL, 60603, (312) 551-7300
For information, visit www.cnu.org

*© Copyright 2001 by Congress for the New Urbanism.
All rights reserved. May not be reproduced without written permission.*

GLOSSARY OF TERMS IN THE 2005 VENTURA GENERAL PLAN

Abbreviations

ADT: Average number of vehicle trips per day
 CEQA: California Environmental Quality Act
 CIP: Capital Improvements Program
 CNEL: Community Noise Equivalent Level
 dB: Decibel
 DOF: California Department of Finance
 EIR: Environmental Impact Report
 FAR: Floor Area Ratio
 FEMA: Federal Emergency Management Agency
 LAFCo: Local Agency Formation Commission
 Ldn: Day and Night Average Sound Level
 Leq: Sound Energy Equivalent Level
 LOS: Traffic Intersection Level of Service
 RDA: City of Ventura Redevelopment Agency
 SCAG: Southern California Association of Governments
 SOI: Sphere of Influence
 TDM: Transportation Demand Management
 TOD: Transit-Oriented Development
 VCOG: Ventura County Council of Governments

Definitions

Acre: Approximately 43,560 square feet.

Acres, Gross: The entire acreage of a site calculated to the centerline of proposed bounding streets and to the edge of the right-of-way of existing or dedicated streets.

Acres, Net: The portion of a site that can actually be built upon. The following generally are not included in the net acreage of a site: public or private road rights-of-way, public open space, and flood ways.

Action: A strategy carried out in response to adopted policy to achieve a specific goal or objective. Policies and action statements establish the “who,” “how” and “when” for carrying out the “what” and “where” of goals and objectives.

Adaptive Reuse: The conversion of obsolescent or historic buildings from their original or most recent use to a new use; for example, the conversion of former hospital or school buildings to residential use, or the conversion of a historic single-family home to office use.

Affordable Housing: Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household’s ability to make monthly payments necessary to obtain housing. Housing is considered affordable when a household pays less than 30 percent of its gross monthly income (GMI) for housing including utilities.

Alley: A narrow service way, either public or private, which provides a permanently reserved but secondary means of public access not intended for general traffic circulation. Alleys typically are located along rear property lines.

Ambient: Surrounding on all sides; used to describe measurements of existing conditions with respect to traffic, noise, air and other environments.

Annex, v: To incorporate a land area into an existing district or municipality, with a resulting change in the boundaries of the annexing jurisdiction.

Aquifer: An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Arterial: Medium-speed (30-40 mph), medium-capacity (10,000-35,000 average daily trips) roadway that provides intra-community travel and access to the county-wide highway system. Access to community arterials should be provided at collector roads and local streets, but direct access from parcels to existing arterials is common.

Bicycle Lane (Class II): A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

Bicycle Path (Class I): A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.

Bicycle Route (Class III): A facility shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.

Buffer: An area of land separating two distinct land uses that acts to soften or mitigate the effects of one land use on the other.

Building: Any structure used or intended for supporting or sheltering any use or occupancy.

Building Type: a structure category determined by function, disposition on the lot, and configuration, including frontage and height. For example, a rowhouse is a type, not a style.

Buildout: Development of land to its full potential or theoretical capacity as permitted under current or proposed planning or zoning designations.

California Environmental Quality Act (CEQA): Law requiring State and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an Environmental Impact Report (EIR) must be prepared and certified before taking action on the proposed project.

Capital Improvements Program (CIP): A program that schedules permanent City improvements at least five years ahead to fit projected fiscal capability. The CIP is reviewed annually.

Channelization: The straightening and/or deepening of a watercourse for purposes of runoff control or ease of navigation; often includes lining banks with retaining material such as concrete.

Character: Special physical characteristics of a structure or area that set it apart from its surroundings and contribute to its individuality.

Charrette: An interactive, multi-day public process in which the community works together with planning and design professionals and City staff and officials to create and support a feasible plan for a specific area of the City that will produce positive and transformative community change.

City: When capitalized, refers to the governmental entity; “city” refers to the geographic area.

Civic: the term defining not-for-profit organizations dedicated to the arts, culture, education, recreation, government, transit, and municipal parking.

Clustered Development: Buildings placed close together with the purpose of retaining open space area.

Co-housing: A residential development with dwelling units for grouped around a common kitchen, gathering room, and child-care facilities. Co-housing developments normally are organized as condominiums.

Collector: Relatively-low-speed (25-30 mph), relatively low-volume (5,000-10,000 average daily trips) street that provides circulation within and between neighborhoods. Collectors usually serve short trips and are intended for collecting trips from local streets and distributing them to the arterial network.

Commerce; Commercial: The buying and selling of commodities and services.

Community Noise Equivalent Level (CNEL): A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dBA applied to the evening (7 PM to 10 PM) and nighttime (10 PM to 7 AM) periods, respectively, to allow for the greater sensitivity to noise during these hours.

Community Park: Land with full public access intended to provide recreation opportunities beyond those supplied by neighborhood parks. Community parks are larger in scale than neighborhood parks but smaller than regional parks.

Corridor: Linear features that may form boundaries, as well as connections, between neighborhoods. Corridors frequently encompass major access routes, especially ones with commercial destinations. Corridors also can incorporate parks or natural features such as streams or canyons.

dB: Decibel; a unit used to express the relative intensity of a sound as it is heard by the human ear.

dBA: The "A-weighted" scale for measuring sound in decibels; weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

Dedication: The turning over by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are made conditions for approval of a development by a city or county.

Density, Residential: The number of permanent residential dwelling units per gross acres of land.

Density Bonus: The allocation of development rights that allow a parcel to accommodate additional square footage or additional residential units beyond the maximum for which the parcel is zoned, usually in exchange for the provision or preservation of an amenity at the same site or at another location. Under California law, a housing development that provides 20 percent of its units for lower income households, or 10 percent of its units for very low-income households, or 50 percent of its units for seniors, is entitled to a density bonus.

Design Review: The comprehensive evaluation of a development and its impact on neighboring properties and the community as a whole, from the standpoint of site and landscape design, architecture, materials, colors, lighting, and signs, in accordance with a set of adopted criteria and standards.

Detention Basin: A structure constructed to retard flood runoff and minimize the effect of sudden floods. Water is temporarily stored and released through an outlet structure at a rate that will not exceed the carrying capacity of the channel downstream. Basins often are planted with grass and used for open space or recreation in periods of dry weather.

Developer: An individual or business that prepares raw land for the construction of buildings or causes to be built physical space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

Development: The physical extension and/or construction of urban land uses, including: subdivision of land; construction or alteration of structures, roads, utilities, and other facilities; installation of septic systems; grading; deposit of refuse, debris, or fill materials; and clearing of natural vegetative cover (with the exception of agricultural activities). Routine repair and maintenance activities are exempted.

Development Fee: (See "Impact Fee.")

District: An area of the city that has a unique character identifiable as different from surrounding areas because of distinctive architecture, streets, geographic features, culture, landmarks, activities, and/or land uses. A neighborhood or parts of neighborhoods can form a district. Districts consist of streets or areas emphasizing specific types of activities. A corridor may also be a district, as when a major shopping avenue runs between adjoining neighborhoods.

Dwelling Unit: A room or group of rooms (including sleeping, eating, cooking, and sanitation facilities, but not more than one kitchen), which constitutes an independent housekeeping unit, occupied or intended for occupancy by one household on a long-term basis.

Encourage, v: To stimulate or foster a particular condition through direct or indirect action by the private sector or government agencies.

Enhance, v: To improve existing conditions by increasing the quantity or quality of beneficial uses or features.

Environment: The existing physical conditions in an area that will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historic or aesthetic significance.

Environmental Impact Report (EIR): A report required by CEQA that assesses all the environmental characteristics of an area and determines what effects or impacts will result if the area is altered or disturbed by a proposed action.

Fault: A fracture in the earth's crust forming a boundary between rock masses that have shifted.

Flood, 100-Year: The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a one percent chance of occurring in any given year.

Floodplain: The relatively level land area on either side of the banks of a stream regularly subject to flooding. That part of the flood plain subject to a one percent chance of flooding in any given year is designated as an "area of special flood hazard" by the Federal Insurance Administration.

Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the "base flood" without cumulatively increasing the water surface elevation more than one foot. No development is allowed in floodways.

General Plan: A compendium of city or county policies regarding its long-term development, in the form of maps and accompanying text. The General Plan is a legal document required by the State of California Government Code Section 65301 and adopted by the City Council.

Gateway: A point along the edge of a city at which a person gains a sense of having left the environs and entered the city.

Goal: A general, overall, and ultimate purpose, aim, or end toward which the City will direct effort.

Green: A whole-building and systems approach to siting, design, construction, and operation that employs techniques that minimize environmental impacts and reduce the energy consumption of buildings while contributing to the health and productivity of occupants.

Hazardous Material: Any substance that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.

Hillside Area: All that area north of Foothill and Poli Street, and east of Cedar Street and within City limits. This area is subject to the Hillside Management Program.

Hillside Open Space: One of the 19 distinct communities within the City’s Planning Area; coterminous with the Hillside Voter Participation Area; generally referred to as “hillsides”.

Hillside Voter Participation Area or HVPA: The area subject to the “Hillside Voter Participation Act” (also known as Measure “P”) as set forth in Appendix X and coterminous with the “Hillside Open Space” area depicted on the Land Use Diagram.

Hillsides: Synonymous and coterminous with HVPA and “Hillside Open Space”.

Historic: Noteworthy for significance in local, state, or national history or culture, architecture or design, or housing works of art, memorabilia, or artifacts.

Household: Persons who occupy a housing unit.

Housing Element: A separately published State-mandated general plan element that assesses existing and projected housing needs of all economic segments of the community, identifies potential sites adequate to provide the amount and kind of housing needed, and contains adopted goals, policies, and implementation programs for the preservation, improvement, and development of housing. The Housing Elements is updated every five years.

Housing Unit: A rooms or a rooms intended for occupancy, separate from any other living space, with direct access from outside or through a common area.

Impact: The direct or indirect effect of human action on existing physical, social, or economic conditions.

Impact or Development Fee: A fee levied on the developer of a project as compensation for otherwise-unmitigated impacts the project will produce, not to exceed the estimated reasonable cost of providing the service for which the fee is charged.

Industry/Industrial: The manufacture, production, and processing of consumer goods. Industrial is often divided into "heavy industrial" uses, such as construction yards, quarrying, and factories; and "light industrial" uses, such as research and development and less intensive warehousing and manufacturing.

Infill: Development of vacant and/or underutilized land within areas already largely developed with urban uses.

Infrastructure: Public services and facilities, such as sewage-disposal systems, water-supply systems, and other utilities.

In-lieu Fee: Payment that substitutes for required dedication of land or provision of structures or amenities.

Institutional: Uses such as hospitals, museums, schools, places of worship, and nonprofit activities of a welfare, educational, or philanthropic nature that cannot be considered residential, commercial, or industrial activities.

Landmark: (1) A building, site, object, structure, or significant tree, having historical, architectural, social, or cultural significance and marked for preservation by the local, state, or federal government. (2) A visually prominent or outstanding structure or natural feature that functions as a point of orientation or identification.

Ldn: Day-Night Average Sound Level. The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to night-time sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.

Leq: The energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The Leq is a "dosage" type measure and is the basis for the descriptors used in current standards, such as the 24-hour CNEL used by the State of California.

Lease: A contractual agreement by which an owner of real property (the lessor) gives the right of possession to another (a lessee) for a specified period of time (term) and for a specified consideration (rent).

Level of Service, Intersection (LOS): A scale that measures the amount of traffic an intersection is capable of handling. Levels range from A, representing free-flow, to F corresponding to significant stoppage.

Liquefaction: The transformation of loose water-saturated granular materials (such as sand or silt) from a solid into a liquid state, which can lead to ground failure during an earthquake.

Live-Work: A dwelling unit that contains, to a limited extent, a commercial component. A live-work unit is a fee-simple unit on its own lot with the commercial component limited to the ground level. (see Work-Live)

Local Agency Formation Commission (LAFCo): A commission in each county that reviews and evaluates proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and merger of districts with cities. LAFCo members include two county supervisors, two city council members, and one member representing the general public.

Local Coastal Program (LCP): A combination of City land use plans, zoning regulations, and zoning district maps that control land use in the Coastal Zone established under the California Coastal Act of 1976.

Local Street: Relatively low-volume, low-speed streets (not shown on the Roadway Classifications map), whose primary purpose is to provide access to fronting properties.

Lot: A legally-recognized parcel with frontage on a public or City-approved private street.

Low Income: Households with annual income 80 percent of the County median or less.

Maintain: Keep in an existing state. (See "Preserve.")

Median: The dividing area between opposing lanes of traffic.

Mitigate: Alleviate or avoid to the extent feasible.

Mixed Use: Properties on which various uses, such as office, commercial, and institutional, are combined with residences in a single building or site in an integrated development project with significant functional interrelationships and a coherent physical design. A single site may include contiguous properties.

Neighborhood: The basic building blocks of a community that together comprise the city. Each neighborhood is limited in physical area, with a defined edge and a center. The size of a neighborhood is usually based on the distance that a person can walk in five minutes from the center to the edge – a quarter-mile. Neighborhoods have a fine-grained mix of land uses, providing places to live, work, shop, and be entertained.

Neighborhood Center: The focal point of a neighborhood, commonly featuring places for work, shopping, services, entertainment, leisure, recreation, and social and civic interaction.

Neighborhood Park: A facility intended to serve the recreation needs of people living or working within a one-half mile radius of the park.

Noise: Sound that is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or is otherwise annoying.

Noise Contour: A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 Ldn contour (measured in dBA) require mitigation in residential development.

Office: Professional or consulting services in fields such as accounting, architecture, design, engineering, finance, law, insurance, medicine, real estate, and similar types of work.

Open Space: An area of land or water that is essentially unimproved and devoted to outdoor recreation and/or the preservation of natural resources.

Outdoor Recreation: Recreation in an urbanized outdoor setting (active recreation) or open-space outdoor setting (passive recreation).

- (a) *Active outdoor recreation* includes participant sports or other activities conducted in open or partially enclosed or screened recreational activities facilities. Typical uses include driving ranges, miniature golf courses, golf courses, amusement parks, swimming pools, and tennis courts and usually rely on permanent above-ground improvements, including, but not limited to, playing fields or courts, restrooms, and tables.
- (b) *Passive outdoor recreation* includes recreational activities, usually of an individual or small group nature, such as sunbathing, walking, hiking, bird watching, or nature study, conducted in an open-space setting and which, generally, do not rely on the use of permanent aboveground improvements or involve motorized vehicle use.

Parcel: A lot, or contiguous group of lots, in single ownership or under single control, usually considered a unit for purposes of development.

Parks: Open space lands whose primary purpose is recreation.

Parkway: The area between curb and sidewalk, usually planted with ground cover and/or trees.

Pedestrian Shed: an area defined by the average distance that may be traversed at an easy walking pace from its edge to its center. This distance is applied to determine the size of a neighborhood or extent of a community. A standard Pedestrian Shed is one quarter of a mile radius or 1,320 feet. With transit available or proposed, a long Pedestrian Shed has an average walking distance of ½-mile or 2,640 feet. Pedestrian Sheds should be conceived as oriented toward a central destination containing one or more important intersections, meeting places, civic spaces, civic buildings, and the capacity to accommodate a T5 Transect Zone in the future. Sometimes called a Walkshed.

Planning Area: The land area addressed by the General Plan, which includes the City Limits, potentially annexable land in the Sphere of Influence, and neighboring open space and agricultural areas of Ventura County that the City desires to remain in rural condition.

Policy: A statement of principle that anticipates specific actions to be undertaken to meet City goals.

Pollution: The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

Preserve: Keep intact and safe from destruction or decay.

Protect: Maintain and preserve beneficial uses in their present condition.

Public and Quasi-public Facilities: Institutional, academic, governmental and community service uses, either publicly owned or operated by non-profit organizations.

Public Art: Signs, other monuments, sculptures, murals, statues, fountains, and other artistic installations in spaces accessible to the general public that accentuate or draw attention to a particular place or feature of the city, provide a focal point for public gathering, and/or serve a specific function, such as to provide seating.

Recreation, Active: A type of recreation that requires organized play areas, such as softball, baseball, football and soccer fields, tennis and basketball courts and various forms of children's play equipment.

Recreation, Passive: Recreation that does not require organized play areas.

Recycling: The process of extracting and reusing materials from waste products.

Redevelop: To demolish existing buildings, or increase the overall floor area existing on a property, or both, irrespective of whether a change occurs in land use.

Redevelopment Agency: The City division created under California Redevelopment Law for the purpose of planning, developing, re-planning, redesigning, clearing, reconstructing, and/or rehabilitating all or part of a specified area with residential, commercial, industrial, and/or public (including recreational) structures and facilities.

Regional: Pertaining to activities or economies at a scale greater than that of a single jurisdiction and affecting a broad geographic area.

Regional Park: A park typically 150-500 acres in size focusing on activities and natural features not included in most other types of parks and often based on a specific scenic or recreational opportunity.

Restore: Renew, rebuild, or reconstruct to a former state.

Ridesharing: Vehicle travel other than driving alone.

Ridgeline: A line connecting the highest points along a ridge and separating drainage basins or small-scale drainage systems from one another.

Right-of-way: Land intended to be occupied by transportation and public use facilities such as roadways, railroads, and utility lines.

Riparian: Areas adjacent to perennial and intermittent streams delineated by the existence of plant species normally found near fresh water.

Runoff: The portion of precipitation that does not percolate into the ground.

Seismic: Caused by or subject to earthquakes or earth vibrations.

Sidewalk: the paved layer of the public frontage dedicated exclusively to pedestrian activity.

Specific Plan: A legal tool allowed by State Government Code Section 65450 et seq. that prescribes detailed regulations, conditions, programs, and/or proposed legislation for a defined area of the city.

Sphere of Influence: The probable ultimate physical boundaries and service area of the city, as determined by LAFCo.

Streetscape: the urban element that establishes the major part of the public realm. The streetscape is composed of thoroughfares (travel lanes for vehicles and bicycles, parking lanes for cars, and sidewalks or paths for pedestrians) as well as the visible private frontages (building facades and elevations, porches, yards, fences, awnings, etc.), and the amenities of the public frontages (street trees and plantings, benches, and streetlights, etc.).

Structure: Anything constructed or erected that requires location on the ground (excluding swimming pools, fences, and walls used as fences).

Subdivision: The division of a land into defined lots or condominiums that can be separately conveyed by sale or lease.

Sustainable: Meeting the needs of the present without compromising the ability of future generations to meet their needs, and successfully balancing economic, environmental, and social equity concerns.

Tourism: The business of providing services for persons traveling for pleasure.

Transect: a system of ordering human habitats in a range from the most natural to the most urban. Based upon six Transect Zones that describe the physical character of place at any scale, according to the density and intensity of land use and urbanism.

Transit-Oriented Development (TOD): Relatively high-density development located within an easy walk of a major transit stop, generally with a mix of residential, employment, and shopping designed primarily for pedestrians.

Transit, Public: A system of regularly-scheduled buses and/or trains available to the public on a fee-per-ride basis.

Transportation Demand Management (TDM): Strategies for reducing the number of vehicle trips by increasing ridesharing, transit use, walking, and biking.

Trip: A one-way journey that proceeds from an origin to a destination via a single mode of transportation.

Truck Route: A route required for all vehicles exceeding set weight or axle limits, which follows major arterials through commercial or industrial areas and avoids sensitive areas.

Underutilized: Non-vacant properties that have not been fully developed with improvements that reach the allowed density and/or floor area.

Urban Design: The attempt to give form, in terms of both beauty and function, to selected urban areas or to whole cities. Urban design is concerned with the location, mass, and design of various urban components and combines elements of urban planning, architecture, and landscape architecture.

Use Permit: The discretionary and conditional review of an activity or function or operation on a site or in a building or facility.

Very Low Income: Households with annual income 50 percent of the County median or less.

View Corridor: The line of sight of an observer looking toward an object of significance (e.g., ridgeline, river, historic building, etc.).

Viewshed: The area within view from a defined point.

Watercourse: Presently or once naturally perennially or intermittently flowing water, including rivers, streams, barrancas, and creeks. Includes waterways that have been channelized, but not ditches or underground drainage and sewage systems.

Watershed: The total area above a given point on a watercourse that contributes water to its flow; also, the entire region drained by a watercourse.

Wetlands: Transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. Federal agencies establish hydrology, vegetation, and soil criteria to define wetlands.

Work-Live: A dwelling unit that contains a commercial component. A Work-Live unit is a fee-simple unit on a lot with the commercial component anywhere within the unit. (see Live-Work)

Yield Street: A street whereby by two vehicles, going in opposite directions, one car will often have to pull over slightly and yield to the other vehicle, depending on how many cars are parked on the street. A standard residential street.

Zoning: The regulation of building forms and land uses throughout the city.

Final - August 2010



City of
San Buenaventura

Wastewater System Master Plan



Kennedy/Jenks Consultants
Engineers & Scientists

Table of Contents

<i>List of Tables</i>	<i>iv</i>
<i>List of Figures</i>	<i>vi</i>
<i>List of Appendices</i>	<i>vii</i>
<i>Executive Summary</i>	<i>ES-1</i>
Section 1: Introduction	1-1
Quote: A Vision for Ventura	1-1
1.1 Background	1-2
1.2 Study Area	1-2
1.3 Purpose and Scope.....	1-4
1.4 Authorization	1-4
1.5 Acknowledgements	1-4
1.6 Planning Studies	1-5
1.7 Abbreviations and Definitions.....	1-6
Section 2: Wastewater System Design Criteria	2-1
2.1 Study Area Land Uses	2-1
2.1.1 Existing Development.....	2-1
2.1.2 Near-Term Development.....	2-2
2.1.3 General Plan Development	2-2
2.2 Wastewater Flow Factors.....	2-10
2.3 Peaking Factors	2-11
2.4 Collection System Design Criteria.....	2-13
2.4.1 Lift Station Criteria.....	2-13
2.4.2 Forcemain Criteria.....	2-14
2.4.3 Gravity Main Criteria.....	2-14
Section 3: Wastewater Flow Projections	3-1
3.1 Existing Wastewater Flow	3-1
3.2 Near-Term Wastewater Flow	3-2
3.3 General Plan Horizon Wastewater Flow	3-3
3.4 Wastewater Flow Summary	3-4
Section 4: Wastewater Treatment Facility Process Evaluation and Improvement Plan	4-1
4.1 Introduction	4-1
4.1.1 NPDES Discharge Requirements.....	4-2
4.1.2 Existing and Projected Flows and Loadings.....	4-4
4.2 VWRP Assessment and Performance Evaluation for Continued Discharge to the Estuary and Production of Recycled Water	4-6

Table of Contents (cont'd)

4.2.1	Existing Treatment Facilities.....	4-6
4.2.2	Process Capacity and Redundancy Requirements	4-7
4.2.3	Liquid Treatment Processes.....	4-8
4.2.3.1	Headworks and Influent Pumping.....	4-8
4.2.3.2	Primary Clarifiers	4-9
4.2.3.3	Aeration Basins.....	4-12
4.2.3.4	Secondary Clarifiers.....	4-14
4.2.3.5	Mixed Media Filters.....	4-17
4.2.3.6	Disinfection Facilities	4-18
4.2.3.7	Effluent Pumping and Metering.....	4-20
4.2.4	Solids Handling Processes.....	4-21
4.2.4.1	Gravity Thickener.....	4-21
4.2.4.2	Dissolved Air Flotation Thickeners (DAFT).....	4-22
4.2.4.3	Anaerobic Digesters	4-23
4.2.4.4	Recessed Plate Filter Presses (RFPF).....	4-25
4.2.5	Summary of the Capacity Limitations of the Liquid Treatment and Solids Handling Facilities	4-26
4.2.6	Process Modeling.....	4-30
4.2.6.1	Model Calibration	4-30
4.2.6.2	Model Application	4-30
4.3	Alternatives for Identified Improvements for Continued Discharge to the Estuary and Production of Reclaimed Water	4-31
4.3.1	Headworks and Influent Pumping Station	4-32
4.3.1.1	Influent Flow Measurement Capacity.....	4-32
4.3.1.2	Grit Removal Redundancy.....	4-33
4.3.2	Primary Clarifiers.....	4-34
4.3.2.1	Primary Clarifier Redundancy	4-34
4.3.2.2	Primary Effluent Pumping Capacity	4-35
4.3.3	Mixed Media Filters	4-36
4.3.3.1	Mixed Media Filter Capacity.....	4-36
4.3.4	Disinfection.....	4-38
4.3.4.1	Disinfection Limitations	4-38
4.3.5	Effluent Pumping and Metering	4-42
4.3.5.1	Effluent Pumping Capacity	4-42
4.3.5.2	Effluent Metering Capacity and Redundancy.....	4-42
4.3.6	Anaerobic Digestion	4-43
4.3.6.1	Anaerobic Digestion Capacity.....	4-43
4.3.7	Comprehensive Replacement Plan	4-45
4.3.7.1	Conventional BNR	4-45
4.3.7.2	Integrated Fixed-film Activated Sludge (IFAS).....	4-45
4.3.7.3	Membrane Bioreactor (MBR).....	4-46
4.3.7.4	Comprehensive Replacement Costs	4-47

Table of Contents (cont'd)

4.3.8	Summary of Recommended Improvements and Conceptual Capital Costs for Continued Discharge to the Estuary	4-48
4.4	Long-Range Plan for Discharge Prohibitions to the Estuary	4-48
4.4.1	Increased Production of Reclaimed Water	4-48
4.4.2	Ocean Outfall.....	4-49
4.4.2.1	Typical Outfall NPDES Permit Limitations	4-49
4.4.2.2	Conceptual Plan for Construction of an Ocean Outfall	4-50
4.4.2.3	Headworks and Influent Pumping Station.....	4-50
4.4.2.4	Primary Clarifiers	4-50
4.4.2.5	Aeration Basins.....	4-50
4.4.2.6	Secondary Clarifiers.....	4-51
4.4.2.7	Mixed Media Filters.....	4-52
4.4.2.8	Chlorine Contact Tanks	4-53
4.4.2.9	Effluent Pumping and Flow Measurement.....	4-54
4.4.2.10	Solids Handling – Gravity Thickener, Dissolved Air Floatation, Anaerobic Digesters, and Filter Presses.....	4-54
4.4.2.11	Conceptual Capital Costs for an Ocean Outfall	4-54
4.4.2.12	Impact on the Continued Production of Recycled Water	4-54
4.5	Comparative Evaluation of Recommended Alternatives	4-54

Section 5: Sewer Collection System Evaluation and Improvement

	Plan	5-1
5.1	Existing Collection System.....	5-1
5.1.1	Collection System Facility Identification	5-2
5.1.2	Existing Collection System Maintenance.....	5-2
5.2	Collection System Model Development.....	5-3
5.2.1	Model Calibration.....	5-4
5.2.2	Model Calibration Results.....	5-5
5.3	Gravity Sewer Collection System Evaluation	5-6
5.3.1	Existing System Hydraulic Evaluation	5-6
5.3.1.1	Capacity Evaluation	5-6
5.3.1.2	Identification of Potential Future Maintenance Concerns	5-10
5.3.2	Near-Term System Hydraulic Evaluation	5-10
5.3.3	Ultimate System Hydraulic Evaluation.....	5-10
5.4	Lift Station and Force Main Hydraulic Evaluation.....	5-13
5.5	Collection System Capital Improvement Recommendations	5-17
5.5.1	Collection System Unit Costs	5-17

Table of Contents (cont'd)

5.5.2	Collection System Capital Improvement Recommendations.....	5-19
5.5.2.1	Project Grouping.....	5-19
5.5.2.2	Project Timing.....	5-20
5.5.2.3	Project Prioritization.....	5-20
5.5.3	Existing Collection System Improvement Recommendations.....	5-21
5.5.4	Near-term Collection System Improvement Recommendations.....	5-23
5.5.5	Ultimate Collection System Improvement Recommendations.....	5-26
5.5.6	Collection System Recommendations in Perspective	5-26

Section 6: Wastewater System Recommendations and Capital Improvement Program..... 6-1

6.1	Recommended Further Studies and Investigations	6-1
6.2	Collection System Improvements.....	6-3
6.2.1	Existing Collection System Improvement Recommendations.....	6-3
6.2.2	Near Term Collection System Improvement Recommendations.....	6-4
6.2.3	Ultimate Collection System Improvement Recommendations.....	6-5
6.3	Treatment Facility Improvements.....	6-7
6.3.1	Treatment Facility Improvement Recommendations	6-7

Section 7: References..... 7-1

List of Tables

2-1	Master Plan Existing Land Use Categories
2-2	Near-Term Development Projects
2-3	Return-To-Sewer Ratios
2-4	Wastewater Flow Factors
2-5	Minimum Slope Requirements
3-1	Existing Wastewater Flow Summary
3-2	Near Term Wastewater Flow Summary
3-3	General Plan Horizon Wastewater Flow Summary

Table of Contents (cont'd)

3-4	Summary of Projected Average Dry Weather Flow
3-5	Summary of Outside Source Wastewater Flows (gpd)
3-6	Total Projected Flows
4-1a	Previous NPDES Permit CA0053651 Effluent Requirements (10 Dec. 2000)
4-1b	Proposed NPDES Permit CA0053651 Effluent Requirements (12 July 2007)
4-2	Design Flows and Loads
4-3	Headworks and Influent Pumping Station Technical Data
4-4	Primary Clarifier Technical Data
4-5	Primary Clarifier Operational Parameters
4-6	Aeration Basins Technical Data
4-7	Aeration Basins Operational Parameters
4-8	Secondary Clarifiers Technical Data
4-9	Secondary Clarifiers Operational Parameters
4-10	Mixed Media Filters (MMF) Technical Data
4-11	CCT Technical Data
4-12	CCT Operational Parameters
4-13	Effluent Pumping and Metering Technical Data
4-14	Gravity Thickener Technical Data
4-15	Gravity Thickener Operational Parameters
4-16	DAFT Technical Data
4-17	DAFT Operational Parameters
4-18	Digester Technical Data
4-19	Digesters Operational Parameters
4-20	RFPF Technical Data
4-21	RFPF Operational Parameters
4-22	VWRF Capacity Evaluation Summary
4-23	NPDES PERMIT Ca0107999 Effluent Requirements (11 May 2005)
4-24	WRF Comparative Cost Model for Two Different Discharge Scenarios
5-1	Lift Station Summary
5-2	Wastewater collection system Calibration Results
5-3	Existing Average Dry Weather Deficient Pipelines
5-4	Existing Peak Dry Weather Deficient Pipelines
5-5	Existing Peak Wet Weather Deficient Pipelines
5-6	Near Term Wet Weather Deficient Pipelines
5-7	Ultimate Peak Wet Weather Deficient Pipelines
5-8	Summary of Lift Station Capacity Evaluation lightning

Table of Contents (cont'd)

5-9	Summary of Force Main Capacity Evaluations
5-10	Gravity Sewer Unit Costs
5-11	Jack and Bore Unit Costs
5-12	Recommended Existing Gravity Sewer Capital Improvements
5-13	Recommended Existing Lift Station Capital Improvements and Estimates of Probable Cost
5-14	Recommended Near Term Gravity Sewer Capital Improvement
5-15	Recommended Ultimate Gravity Sewer Capital Improvements
5-16	Summary of Collection System Recommendations
6-1	Summary of Estimates of Probable Cost for Existing Projects
6-2	Summary of Estimates of Probable Cost for Near Term Projects
6-3	Summary of Estimates of Probable Cost for Ultimate Projects
6-4	WRF Comparative Cost Model for Two Different Discharge Scenarios

List of Figures

ES-1	Flow Based Timeline for Identified Improvement Needs
1-1	Vicinity Map
1-2	Wastewater Collection System Service Area Map
2-1	Master Plan Existing Land Use
2-2	Near-Term Projects
2-3	General Plan Land Use
2-4	Recommended Peaking Factor Curves
4-1	Plant Schematic
4-2	Flow Based Timeline for Identified Improvement Needs
4-3	Process Simulation Mass Balance for November – December 2005
4-4	Process Simulation Mass Balance for Unimproved Plant at Projected Maximum Month Flow and Load
5-1	City's Wastewater Collection System
5-2	Meter Locations and Sewersheds
5-3a	Existing Maintenance Concerns Westside/Downtown
5-3b	Existing Maintenance Concerns Midtown (west)
5-3c	Existing Maintenance Concerns Midtown (center)
5-3d	Existing Maintenance Concerns Midtown (east)
5-3e	Existing Maintenance Concerns Eastside
5-4a	Existing System Deficient Pipelines Westside/Downtown

Table of Contents (cont'd)

5-4b	Existing System Deficient Pipelines Midtown (west)
5-4c	Existing System Deficient Pipelines Midtown (center)
5-4d	Existing System Deficient Pipelines Midtown (east)
5-4e	Existing System Deficient Pipelines Eastside
5-5	Pipeline with Insufficient Velocities
5-6a	Near Term System Deficient Pipelines Westside/Downtown
5-6b	Near Term System Deficient Pipelines Midtown (west)
5-6c	Near Term System Deficient Pipelines Midtown (center)
5-6d	Near Term System Deficient Pipelines Midtown (east)
5-6e	Near Term System Deficient Pipelines Eastside
5-7a	Ultimate System Deficient Pipelines Westside/Downtown
5-7b	Ultimate System Deficient Pipelines Midtown (west)
5-7c	Ultimate System Deficient Pipelines Midtown (center)
5-7d	Ultimate System Deficient Pipelines Midtown (east)
5-7e	Ultimate System Deficient Pipelines Eastside
5-8a	Collection System Improvement Recommendations Westside/Downtown
5-8b	Collection System Improvement Recommendations Midtown (west)
5-8c	Collection System Improvement Recommendations Midtown (center)
5-8d	Collection System Improvement Recommendations Midtown (east)
5-8e	Collection System Improvement Recommendations Eastside

List of Appendices

A	Near-Term Development Projects
B	Previous NPDES Permit
C	Proposed NPDES Permit
D	Adopted NPDES Permit
E	Brown & Caldwell's Technical Memo No. 1
F	Stress Test Data
G	Brown & Caldwell's Sludge Dewatering Alternatives Evaluation
H	Conceptual Plan for Construction of an Ocean Outfall
I	Brown & Caldwell's Preliminary Design Report for the North Bank Lift Station
J	Seaside Transfer Station Force Main Condition Assessment Report
K	Collection System "Priority Area" Details

Preface: A Vision for Ventura

“Our vision is for a prosperous and well-planned community. We seek to protect and enhance our unique “sense of place” that builds on our pride in Ventura’s history and natural setting. Our vision is for interesting, unique neighborhoods and districts, which reflect our values and heritage.”

Excerpt from the City of San Buenaventura General Plan, 2000.

Executive Summary

Building on that shared vision for a well-planned community, the City has developed this Wastewater Master Plan to identify current and future wastewater infrastructure needs for the collection and treatment of its wastewater. Recent redevelopment efforts planned or underway within in the City limits, updates to the City's general plan, questions about available conveyance capacity of several trunk sewers, and recent changes to the City's permitted effluent discharge requirements have contributed to the need for a system-wide wastewater master plan. Such a plan encompassing both collection and treatment systems has not been prepared previously. Additionally, the most recent complete collection system study was prepared for the City in 1977. By preparing this Plan, the City is proactively addressing its infrastructure needs to further support the existing community and the anticipated revitalization and redevelopment efforts.



Purpose and Scope

This Plan addresses the City's key infrastructure needs resulting from increased wastewater flows and from changing discharge regulations. Issues addressed in this Master Plan include:

- Estimating wastewater flow for existing, near-term and ultimate (build out) conditions.
- Identifying improvements to the VWRF necessary to meet increased wastewater volumes and to meet future discharge requirements.
- Examining the impacts of current and proposed regulatory requirements on the Ventura Water Reclamation Facility (VWRF).
- Identifying collection system improvements for the existing community.
- Identifying collection system improvements to support near-term and ultimate development levels within the City.

Background

The City of San Buenaventura is located in the northwest portion of Ventura County. The City was incorporated in 1866, 84 years after the Mission San Buenaventura's founding in 1782. Currently, the City's population is over 105,000.

Through the Wastewater Division of its Public Works Department, the City provides wastewater service to approximately 98 percent of City residences as well as McGrath State Beach Park and the North Coast Communities.

Flows from the City's collection system are treated at the City's Ventura Water Reclamation Facility. The reclamation facility has a capacity of 14 MGD, with provisions to be expanded to an ultimate capacity of 16.8 MGD. Average annual flows to the treatment facility total about 9.3 MGD.

Study Area

The study area for this Wastewater Master Plan consists of the City's four wastewater service areas (East, Midtown, Downtown, and Westside) and the City's Ventura Water Reclamation Facility.

Wastewater Flow Projections

Wastewater flow projections have been developed for existing, near-term, and ultimate development levels. Table ES-1 summarizes the projected average dry weather flows for the study area and also includes existing and anticipated flows from McGrath State Beach Park, the North Coast Communities, the Montalvo Municipal Improvement District, and the Saticoy Sanitary District.

**TABLE ES-1
SUMMARY OF PROJECTED AVERAGE DRY WEATHER FLOWS**

Development Condition	Study Area Flow (mgd)	Other Tributary Areas (mgd)
Existing	9.3	0.1
Near Term	11.1	0.3
Ultimate	12.6	0.4

The projected average dry weather flows, peak dry weather flows, and peak wet weather flows are summarized in Table ES-2 for the study area and tributary areas.

**TABLE ES-2
PROJECTED WASTEWATER FLOWS**

Development Condition	Average Dry Weather Flow (mgd)	Peak Dry Weather Flow (mgd)	Peak Wet Weather Flow (mgd)
Existing	9.4	17.5	22.5
Near Term	11.4	21.1	26.3
Ultimate	13.0 ^(a)	24.0	29.3

Note: (a) This flow projection is based on information from and as described in Sections and Tables: 3.1, 3.2, and 3.3. Other planning documents may calculate Ultimate Flow projections as a percentage increase of current flows at the time those analyses are performed, which may result in similar but not significantly different values.

Water Reclamation Facility Evaluation

During the preparation of this Master Plan, the City's NPDES permit was in draft form (R4-2007-XXXX). With the discharge requirements uncertain, two improvement strategies were considered: (1) improvements that may be required for continued discharge to the Estuary, and (2) improvements that may be required for discharge through an ocean outfall. This Plan addresses the implications of these two discharge alternatives on the wastewater treatment facilities.

As the Master Plan approached completion, on March 6, 2008 the California Regional Water Quality Control Board (CRWQCB) adopted NPDES Permit No. CA0053651. This new permit represents a third split-discharge alternative which limits the effluent discharge to the Estuary to 9.0 MGD, changes the point of compliance from the wildlife ponds to the Effluent Transfer Station, and requires further studies to determine the impact of the VWRf effluent discharge on the Estuary. These studies are also intended to explore alternative effluent disposal options, including the construction of treatment wetlands and recycled water use. Upon completion of these studies, the adopted permit will be reopened for potential revision.

While this Master Plan does not address the specific discharge conditions required by the new NPDES permit, the Plan presents options to reduce discharge to the Estuary and the improvements that may be required to implement these options.

Water Reclamation Facility Recommended Capital Improvements/CIP

Historical data from 1997 to 2005 were analyzed and used to project future loadings. Potential limitations were identified in the liquid stream and solids handling processes based on these influent parameters.

Unit processes were evaluated using: 1) mathematical determinations based on known engineering principles and common practice, 2) stress testing, 3) information provided by the VWRf Staff, and 4) computer simulations. While Section 4 discusses in detail the operational parameters and potential constraints of each process, the following list summarizes these potential constraints.

- **Influent Flow Measurement.** The influent Parshall flumes appear undersized for projected flows. An undersized flume could lead to inaccurate flow measurement. To resolve this potential deficiency, it is recommended that a magnetic flow meter be installed on the common discharge header, or if redundancy is desired, a separate flow meter could be installed on each individual pump discharge. If hydraulic conditions in the discharge piping are not conducive to installation of magnetic flow meters, the existing flumes could be replaced with larger 48-inch flumes.
- **Grit Removal.** The VWRf does not have a redundant aerated grit chamber. While a redundant aerated grit chamber is not required, redundancy should be considered to protect downstream mechanical equipment if the grit chamber needs to be taken offline for maintenance or repair. Considering the infrequency with which the VWRf Staff has needed to take the aerated grit chamber offline for maintenance, at this time it is recommended to verify that mechanical redundancy is provided in the existing unit and to continue to bypass infrequently. If further reliability is desired, the City should evaluate the feasibility of subdividing the existing aerated grit chamber.
- **Primary Clarification.** The two existing primary clarifiers appear to have sufficient capacity to meet future operating conditions, provided both tanks are operating. If one primary clarifier is taken out of service, the remaining primary clarifier could be overloaded. It is recommended that a third primary clarifier be installed to allow operators more flexibility during maintenance without jeopardizing performance. Given the potential cost and space required for a third primary clarifier, it is also suggested that enhanced primary treatment (EPT) be pilot tested at the VWRf to explore the feasibility of using an EPT program for redundancy in lieu of installing a third clarifier. In addition, it is also recommended that a fourth primary effluent pump be installed along with larger primary effluent/flow equalization piping.
- **Aeration Basins.** Potential limitations were identified with the aeration blowers, the biological nutrient removal (BNR) pumps, and the capacity of the aeration tanks to maintain a long enough solids retention time (SRT) to achieve full nitrification. Improvements to address these limitations are discussed in Brown and Caldwell's Technical Memorandum No. 1.

- **Secondary Clarifiers.** Potential limitations were identified with the capacity of the return activated sludge (RAS) and waste activated sludge (WAS) pumps. Improvements to address these limitations are discussed in Brown and Caldwell's Technical Memorandum No. 1.
- **Tertiary Filtration.** The six existing low-pressure mixed-media filters lack sufficient total or firm capacity to treat the projected maximum day flow of 23.8 MGD. Given the higher operations and maintenance costs associated with conventional mixed-media filtration, it is recommended that the existing mixed-media filters be replaced with a cloth media filter system to achieve better operational efficiency and sufficient firm capacity to treat projected flows.
- **Disinfection.** Disinfection to meet Title 22 requirements would likely require that the VWRP carry a total chlorine residual between 3.4 to 5.0 mg/l in the CCTs for production of recycled water. Because the VWRP scales the dosage of ammonia with chlorine dosage, to prevent the formation of disinfection byproducts that are regulated by NPDES and recycled water permits, this additional residual ammonia may persist in the contact tank effluent following dechlorination and could exceed permitted limits. For this reason, it is recommended to replace the existing chlorine system with UV disinfection for both Estuary discharge and production of recycled water. If actual NPDES permit limits allow for higher effluent ammonia concentrations than assumed, these recommendations should be re-visited to assess the feasibility of continued chloramination as the primary method of disinfection.
- **Effluent Pumping and Metering.** Based on the projected equalized maximum daily flow of 23.8 MGD, replacement of the pumps or expansion of the effluent transfer station (ETS) will be required. It is recommended to expand the existing pump station by adding a wet well and two new 9.5 MGD pumps, connect this wet well to the ETS, rehabilitate the existing pumps, and modify the existing discharge piping as necessary. In addition, it is recommended that two magnetic flow meters be installed on the discharge piping of the effluent transfer pumps. Alternatively, two Parshall flumes could be installed, when retrofitting the chlorine contact tanks for UV disinfection, if hydraulic conditions are not conducive to the installation of magnetic flowmeters at the ETS.
- **Gravity Thickener.** Potential limitations were identified with the capacity of the gravity thickener. Improvements to address these limitations are discussed in Brown and Caldwell's Solids Thickening Technical Memorandum No. 3.



The existing mixed-media filters lack capacity to treat projected maximum day flows. A cloth media filter system is recommended to replace the existing tertiary filters.

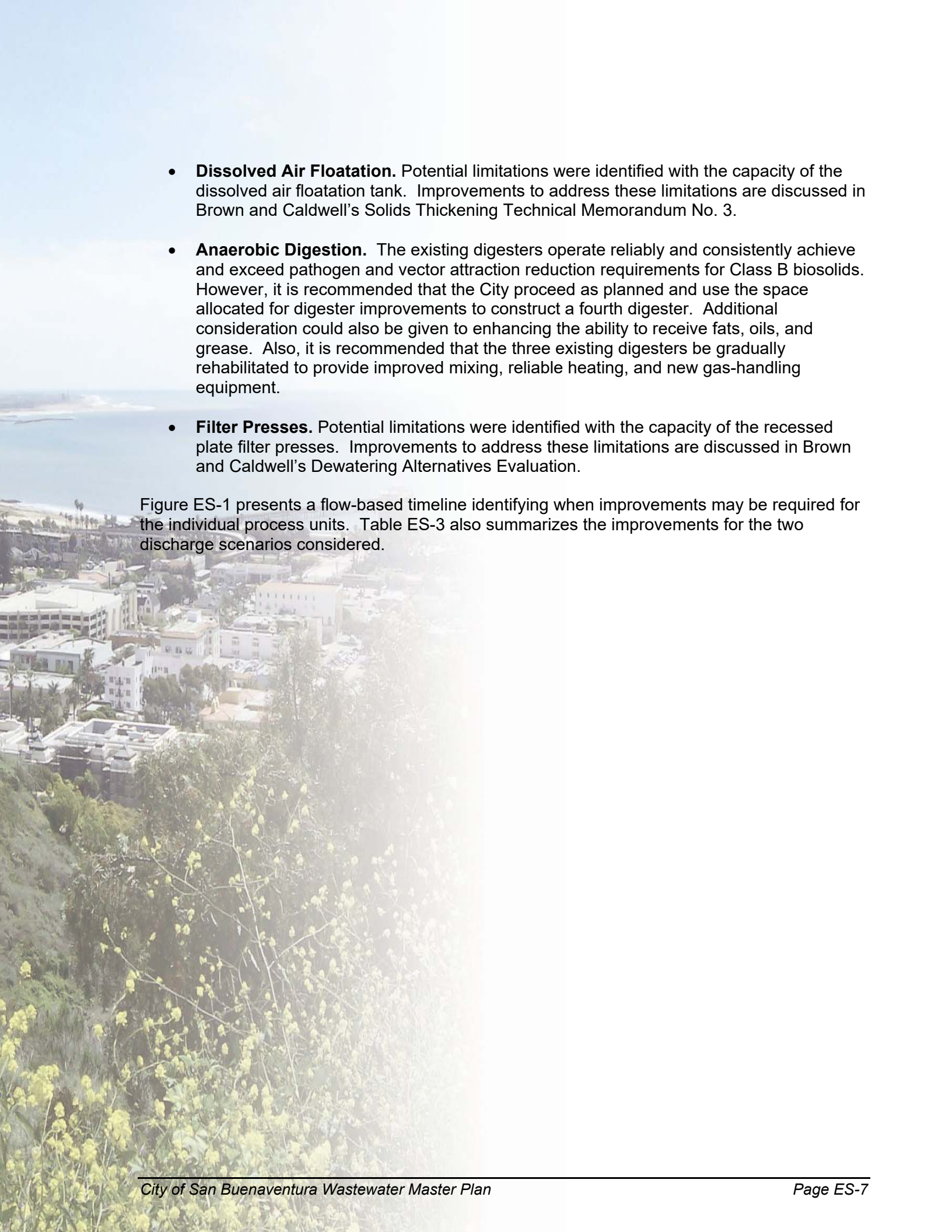
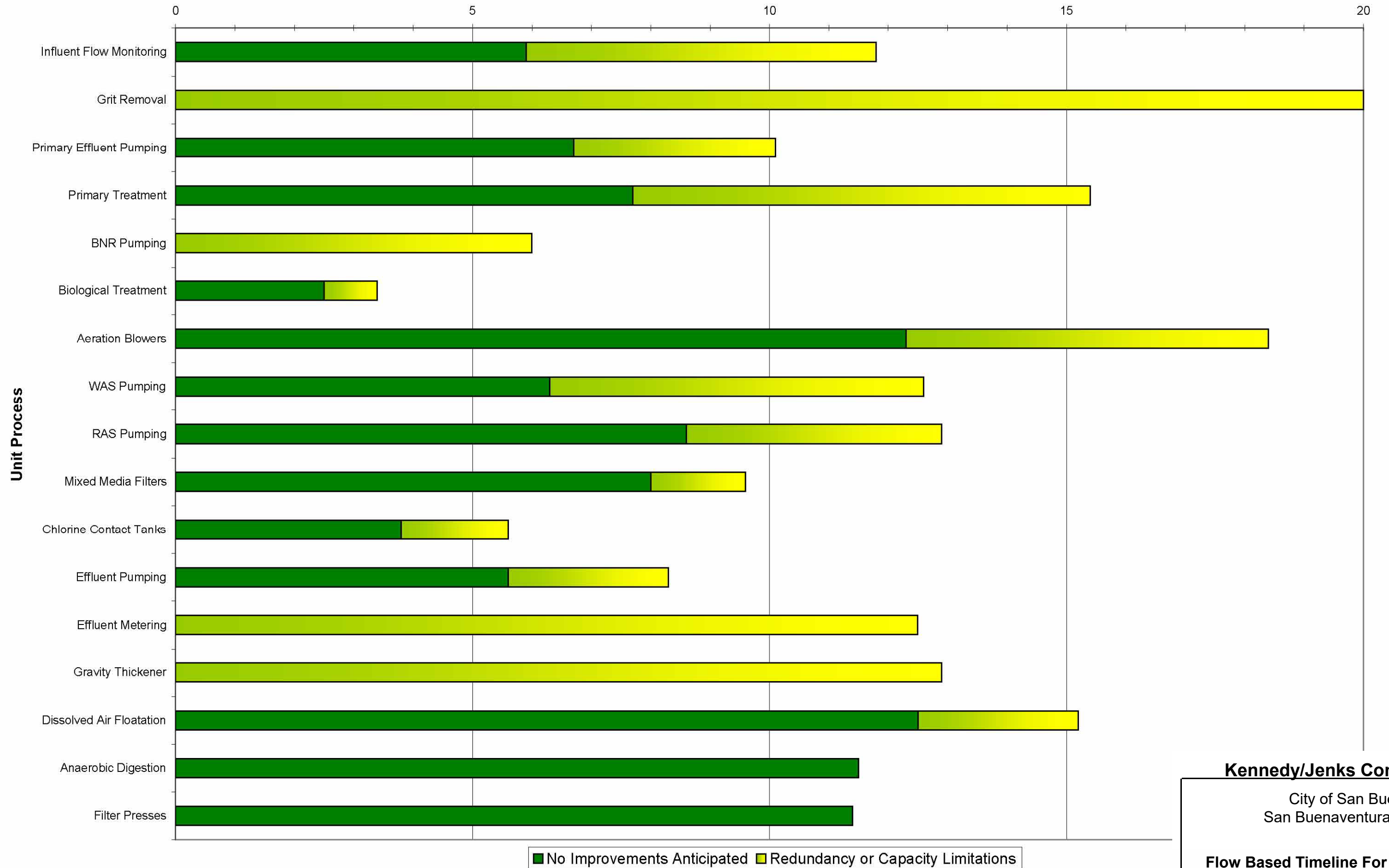
- 
- **Dissolved Air Floatation.** Potential limitations were identified with the capacity of the dissolved air floatation tank. Improvements to address these limitations are discussed in Brown and Caldwell's Solids Thickening Technical Memorandum No. 3.
 - **Anaerobic Digestion.** The existing digesters operate reliably and consistently achieve and exceed pathogen and vector attraction reduction requirements for Class B biosolids. However, it is recommended that the City proceed as planned and use the space allocated for digester improvements to construct a fourth digester. Additional consideration could also be given to enhancing the ability to receive fats, oils, and grease. Also, it is recommended that the three existing digesters be gradually rehabilitated to provide improved mixing, reliable heating, and new gas-handling equipment.
 - **Filter Presses.** Potential limitations were identified with the capacity of the recessed plate filter presses. Improvements to address these limitations are discussed in Brown and Caldwell's Dewatering Alternatives Evaluation.

Figure ES-1 presents a flow-based timeline identifying when improvements may be required for the individual process units. Table ES-3 also summarizes the improvements for the two discharge scenarios considered.

Annual Average Flow, MGD



Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

**Flow Based Timeline For Identified
Improvement Needs**

K/J 1089015*00
August 2010

Figure ES-1

**TABLE ES-3
WRF COST MODEL FOR TWO DIFFERENT DISCHARGE SCENARIOS**

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge		Related Existing Project Identified by City ^(c)
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)	
Headworks and Influent Pumping Station	Influent flow measurement capacity	Install magnetic flow meters on discharge piping of each influent pump	\$300,000	Install magnetic flow meters on discharge piping of each influent pump	\$300,000	
Primary Clarifiers	Primary effluent pump capacity. No clarifier redundancy.	Construct a third primary clarifier and addition of 4th pump	\$6,300,000	Construct a third primary clarifier and addition of 4th pump	\$6,300,000	
Aeration Basins and RAS/WAS Pumping	BNR pump capacity. Insufficient SRT for nitrification.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$18,800,000 ^(d)	Construct additional aeration basin volume (similar to that required for Estuary Discharge, but without RAS pump and blower improvements).	\$16,100,000 ^(e)	Currently out to bid (#96855)
Aeration Blowers	Aeration capacity.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$4,500,000 ^(f)	No improvements recommended	\$0	#96855
Mixed Media Filters	Hydraulic loading rate criteria	Replace existing mixed media system with a cloth media filtration system	\$8,500,000	Abandon existing mixed media filters; install 2 MGD cloth media filter system for RW production	\$3,200,000	#96874
Chlorine Contact Tanks	Chlorine residual limitations. "Nitrite Lock" during cold weather periods	Replace existing chlorine system with UV disinfection	\$11,200,000	No improvements recommended	\$0	#74026

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge		Related Existing Project Identified by City ^(c)
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)	
Effluent Pumping and Flow Measurement	Effluent pump and flow metering capacity	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000	#74027
Thickening	Solids loading rate criteria. No thickener redundancy.	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000	Currently out to bid (#96855)
Anaerobic Digesters	Detention Time	Construct a fourth digester	\$3,900,000	Construct a fourth digester	\$3,900,000	#96878
Filter Press	Filter press capacity / availability of operational time	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(g)	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(g)	
Ocean Outfall		Not Applicable	\$0	Construct ocean outfall	\$26,300,000	
Engineers Estimate of Probable Cost of Construction			\$70,400,000			
				\$73,000,000		

Notes:

- (a) See Figure 4-2 for a flow-based timeline for the expected limitations.
- (b) Estimate accuracy is +50% to -30%.
- (c) Project similar to some recommended alternatives have been identified by the City in their 2008-2013 Capital Improvement Project Plan. The projects are identified by their Project ID's.
- (d) Capital costs were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II and exclude blower improvements. Phase II had a total estimated cost of \$24 million. Costs were escalated from December 2006 to October 2008 using the ENR- Construction Cost Index for Los Angeles.
- (e) Capital costs assume the similar process basin expansion as that required for the Estuary Discharge (costs of which were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II). Ocean outfall costs do not include RAS pump improvements.
- (f) Capital costs were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II. Phase II had a total estimated cost of \$24 million, costs for the blowers were estimated from this total. Costs were escalated from December 2006 to October 2008 using the ENR- Construction Cost Index for Los Angeles.
- (g) Capital costs were presented in Brown and Caldwell's Sludge Dewatering Alternatives Evaluation. Cost was assumed for Alternative 10 (3 centrifuges, 7 shifts). Costs were escalated from April 2002 to October 2008 using the ENR- Construction Cost Index for Los Angeles.

Collection System Evaluation

The City's wastewater collection system consists of approximately 285 miles of gravity sewers ranging in size from 4 to 42 inches, approximately 5 miles of force mains, and 11 wastewater lift stations. The collection system sewers convey flows generally from east to west and north to south, culminating at the Ventura Water Reclamation Facility for treatment.

The City's collection system facilities were evaluated for the following time increments:

- At the time of flow metering (Year 2003-2005)
- Existing system (Year 2007)
- Near-term (2007-2012)
- Ultimate (build out)

Collection System Recommended Capital Improvements/CIP

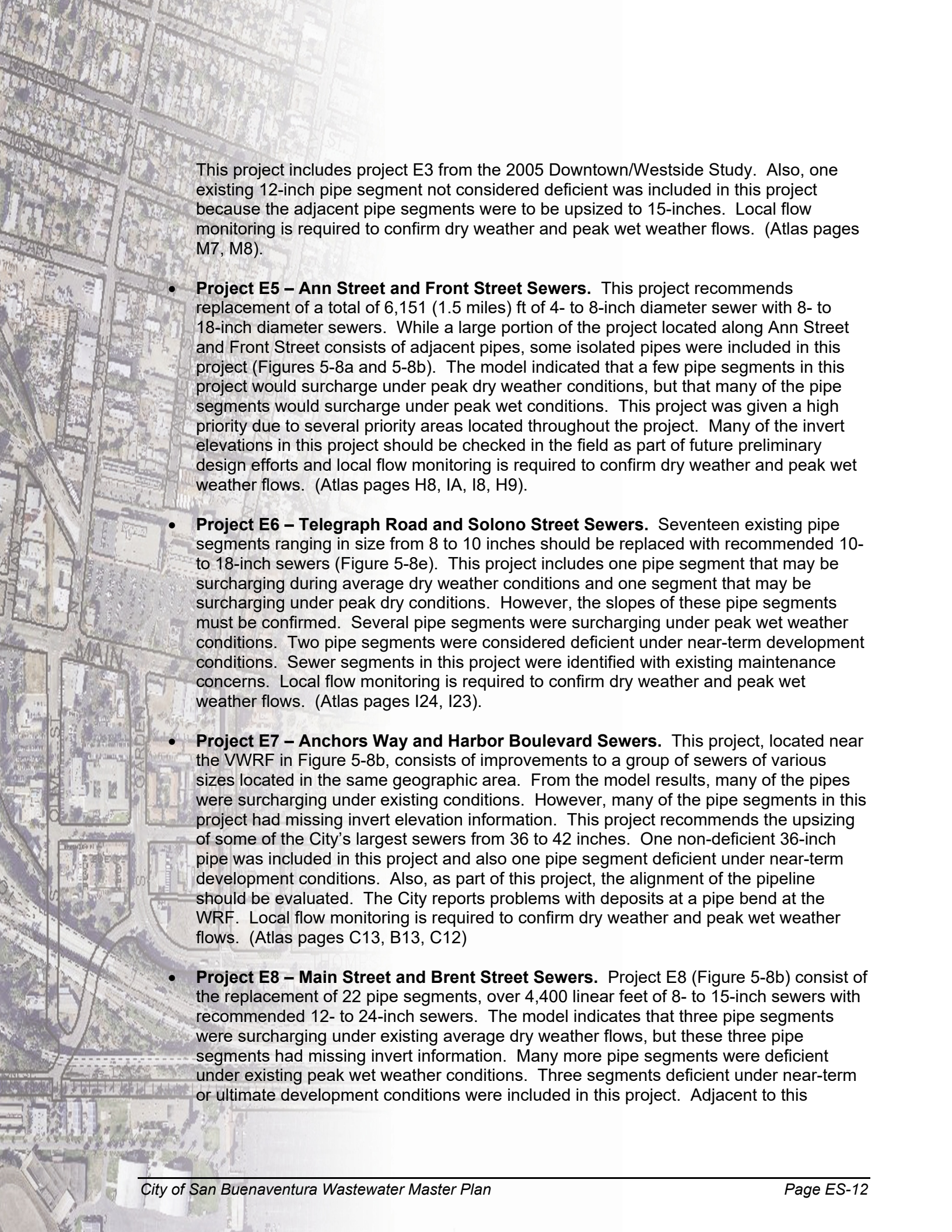
A total of 43 projects were identified for existing conditions, another 22 projects were identified with near-term developments in place, and another 37 projects were identified to address build-out conditions. The projects were then prioritized according to the modeled flow conditions versus capacity, noted deficiencies (such as root intrusions), maintenance history, and location with respect to environmentally sensitive areas. However, the exact timing of these recommended projects, particularly for the near-term and ultimate development conditions, is dependent upon the level of actual development in the City.

The recommended improvements encompass 51 miles of gravity sewers and force mains, and improvements to three lift stations. The engineer's estimate of probable cost for these improvements are summarized in Table ES-4. Section 5 of this Master Plan provides details related to the deficiencies identified in the collection system model and the recommended projects.

**TABLE ES-4
SUMMARY OF COLLECTION SYSTEM RECOMMENDATIONS**

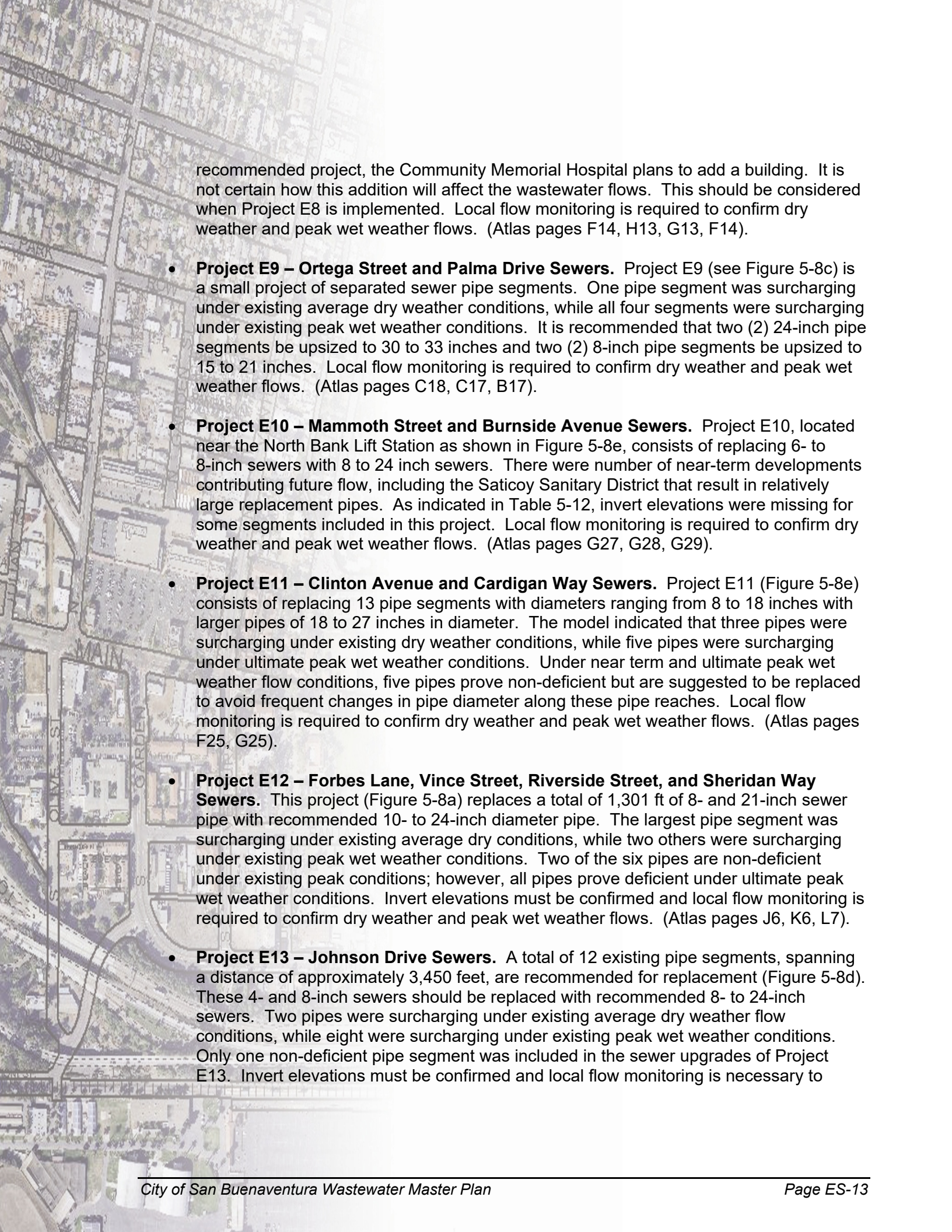
Project	Length (miles)	Total
Existing Projects	23.0	\$36,400,000
Near-Term Projects	12.5	\$16,400,000
Ultimate Projects	15.7	\$21,500,000
Total	52.5	\$74,300,000

The following identifies recommended collection system capital improvements to mitigate existing capacity deficiencies in accordance with the established evaluation criteria. These recommendations are presented individually on the Recommended CIP Project Sheets and include the following:



This project includes project E3 from the 2005 Downtown/Westside Study. Also, one existing 12-inch pipe segment not considered deficient was included in this project because the adjacent pipe segments were to be upsized to 15-inches. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages M7, M8).

- **Project E5 – Ann Street and Front Street Sewers.** This project recommends replacement of a total of 6,151 (1.5 miles) ft of 4- to 8-inch diameter sewer with 8- to 18-inch diameter sewers. While a large portion of the project located along Ann Street and Front Street consists of adjacent pipes, some isolated pipes were included in this project (Figures 5-8a and 5-8b). The model indicated that a few pipe segments in this project would surcharge under peak dry weather conditions, but that many of the pipe segments would surcharge under peak wet conditions. This project was given a high priority due to several priority areas located throughout the project. Many of the invert elevations in this project should be checked in the field as part of future preliminary design efforts and local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages H8, IA, I8, H9).
- **Project E6 – Telegraph Road and Solono Street Sewers.** Seventeen existing pipe segments ranging in size from 8 to 10 inches should be replaced with recommended 10- to 18-inch sewers (Figure 5-8e). This project includes one pipe segment that may be surcharging during average dry weather conditions and one segment that may be surcharging under peak dry conditions. However, the slopes of these pipe segments must be confirmed. Several pipe segments were surcharging under peak wet weather conditions. Two pipe segments were considered deficient under near-term development conditions. Sewer segments in this project were identified with existing maintenance concerns. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages I24, I23).
- **Project E7 – Anchors Way and Harbor Boulevard Sewers.** This project, located near the VWRP in Figure 5-8b, consists of improvements to a group of sewers of various sizes located in the same geographic area. From the model results, many of the pipes were surcharging under existing conditions. However, many of the pipe segments in this project had missing invert elevation information. This project recommends the upsizing of some of the City's largest sewers from 36 to 42 inches. One non-deficient 36-inch pipe was included in this project and also one pipe segment deficient under near-term development conditions. Also, as part of this project, the alignment of the pipeline should be evaluated. The City reports problems with deposits at a pipe bend at the WRF. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages C13, B13, C12)
- **Project E8 – Main Street and Brent Street Sewers.** Project E8 (Figure 5-8b) consist of the replacement of 22 pipe segments, over 4,400 linear feet of 8- to 15-inch sewers with recommended 12- to 24-inch sewers. The model indicates that three pipe segments were surcharging under existing average dry weather flows, but these three pipe segments had missing invert information. Many more pipe segments were deficient under existing peak wet weather conditions. Three segments deficient under near-term or ultimate development conditions were included in this project. Adjacent to this

An aerial photograph of a city grid, likely San Buenaventura, showing streets and building footprints. The map is overlaid with a semi-transparent grid and text labels for various streets including CAROLAN, MISSOURI, PARK, MAIN, GARDEN, and OLYMPIA. The text is in a light, semi-transparent font. The background shows a dense urban area with buildings and some green spaces.

recommended project, the Community Memorial Hospital plans to add a building. It is not certain how this addition will affect the wastewater flows. This should be considered when Project E8 is implemented. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages F14, H13, G13, F14).

- **Project E9 – Ortega Street and Palma Drive Sewers.** Project E9 (see Figure 5-8c) is a small project of separated sewer pipe segments. One pipe segment was surcharging under existing average dry weather conditions, while all four segments were surcharging under existing peak wet weather conditions. It is recommended that two (2) 24-inch pipe segments be upsized to 30 to 33 inches and two (2) 8-inch pipe segments be upsized to 15 to 21 inches. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages C18, C17, B17).
- **Project E10 – Mammoth Street and Burnside Avenue Sewers.** Project E10, located near the North Bank Lift Station as shown in Figure 5-8e, consists of replacing 6- to 8-inch sewers with 8 to 24 inch sewers. There were number of near-term developments contributing future flow, including the Saticoy Sanitary District that result in relatively large replacement pipes. As indicated in Table 5-12, invert elevations were missing for some segments included in this project. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages G27, G28, G29).
- **Project E11 – Clinton Avenue and Cardigan Way Sewers.** Project E11 (Figure 5-8e) consists of replacing 13 pipe segments with diameters ranging from 8 to 18 inches with larger pipes of 18 to 27 inches in diameter. The model indicated that three pipes were surcharging under existing dry weather conditions, while five pipes were surcharging under ultimate peak wet weather conditions. Under near term and ultimate peak wet weather flow conditions, five pipes prove non-deficient but are suggested to be replaced to avoid frequent changes in pipe diameter along these pipe reaches. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages F25, G25).
- **Project E12 – Forbes Lane, Vince Street, Riverside Street, and Sheridan Way Sewers.** This project (Figure 5-8a) replaces a total of 1,301 ft of 8- and 21-inch sewer pipe with recommended 10- to 24-inch diameter pipe. The largest pipe segment was surcharging under existing average dry conditions, while two others were surcharging under existing peak wet weather conditions. Two of the six pipes are non-deficient under existing peak conditions; however, all pipes prove deficient under ultimate peak wet weather conditions. Invert elevations must be confirmed and local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages J6, K6, L7).
- **Project E13 – Johnson Drive Sewers.** A total of 12 existing pipe segments, spanning a distance of approximately 3,450 feet, are recommended for replacement (Figure 5-8d). These 4- and 8-inch sewers should be replaced with recommended 8- to 24-inch sewers. Two pipes were surcharging under existing average dry weather flow conditions, while eight were surcharging under existing peak wet weather conditions. Only one non-deficient pipe segment was included in the sewer upgrades of Project E13. Invert elevations must be confirmed and local flow monitoring is necessary to

confirm dry weather and peak wet weather flows. (Atlas pages D21, D22, E21, E22, F21).

- **Project E14 – Vista Del Mar Drive Sewers.** Project E14 consists of the replacement of six sewer pipe segments of varying size with larger, 18-inch diameter sewer pipes (Figure 5-8b). The model indicates that the two smallest pipes were surcharging under existing and near-term peak wet weather conditions. Three pipes were non-deficient under near-term development conditions, while all pipes may be deficient under ultimate peak wet weather flows. Local flow monitoring is necessary to confirm dry weather and peak wet weather flows. (Atlas pages F11, F12, H9).



Johnson Avenue looking south from Swan Street at Project E13.

- **Project E15 – Catalina Street, Hurst Avenue, and Thompson Boulevard Sewers.** Replace 20 sewer pipes of 6- to 15-inch diameters with recommended pipes ranging from 8- to 21-inches (Figure 5-8b). The suggested upgrades will replace over 6,085 feet (1.14 mi.) of adjacent sewer line in the area. The model indicated that a total of 12 sewer pipe segments were deficient under existing peak wet weather conditions with d/D ratios of 70 to 100 percent. Several other pipe segments were deficient only under near-term and ultimate development conditions. Invert elevations must be confirmed and local flow monitoring is necessary to confirm dry weather and peak wet weather flows. (Atlas page H10).
- **Project E16 – Main Street Sewers.** Project E16 involves the recommended replacement of 10-, 12- and 15-inch sewer pipe with 15-, 18-, and 21-inch pipe, spanning a total distance of over 4,739 ft (0.9 mi.). The model identified 11 pipe segments that were deficient under existing peak wet weather flows and several more that were deficient under near-term and ultimate development conditions. One pipe (K_F15_P-3908) was non-deficient under all conditions and is included in project E16 because the pipe segments upstream and downstream will be upsized. Invert elevations should be confirmed. In addition, local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages E16, E17, F16).
- **Project E17 – Main Street and Loma Vista Road Sewers.** Project E17 consists of the replacement of 17 pipe segments comprising 5,646 linear feet (1.1 mi.) of 6- to 12-inch pipe with recommended 8- to 15-inch pipe (Figure 5-8b). One pipe shows deficient performance during peak dry water flow and all pipes are deemed deficient with ultimate development flows. Invert elevations must be confirmed. In addition, three pipe segments were identified as priority areas. Local flow monitoring is necessary to confirm dry weather and peak wet weather flows. (Atlas pages H11, H12, H13).

- Project E18 – Golf Course Drive Sewers.** Replace two pipe segments of 6- and a 10-inch diameter with recommended 15- and 18-inch pipes (Figure 5-8d). Pipe P_B20_P-296 is 64.1 ft long and the model indicated that this pipe was surcharging during peak dry weather flow. The model also indicated that both were surcharging under existing wet weather conditions. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas page B20).
- Project E19 – Channel Drive and Santa Cruz Street Sewers.** Project E19 includes the replacement of three pipes which have diameters ranging from 6- to 8-inches. The replacement pipelines are recommended to be 15 inches in diameter and will have a combined length of approximately 1,040 linear feet (Figure 5-8b). The model indicated that one pipe was surcharging under peak dry weather conditions, while a second pipe appeared to have limited capacity (d/D ratio of 74%). Invert elevations must be confirmed and local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages G10, H10).
- Project E20 – Saratoga Avenue, Ralston Street, and Gaviota Lane Sewers.** This project includes the replacement of 9 existing sewer segments, spanning a distance of over 2,740 linear feet (0.52 mi.) and varying in size from 8 to 12 inches in diameter (Figures 5-8c and 5-8d). The model identified most of the 8-inch pipes may surcharge under peak wet weather flow conditions while the sole 12-inch pipe is non-deficient under possible project conditions, but was included because pipe segments on either side were recommended for improvements. These 9 pipes are recommended to be replaced with pipes ranging in size from 15- to 18-inches. Local flow monitoring is required to confirm dry weather and peak wet weather flows. (Atlas pages E18, E19, E20).
- Project E21 – Storke and Swan Street Sewers.** Project E21 includes the replacement of eight pipes, all of which are 8 inches in diameter (Figure 5-8d). The replacement pipelines are recommended to be 12 inches in diameter and will have a combined length of over 2,038 linear ft. All eight existing pipes prove satisfactory under average dry weather flow conditions, however, the model indicated that one pipe segment was surcharging when peak wet weather flow exists. All eight pipes are deficient at the ultimate flow conditions. Local flow monitoring is needed to confirm dry weather and peak wet weather flows. (Atlas pages E21, D21).
- Project E22 – Halifax Street and Petit Avenue Sewers.** Three 8-inch sewer pipe segments spanning a length of 971 feet are recommended to be replaced with pipes of 10, 12, and 15 inches in diameter (Figure 5-8e). Pipe U_G26_P-3150 shows deficiency in performance prior to the other sewer pipes by surcharging during peak dry weather



Project E19 replaces 1,040 linear feet of 6- and 8-inch sewers on Santa Cruz Street and Channel Drive.

flow conditions. One pipe segment is deficient due to near-term development, but has been included due to its proximity to the other two pipe segments. Invert elevations must be confirmed, as well as the dry weather and peak wet weather flows. (Atlas page G26).

- **Project E23 – Eisenhower Street and Polk Street Sewers.** Project E23 includes seven 8-inch pipes that are recommended to be replaced by larger pipes of sizes 10 to 18 inches (Figure 5-8d). Project E23 has a combined length of over 2,014 feet. The model indicated that one pipe segment was deficient under average dry weather flow conditions (with a d/D ratio of 77%) and four additional segments were deficient under existing peak wet weather conditions (with d/D ratios ranging between 69% and 100%). One pipe segment, found to be non-deficient with an ultimate depth to diameter ratio of 48.6 percent, was included in the scope of Project E23. Local flow monitoring is required to confirm the dry weather and peak wet weather flows. (Atlas pages G22, H22).



Maple Street looking east from College Avenue at Project E24.

- **Project E24 – Redwood Avenue, Maple Street, and College Drive Sewers.** Fifteen sewer pipes of diameters ranging from 6 to 8 inches are recommended to be replaced by pipes of 10, 12, and 18 inches in diameter (Figure 5-8c). Eight of the existing pipes do not have their invert elevations confirmed

and three of those are deemed non-deficient by the model. Only one pipe is surcharging at the peak dry weather flow conditions while 6 sewer pipes are surcharging during peak wet weather flows. Local flow monitoring is recommended to confirm dry weather and peak wet weather flows. (Atlas pages F15, G15, G16).

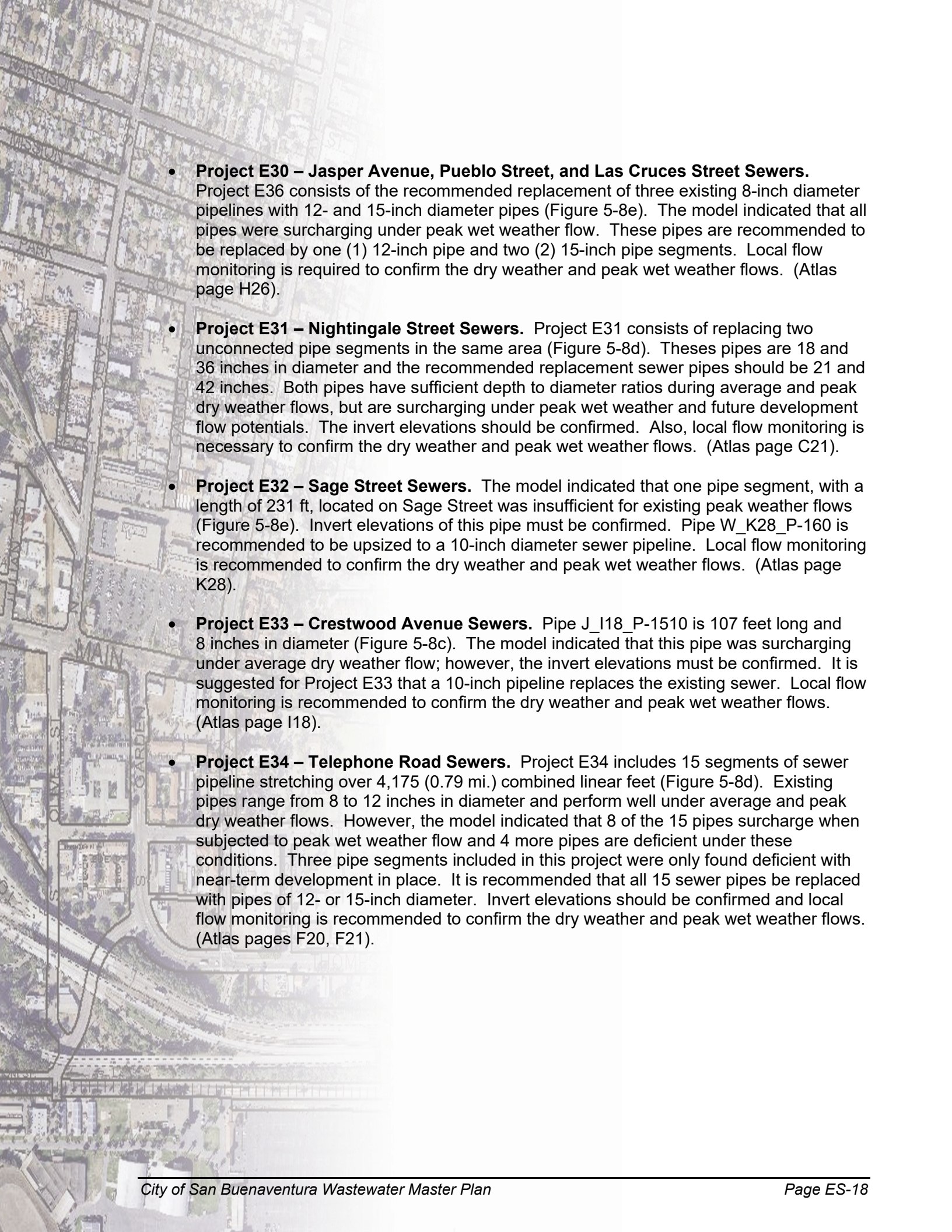
- **Project E25 – Channel Drive and Agricultural Area Sewers.** Three (3) 27-inch sewer pipes, one 10-inch pipe, and one 15-inch pipe, spanning a length of over 988 linear feet, are recommended for replacement (Figure 5-8b). Recommended replacement pipes range in diameter from 18- to 54-inches. The model indicated that one of the 27-inch pipe segments was flowing 61.9 percent full under existing dry weather conditions. All five pipe segments, including one under the 101 Freeway, were found deficient under existing peak wet weather conditions. Invert elevations must be confirmed and local flow monitoring is required to confirm the dry weather and peak wet weather flows. (Atlas page E14).
- **Project E26 – Poli Street, Evergreen Street, and Main Street Alley Sewers.** This project includes 11 segments of sewer pipe, each 6 inches in diameter, covering a combined length of 3,631 linear feet (Figure 5-8b). The model indicated that over half of the existing sewer pipe segments are surcharging under peak wet weather flow

conditions. Three of the pipe segments are deficient only when near-term developments are in place. It is recommended that the sewer pipes be replaced with 8- and 10-inch diameter pipes. One pipe segment in Project E26 was identified to have intruding roots. Invert elevations must be confirmed. Local flow monitoring is also necessary to confirm the dry weather and peak wet weather flows. (Atlas pages H12, H13).

- **Project E27 – Victoria Avenue Sewers.** Project E27 is a large project which includes 22 segments of sewer line extending over 6,267 feet (1.19 mi) with pipe diameters of 8-, 10-, and 12-inch (Figure 5-8d). The recommended replacement pipes range between 15 and 21 inches in diameter. Fifteen of the pipe segments are deficient under existing peak wet weather flows with d/D ratios ranging from 66 to 100 percent. When existing pipes are subjected to ultimate development peak wet weather flows, the model indicated that all 22 sewer pipe segments would be flowing greater than 50 percent full. This project includes one priority area. Invert elevations must be confirmed. Local flow monitoring is also required to confirm the dry weather and peak wet weather flows. (Atlas pages D20, E20, F19, F20, G20).
- **Project E28 – Shoreline Drive and Seaside Transfer Station Sewers.** Replace a total of four (4) 8-inch diameter adjacent sewer segments with a combined length of over 1,400 linear feet (Figure 5-8a). Recommended replacement pipes are 10- and 12-inch diameter. None of the five (5) pipes show deficient performance under existing average or peak dry flow conditions; however, two pipes are surcharging under peak wet weather conditions. There is one pipe which the model indicates to be non-deficient under ultimate development flow conditions. However, it is recommended that this pipe be replaced along with the other four (4) pipes. A priority area is located in this project. Local flow monitoring is recommended to confirm dry weather and peak wet weather flows. (Atlas page H7).
- **Project E29 – Callens Road, Donlon Street, and Eastman Avenue Sewers.** Project E29 includes the recommended replacement of four isolated 8-inch sewer pipelines, which the model identified as deficient, that span a collective distance of 1,097 linear feet. These pipelines offer adequate performance under average and peak dry weather flow conditions, but are all surcharging when subjected to peak wet weather conditions. Three 15-inch pipes and one 12-inch sewer pipe are recommended to replace the existing infrastructure. In addition, the City reports reduced capacity in the sewer along Callens Street, between Main and Transport. This reduced capacity is due to buildup of calcium deposits. It is assumed that 8-inch diameter replacement pipes would be sufficient. The invert elevations should be confirmed and flow monitoring is necessary to confirm the dry weather and peak wet weather flows. (Atlas pages D15, D16, D17, E15, E16).



Callens Drive looking north at Project E29.

- 
- An aerial photograph of a city street grid, likely San Buenaventura, showing various streets and building footprints. The map is overlaid with a semi-transparent grid and text labels for several streets: CAROLAN, MISSOURI, PARK, MAIN, GARDEN, and OLYMPIA. The text is in a light, sans-serif font. The map shows a dense urban layout with a mix of residential and commercial buildings.
- **Project E30 – Jasper Avenue, Pueblo Street, and Las Cruces Street Sewers.** Project E30 consists of the recommended replacement of three existing 8-inch diameter pipelines with 12- and 15-inch diameter pipes (Figure 5-8e). The model indicated that all pipes were surcharging under peak wet weather flow. These pipes are recommended to be replaced by one (1) 12-inch pipe and two (2) 15-inch pipe segments. Local flow monitoring is required to confirm the dry weather and peak wet weather flows. (Atlas page H26).
 - **Project E31 – Nightingale Street Sewers.** Project E31 consists of replacing two unconnected pipe segments in the same area (Figure 5-8d). These pipes are 18 and 36 inches in diameter and the recommended replacement sewer pipes should be 21 and 42 inches. Both pipes have sufficient depth to diameter ratios during average and peak dry weather flows, but are surcharging under peak wet weather and future development flow potentials. The invert elevations should be confirmed. Also, local flow monitoring is necessary to confirm the dry weather and peak wet weather flows. (Atlas page C21).
 - **Project E32 – Sage Street Sewers.** The model indicated that one pipe segment, with a length of 231 ft, located on Sage Street was insufficient for existing peak weather flows (Figure 5-8e). Invert elevations of this pipe must be confirmed. Pipe W_K28_P-160 is recommended to be upsized to a 10-inch diameter sewer pipeline. Local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas page K28).
 - **Project E33 – Crestwood Avenue Sewers.** Pipe J_I18_P-1510 is 107 feet long and 8 inches in diameter (Figure 5-8c). The model indicated that this pipe was surcharging under average dry weather flow; however, the invert elevations must be confirmed. It is suggested for Project E33 that a 10-inch pipeline replaces the existing sewer. Local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas page I18).
 - **Project E34 – Telephone Road Sewers.** Project E34 includes 15 segments of sewer pipeline stretching over 4,175 (0.79 mi.) combined linear feet (Figure 5-8d). Existing pipes range from 8 to 12 inches in diameter and perform well under average and peak dry weather flows. However, the model indicated that 8 of the 15 pipes surcharge when subjected to peak wet weather flow and 4 more pipes are deficient under these conditions. Three pipe segments included in this project were only found deficient with near-term development in place. It is recommended that all 15 sewer pipes be replaced with pipes of 12- or 15-inch diameter. Invert elevations should be confirmed and local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages F20, F21).

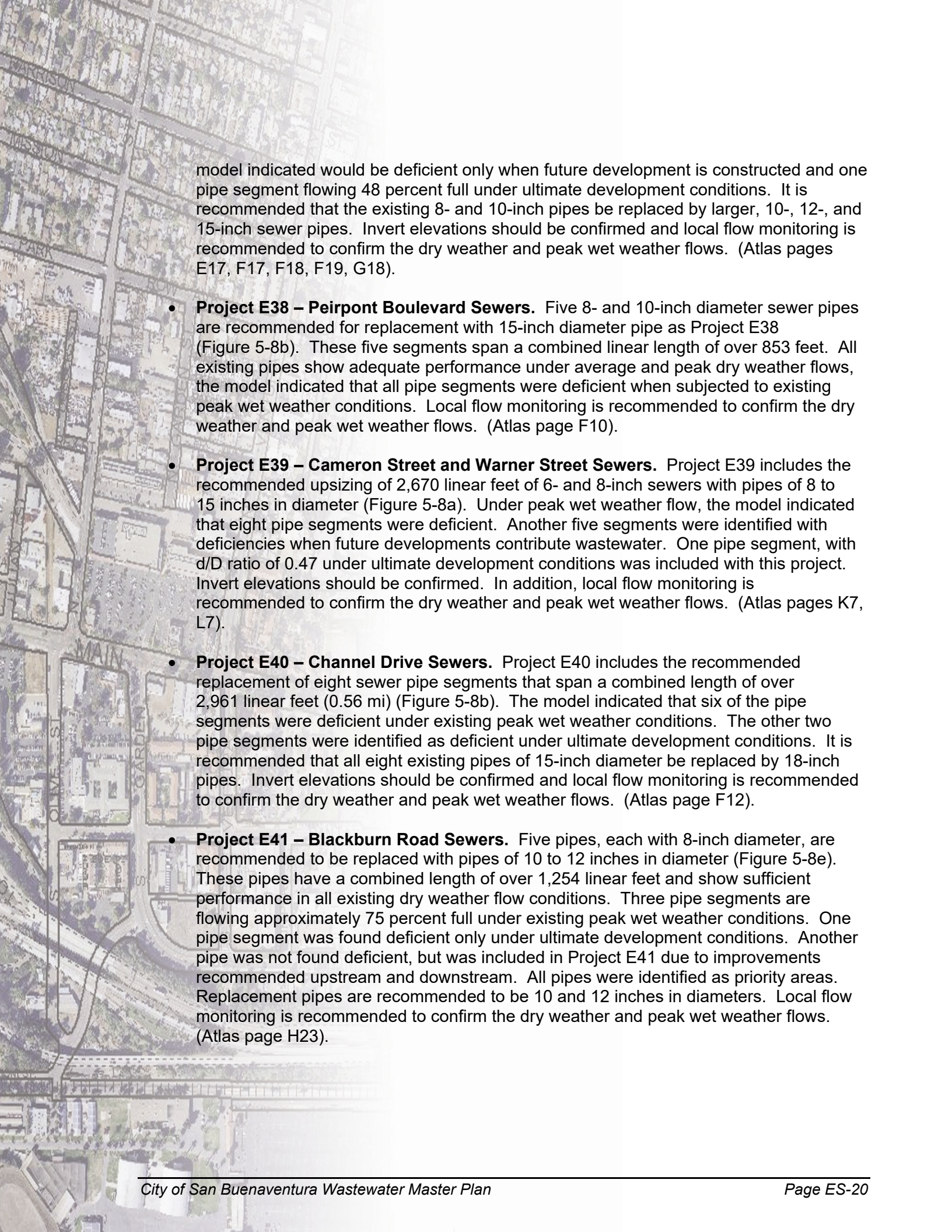


Project E34 provides sewer improvements along Telephone Road east of Victoria.

- Project E35 – Mills Road and 101 Freeway Sewers.** Project E35 includes six pipes, five of which are 18 inches in diameter and one that is 10 inches in size (Figures 5-8b, 5-8c). They have a combined reach of over 1,819 linear feet and will be upsized to pipes of 15, 21, or 24 inches in diameter. Under peak dry weather flow conditions, three of the six pipes were surcharging, while the remaining three were non-deficient under near-term development peak wet weather flows. However, all pipes were deficient when subjected to ultimate peak wet weather conditions. (Atlas pages E14, F14).
- Project E36 – Aurora Drive, Princeton Avenue, and Lafayette Street Sewers.** Project E36 includes the recommended replacement of 8- and 12-inch pipes totaling approximately 3,800 linear feet (Figure 5-8c). The model indicated that six pipes were surcharging under peak wet weather flow and other five were deficient under the same conditions. Five pipe segments were also found to be deficient under only future development conditions, and these pipes were included with this project. Recommended replacement pipes range in diameter from 10 to 18 inches. The invert elevations for pipes included in Project E36 should be confirmed. Additionally, local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages G17, H17, H18).
- Project E37 – Telephone Road, Thille Street, and Saratoga Avenue Sewers.** Project E37 consists of 20 segments of sewer pipeline with a combined reach of approximately 5,215 linear feet (0.99 mi) (Figure 5-8c). While none of the pipes were found deficient under existing dry weather flows, 13 of the pipe segments were deficient under existing peak wet weather conditions. Included in this recommended project are six pipe segments which the

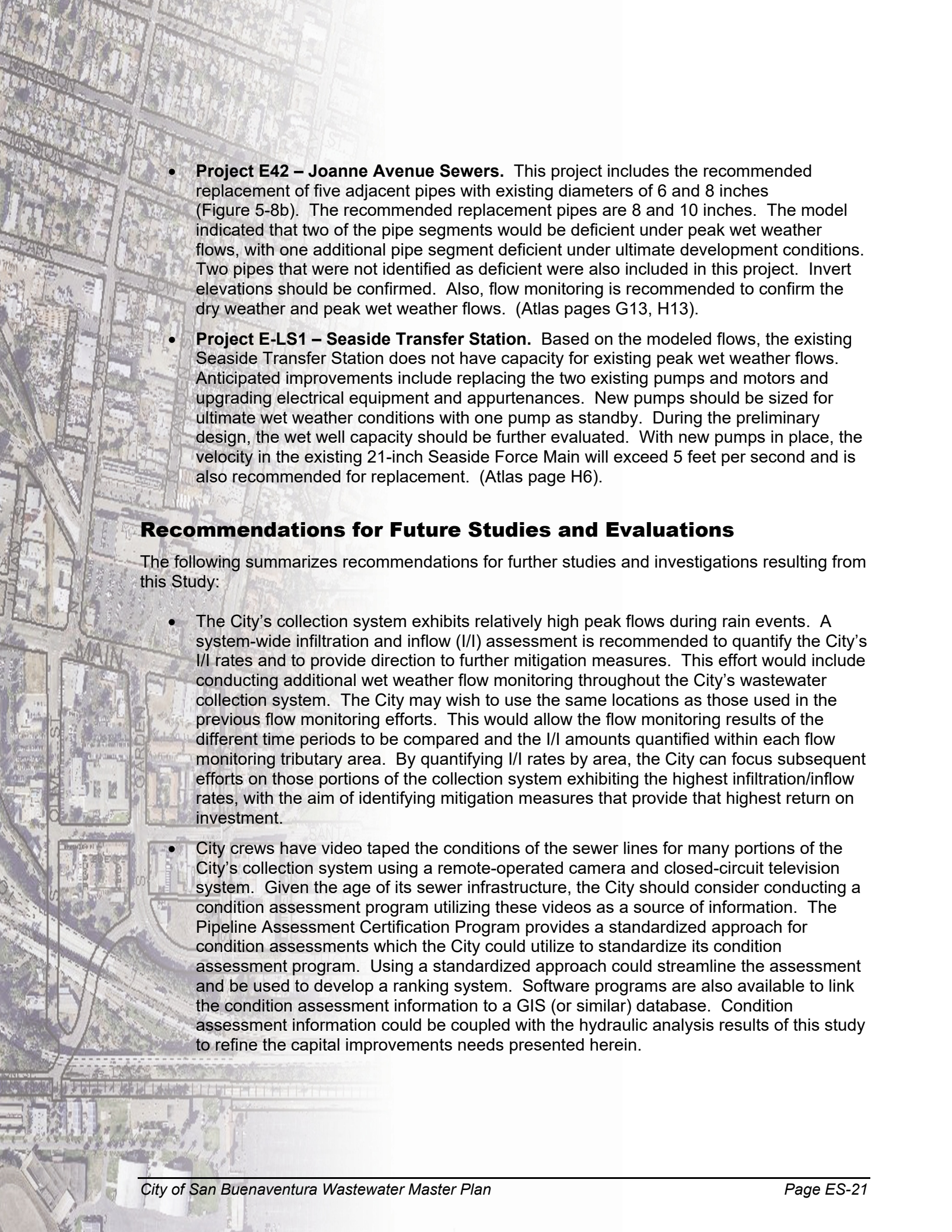


Saratoga Avenue looking north from Telephone Road at a portion of Project E37.



model indicated would be deficient only when future development is constructed and one pipe segment flowing 48 percent full under ultimate development conditions. It is recommended that the existing 8- and 10-inch pipes be replaced by larger, 10-, 12-, and 15-inch sewer pipes. Invert elevations should be confirmed and local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages E17, F17, F18, F19, G18).

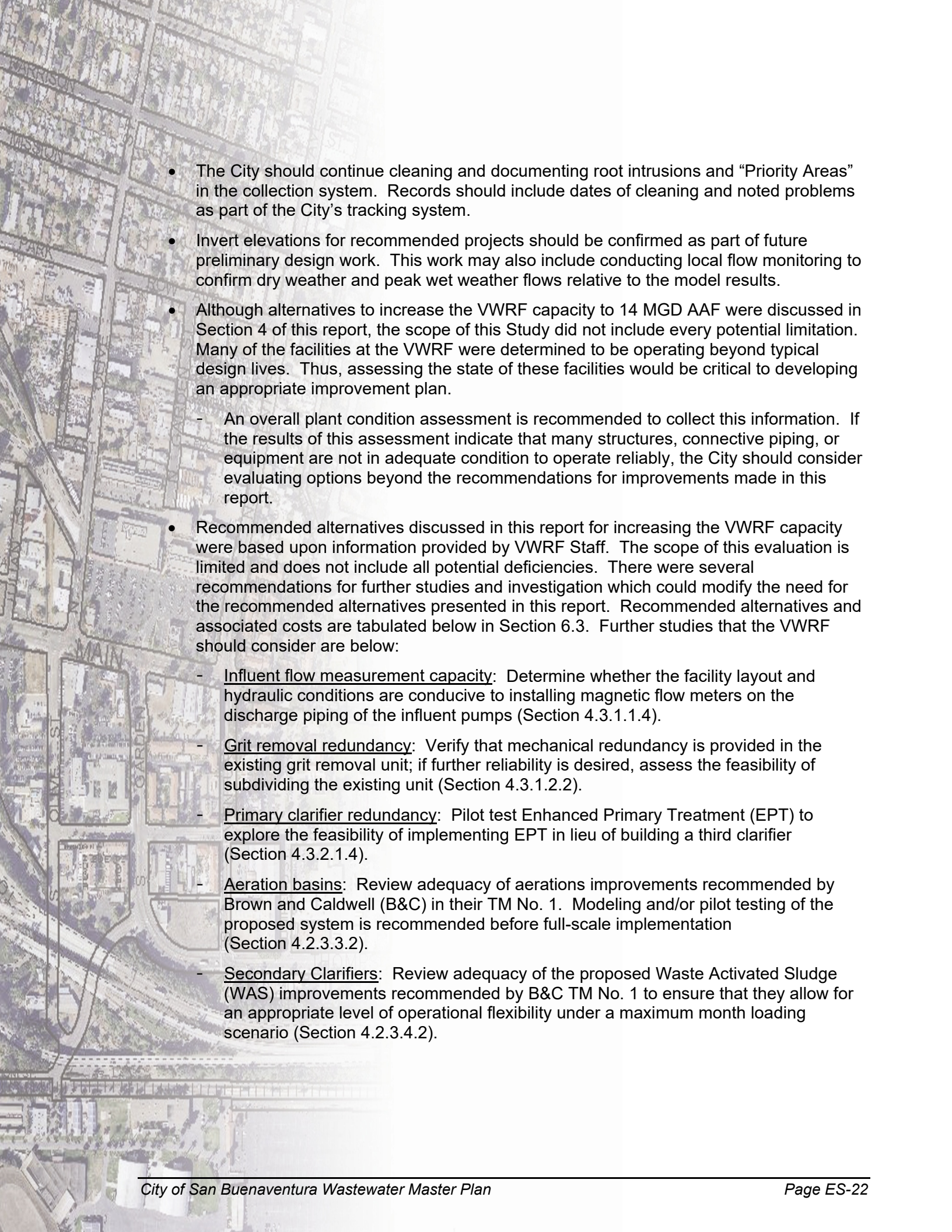
- **Project E38 – Peirpont Boulevard Sewers.** Five 8- and 10-inch diameter sewer pipes are recommended for replacement with 15-inch diameter pipe as Project E38 (Figure 5-8b). These five segments span a combined linear length of over 853 feet. All existing pipes show adequate performance under average and peak dry weather flows, the model indicated that all pipe segments were deficient when subjected to existing peak wet weather conditions. Local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas page F10).
- **Project E39 – Cameron Street and Warner Street Sewers.** Project E39 includes the recommended upsizing of 2,670 linear feet of 6- and 8-inch sewers with pipes of 8 to 15 inches in diameter (Figure 5-8a). Under peak wet weather flow, the model indicated that eight pipe segments were deficient. Another five segments were identified with deficiencies when future developments contribute wastewater. One pipe segment, with d/D ratio of 0.47 under ultimate development conditions was included with this project. Invert elevations should be confirmed. In addition, local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages K7, L7).
- **Project E40 – Channel Drive Sewers.** Project E40 includes the recommended replacement of eight sewer pipe segments that span a combined length of over 2,961 linear feet (0.56 mi) (Figure 5-8b). The model indicated that six of the pipe segments were deficient under existing peak wet weather conditions. The other two pipe segments were identified as deficient under ultimate development conditions. It is recommended that all eight existing pipes of 15-inch diameter be replaced by 18-inch pipes. Invert elevations should be confirmed and local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas page F12).
- **Project E41 – Blackburn Road Sewers.** Five pipes, each with 8-inch diameter, are recommended to be replaced with pipes of 10 to 12 inches in diameter (Figure 5-8e). These pipes have a combined length of over 1,254 linear feet and show sufficient performance in all existing dry weather flow conditions. Three pipe segments are flowing approximately 75 percent full under existing peak wet weather conditions. One pipe segment was found deficient only under ultimate development conditions. Another pipe was not found deficient, but was included in Project E41 due to improvements recommended upstream and downstream. All pipes were identified as priority areas. Replacement pipes are recommended to be 10 and 12 inches in diameters. Local flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas page H23).

- 
- **Project E42 – Joanne Avenue Sewers.** This project includes the recommended replacement of five adjacent pipes with existing diameters of 6 and 8 inches (Figure 5-8b). The recommended replacement pipes are 8 and 10 inches. The model indicated that two of the pipe segments would be deficient under peak wet weather flows, with one additional pipe segment deficient under ultimate development conditions. Two pipes that were not identified as deficient were also included in this project. Invert elevations should be confirmed. Also, flow monitoring is recommended to confirm the dry weather and peak wet weather flows. (Atlas pages G13, H13).
 - **Project E-LS1 – Seaside Transfer Station.** Based on the modeled flows, the existing Seaside Transfer Station does not have capacity for existing peak wet weather flows. Anticipated improvements include replacing the two existing pumps and motors and upgrading electrical equipment and appurtenances. New pumps should be sized for ultimate wet weather conditions with one pump as standby. During the preliminary design, the wet well capacity should be further evaluated. With new pumps in place, the velocity in the existing 21-inch Seaside Force Main will exceed 5 feet per second and is also recommended for replacement. (Atlas page H6).

Recommendations for Future Studies and Evaluations

The following summarizes recommendations for further studies and investigations resulting from this Study:

- The City's collection system exhibits relatively high peak flows during rain events. A system-wide infiltration and inflow (I/I) assessment is recommended to quantify the City's I/I rates and to provide direction to further mitigation measures. This effort would include conducting additional wet weather flow monitoring throughout the City's wastewater collection system. The City may wish to use the same locations as those used in the previous flow monitoring efforts. This would allow the flow monitoring results of the different time periods to be compared and the I/I amounts quantified within each flow monitoring tributary area. By quantifying I/I rates by area, the City can focus subsequent efforts on those portions of the collection system exhibiting the highest infiltration/inflow rates, with the aim of identifying mitigation measures that provide that highest return on investment.
- City crews have video taped the conditions of the sewer lines for many portions of the City's collection system using a remote-operated camera and closed-circuit television system. Given the age of its sewer infrastructure, the City should consider conducting a condition assessment program utilizing these videos as a source of information. The Pipeline Assessment Certification Program provides a standardized approach for condition assessments which the City could utilize to standardize its condition assessment program. Using a standardized approach could streamline the assessment and be used to develop a ranking system. Software programs are also available to link the condition assessment information to a GIS (or similar) database. Condition assessment information could be coupled with the hydraulic analysis results of this study to refine the capital improvements needs presented herein.

- 
- The City should continue cleaning and documenting root intrusions and “Priority Areas” in the collection system. Records should include dates of cleaning and noted problems as part of the City’s tracking system.
 - Invert elevations for recommended projects should be confirmed as part of future preliminary design work. This work may also include conducting local flow monitoring to confirm dry weather and peak wet weather flows relative to the model results.
 - Although alternatives to increase the VWRF capacity to 14 MGD AAF were discussed in Section 4 of this report, the scope of this Study did not include every potential limitation. Many of the facilities at the VWRF were determined to be operating beyond typical design lives. Thus, assessing the state of these facilities would be critical to developing an appropriate improvement plan.
 - An overall plant condition assessment is recommended to collect this information. If the results of this assessment indicate that many structures, connective piping, or equipment are not in adequate condition to operate reliably, the City should consider evaluating options beyond the recommendations for improvements made in this report.
 - Recommended alternatives discussed in this report for increasing the VWRF capacity were based upon information provided by VWRF Staff. The scope of this evaluation is limited and does not include all potential deficiencies. There were several recommendations for further studies and investigation which could modify the need for the recommended alternatives presented in this report. Recommended alternatives and associated costs are tabulated below in Section 6.3. Further studies that the VWRF should consider are below:
 - Influent flow measurement capacity: Determine whether the facility layout and hydraulic conditions are conducive to installing magnetic flow meters on the discharge piping of the influent pumps (Section 4.3.1.1.4).
 - Grit removal redundancy: Verify that mechanical redundancy is provided in the existing grit removal unit; if further reliability is desired, assess the feasibility of subdividing the existing unit (Section 4.3.1.2.2).
 - Primary clarifier redundancy: Pilot test Enhanced Primary Treatment (EPT) to explore the feasibility of implementing EPT in lieu of building a third clarifier (Section 4.3.2.1.4).
 - Aeration basins: Review adequacy of aerations improvements recommended by Brown and Caldwell (B&C) in their TM No. 1. Modeling and/or pilot testing of the proposed system is recommended before full-scale implementation (Section 4.2.3.3.2).
 - Secondary Clarifiers: Review adequacy of the proposed Waste Activated Sludge (WAS) improvements recommended by B&C TM No. 1 to ensure that they allow for an appropriate level of operational flexibility under a maximum month loading scenario (Section 4.2.3.4.2).



- Anaerobic digestion capacity: Consider enhancing the ability to receive fats, oils, and grease (FOG) with the construction of a new digester (Section 4.3.6.1.4).
- In addition to the above recommended studies, the City should also work to complete the studies required by the Regional Water Quality Control Board related to the Estuary and recycled water.

Section 1: Introduction

Quote: A Vision for Ventura

“Our vision is for a prosperous and well-planned community. We seek to protect and enhance our unique “sense of place” that builds on our pride in Ventura’s history and natural setting. Our vision is for interesting, unique neighborhoods and districts, which reflect our values and heritage.”

Excerpt from the City of San Buenaventura General Plan, 2000.

Building on that shared vision, the City of San Buenaventura (City) embarked on an effort to revise its 1989 Comprehensive Plan that served as the General Plan used to guide land use, transportation and other important policy decisions. The 2000 General Plan is the culmination of that effort to translate the Ventura Vision into a coherent and comprehensive implementation plan to guide future development and preservation.

That landmark General Plan captured the results of “a partnership encompassing city government, non-profit organizations, community groups, businesses, schools and individual residents to chart the community’s future through a visioning process.”

Building from its vision for Ventura, the City has developed this Wastewater Master Plan to identify current needs and help guide future capital improvements. The City has completed numerous studies in the past concerning the wastewater collection and treatment system separately. However a comprehensive wastewater system study including both the collection system and treatment plant has not been completed.

One of the reasons that such a planning document has not been prepared is that the City is mostly built out and studies have been completed concentrating on different areas of the system, not as a whole. Without significant development pressures, there has been little need for collection system planning studies focused on identifying anticipated future flow rates and subsequent capital improvement needs for the overall system.

However, with revitalization and redevelopment efforts planned or underway, the City is proactively addressing its infrastructure needs to support the anticipated redevelopment efforts in keeping with the City’s vision for Ventura.

The following report summarizes the evaluation of the City’s wastewater collection and treatment systems, and the resulting capital improvement program recommendations.

1.1 Background

The City of San Buenaventura (City), also known as Ventura, was recently named one of America's most livable communities. The City is located in the South area of Ventura County, as shown on Figure 1-1. The City was incorporated in 1866, 84 years after the Mission San Buenaventura's founding in 1782. The City's current population is 105,000.

Through the Wastewater Division of its Public Works Department, the City provides wastewater service to approximately 98 percent of City residences as well as McGrath State Beach Park and the North Coast Communities (Ventura County Service Area 29).

The City's wastewater collection system is divided into four service areas known as the East, Midtown, Downtown, and Westside areas. The Eastside area extends from the City's easterly border to Kimball Road and Ramelli Avenue. The Midtown area is bounded by Kimball Road and Ramelli Avenue to the east and Laurel to the west, with the Downtown area extending westerly to Ventura Avenue. The Westside area generally represents the Ventura Avenue corridor to the City's westerly boundary. Figure 1-2 shows the four wastewater collection system service areas which represent the study area of this project.

Flows from the City's four wastewater service areas are treated at the City's Ventura Water Reclamation Facility, which provides primary, secondary, and tertiary levels of treatment to meet California Title 22 effluent water quality standards. The reclamation facility has a capacity of 14 MGD, with provisions for expansion up to 16.8 MGD. Average annual flows to the treatment facility total about 9.3 MGD.

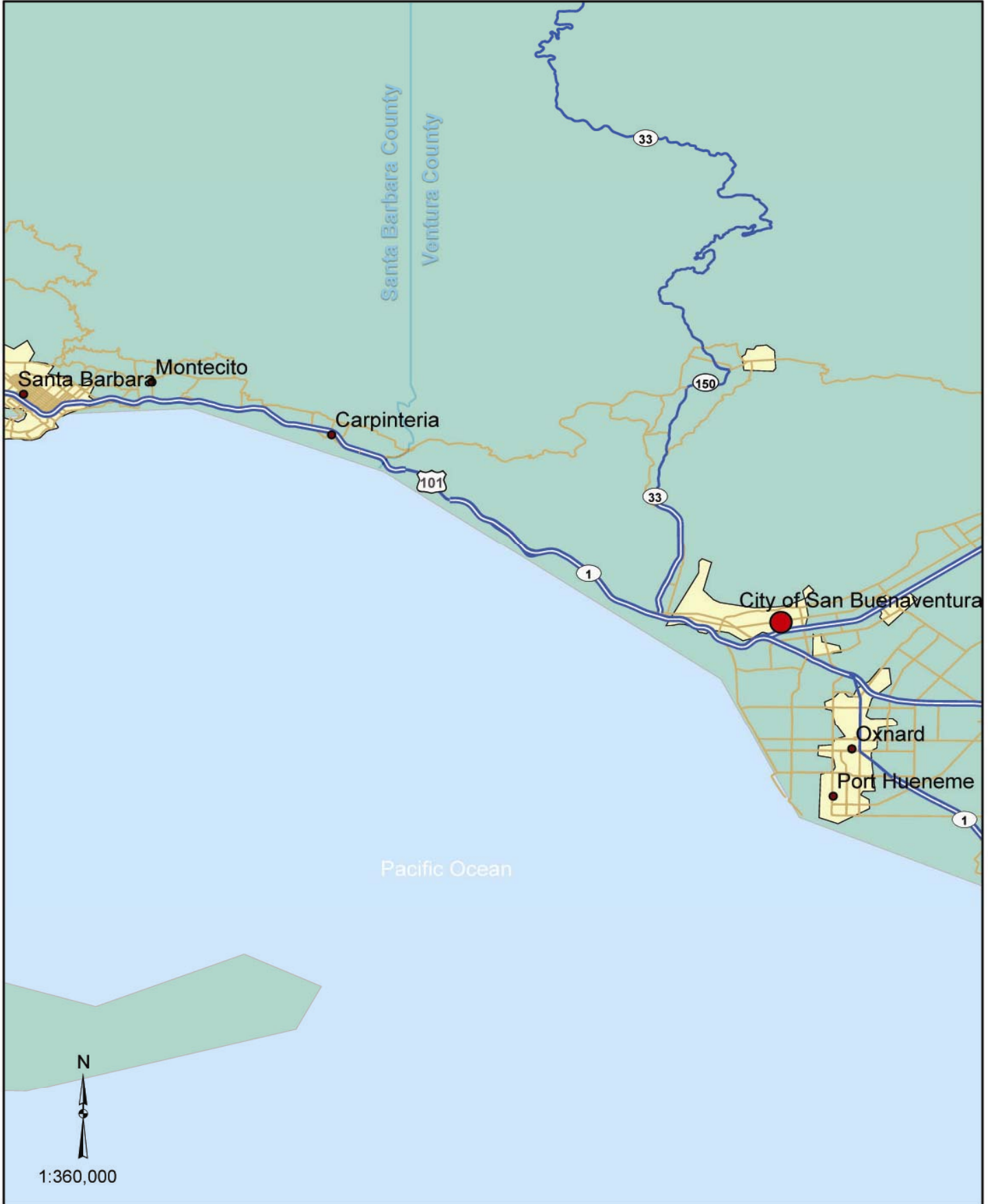
1.2 Study Area

Study area for this Wastewater Master Plan consists of the City's four (4) wastewater service areas and the City's Ventura Water Reclamation Facility as shown in Figure 1-2. This study area boundary defines the limits of the wastewater collection system facilities evaluated as part of this study.

The modeled wastewater collection system within this Wastewater Master Plan is comprised of the following:

- Approximately 285 miles of gravity sewers between 4 and 42 inches in diameter
- 5 miles of forcemain
- 11 wastewater lift stations

The collection system sewers convey flows generally from east to west and north to south, culminating at the Ventura Water Reclamation Facility.



Kennedy/Jenks Consultants

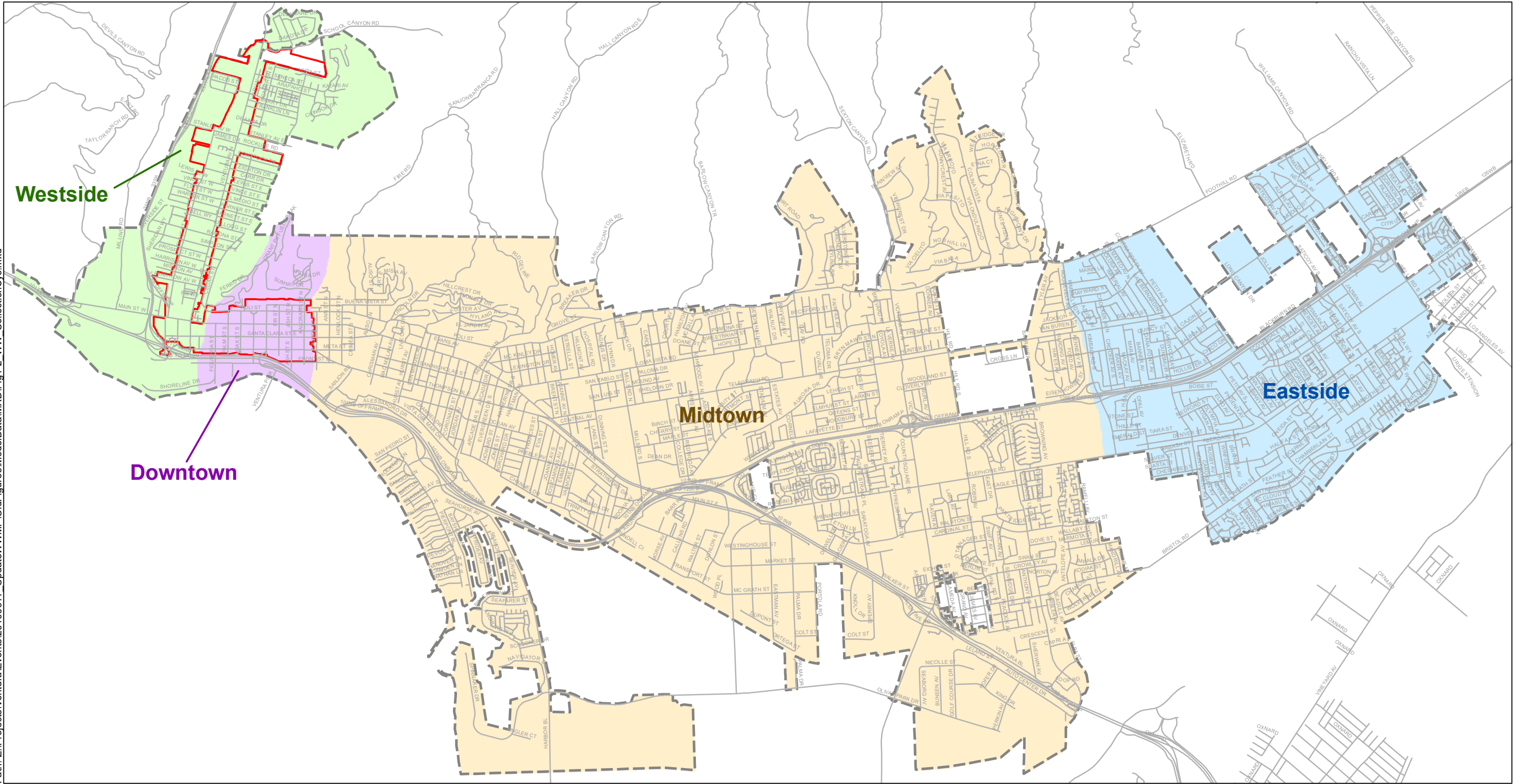
City of San Buenaventura
San Buenaventura, California

Vicinity Map

K/J 1089015*00
August 2010

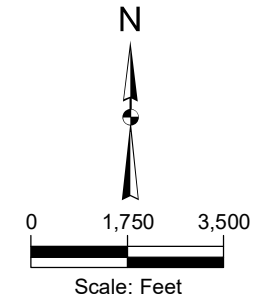
Figure 1-1

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OId\Figures\ModelData\MXD\Fig1-2_WW_CollectionSys.mxd



Legend

- West side
- Downtown
- Midtown
- East side
- City Boundary
- Study Area Boundary for 2005 Westside/Downtown Study



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Wastewater Collection
 System Service Areas**

K/J 1089015*00
 August 2010

Figure 1-2

1.3 Purpose and Scope

This study addressed the City's key collection system and wastewater treatment infrastructure needs through ultimate buildout. Development information used in the evaluation of the collection system needs was provided by the City's planning department. Collection system data, including the collection system GIS database, was provided by the City's Information Technology Department. Specific issues addressed in this study included the following:

- Estimation of wastewater flow for existing, near-term, and General Plan horizon (build out) conditions.
- Evaluation of existing and future wastewater treatment infrastructure needs.
- Identification of collection system improvements for the existing, near-term and ultimate development levels.

While focusing on the infrastructure needs of the collection and wastewater treatment systems, this study can also be used for developing budgets and financial planning. Scope of work for this project included the following seven major tasks:

- Development of a land use database (GIS).
- Development of unit wastewater flows.
- Development of wastewater flow projections.
- Evaluation of the Ventura Water Reclamation Facility.
- Development of a sewer hydraulic model using H2O Map Sewer.
- Evaluation of the wastewater collection system.
- Development of a wastewater system capital improvement program.

This study identified projects (including sizing, costs, time phasing, and location) that were conceptual in nature. As such, recommended facilities should undergo further evaluations based on conditions present at the time of project implementation to confirm the recommendations (including: size, alignment, length, hydraulics, material requirements, costs, etc.) of this study.

1.4 Authorization

Authorization for this project was provided through an engineering services agreement between the City of Ventura and Kennedy/Jenks Consultants (Kennedy/Jenks) and a notice to proceed dated November 21, 2005.

1.5 Acknowledgements

This study was prepared by Kennedy/Jenks with input, guidance and direction of individuals from the City of Ventura. City Staff contributing to this study include the following:

- Susan Rungren, Utilities Engineer
- Dan Pfeifer, Wastewater Superintendent
- Joe Santos, Wastewater Maintenance Supervisor
- Donald Burt, Wastewater Plant Supervisor

Without the contributions of these individuals, this Wastewater Master Plan would not have been possible.

Kennedy/Jenks greatly appreciates this opportunity to work with the City on this important project. The Kennedy/Jenks team involved in the preparation of this study included the following:

- Jeff Savard, P.E. – Project Manager
- Mike Joyce, P.E. – Project Engineer Treatment System Evaluations
- Patrick Huston, P.E. – Project Engineer Collection System Evaluations
- Susan Dahlhemier – Project Engineer, Hydraulic Modeling and Analysis

1.6 Planning Studies

A number of previous studies and investigations were reviewed as part of this study. The following list identifies the primary reports reviewed in the development of this Wastewater Master Plan:

- *City of San Buenaventura's Comprehensive Plan Update to the Year 2010*, City of San Buenaventura Planning Division, Community Development Department, adopted August 28, 1989. The document provided land use information for the tributary areas outside of the Downtown area of San Buenaventura.
- *City of San Buenaventura Ventura Water Renovation Facility Master Plan*, Montgomery Watson, September 1993. This document presented an evaluation of the existing plant facilities and provided recommendations for interim and long-term upgrades to the plant.
- *East Ventura Sanitary Sewer Collector Study*, Boyle Engineering Corporation, August 2, 1995. This study analyzed the wastewater collection system and facilities for the City of San Buenaventura's eastern service area. This document provided guidance and comparison value to the wastewater flow estimates developed in this Master Plan.
- *City of San Buenaventura, 1997 Design Standards*. This document provided design criteria for the hydraulic modeling portion of this Study.
- *City of San Buenaventura Water Renovation Facility Master Plan Update*, dated August 1997. This document investigated the impacts of the activated sludge structure's longer life due to structural rehabilitation.
- *City of San Buenaventura's Midtown/Westside Sewer System Study Dry Weather Temporary Flow Monitoring*, MGD Technologies, Incorporated, October 7, 2003. This

report summarizes dry weather wastewater flow monitoring from August 22, 2003 through September 4, 2003. This document provided calibration data and confirmation of existing system flows.

- *City of San Buenaventura's Midtown/Westside Sewer System Study Wet Weather Temporary Flow Monitoring*, MGD Technologies, Inc., May 10, 2004. This flow monitoring study covered the monitoring period from March 9, 2004 through April 4, 2004.
- *City of San Buenaventura Downtown/Westside Sewer System Study*, Kennedy/Jenks Consultants, August 2005. This study analyzed the Downtown and Westside portions of the collection system based on redevelopment information resulting from the City's Downtown Specific Plan.
- *City of San Buenaventura 2005 Ventura General Plan*. This plan was adopted August 8, 2005.
- *City of San Buenaventura's Sewer Flow Monitoring of Eastside Ventura Wastewater Flow* by Downstream services, Inc. dated November 2005.
- *City of San Buenaventura Final Draft Downtown Specific Plan*, December 2006. This plan was approved by the City's Planning Commission in February 2007.
- *City of San Buenaventura Flow Report* by MRC Technologies, Inc. dated December 2007.

1.7 Abbreviations and Definitions

The following lists and defines abbreviations often used in this study.

AAF	average annual flow	City	City of San Buenaventura
ac	acre	CRWQCB	California Regional Water Quality Control Board
ac-ft	acre-feet		
ADD	average daily demand	CT	contact time
ADWF	average dry weather flow	CWRC	California Water Recycling Criteria
APN	assessors parcel number		
AWWF	average wet weather flow	DAFT	dissolved air flotation thickeners
BAR	bioaugmentation reaeration	d/D	depth to diameter
BNR	biological nutrient removal	dia.	diameter
BOD	biochemical oxygen demand	DU	dwelling unit
CalARP	California Accidental Release Prevention Program	DU/ac	dwelling unit per acre
CCR	California Code of Regulations	EDU	equivalent dwelling unit
CCT	chlorine contact tank	ENR-CCI	Engineering News Record – construction cost index
CIP	capital improvement program	ETS	effluent transfer station
		EPT	enhanced primary treatment

FE/PE	flow equalization/primary effluent	RO	reverse osmosis
ft	feet	RFPF	recessed plate filter press
F/M	food to microorganism ratio	SBSA	South Bayside System Authority
FOG	fats, oils, and grease	SEWRF	San Eligo Water Reclamation Facility
fps	feet per second	SJCF	San Joaquin Composting Facility
FY	fiscal year	SOR	standard oxygenation rate
GIS	geographic information system	SRT	solids retention time
gpad	gallons per acre per day	SSMP	sewer system management plan
gpd	gallons per day	SSO	sewer system overflow
gpm	gallons per minute	SVI	sludge volume index
GT	gravity thickener	SWRCB	State Water Resources Control Board
HL	headloss	THMs	trihalomethanes
IFAS	integrated fixed-film activated sludge	TSS	total suspended solids
I/I	infiltration and inflow	UV	ultraviolet
LF	linear foot	VCP	vitrified clay pipe
LS	lift station	VSS	volatile suspended solids
MBR	membrane bioreactor	VWRF	Ventura Water Reclamation Facility
MGD	million gallons per day	WAS	waste activated sludge
MG	million gallon		
mg/l	million gallon per liter		
ml	milliliter		
mLE	modified Ludzack-Ettinger		
MLVSS	mixed liquor volatile suspended solids		
MLW	mixed liquor waste		
MMF	mixed media filters		
MPN	most probable member		
NPDES	National Pollutant Discharge Elimination System		
O&M	operation and maintenance		
OSHA	Occupational Safety and Health Administration		
PDWF	peak dry weather flow		
PWWF	peak wet weather flow		
psi	pounds per square inch		
RAS	return activated sludge		
RMP	risk management plan		

Section 2: Wastewater System Design Criteria

This section presents the wastewater system design criteria used in developing and evaluating facility requirements as part of the City's Wastewater Master Plan. The design criteria presented in this section includes the following:

- Delineation of the study area
- Land uses within the study area
- Collection system design criteria
- Wastewater peaking factors
- Collection system design criteria

These criteria will form the basis from which collection facilities will be evaluated.

2.1 Study Area Land Uses

Each parcel within the study area was assessed for existing, near-term, and General Plan development levels. A master land use database was created in GIS to aid in the production of this Wastewater Master Plan, as well as the development of the concurrent Water Master Plan being completed for the City. The development levels were assessed using the following land use planning data obtained from the City:

- Parcel polygons
- General Plan land use polygons
- City boundary
- Water meter locations and descriptions
- Historical water meter billing data
- Near-term development tables

2.1.1 Existing Development

Existing land use categories are based upon County Assessor data encoded in the City's parcel database in conjunction with water meter billing data. Water meter billing data was geocoded to parcels, matching each water meter within the study area to the nearest parcel. Only parcels within the City limits with recorded water use from billing data were included in the calculations for existing development. A list of water meters sewered by alternate agencies was also provided by the City for exclusion from existing development calculations. Parcels containing both sewered and non-sewered meters were not excluded from calculations for existing development.

The County Assessor data contained a break-down of 153 descriptive land uses included within eight (8) main categories. Kennedy/Jenks retained these eight (8) main categories, splitting the

industrial category into 3 separate levels for a total of 10 Master Plan land use categories. These 10 Master Plan land use categories were used when categorizing land use and wastewater flow data on the tables and figures that follow. The 153 descriptive land uses were summarized into 23 Master Plan land uses for the development of wastewater flow factors described later in this section.

Table 2-1 illustrates the 10 Master Plan land use categories developed for the Wastewater Master Plan and provides a description of the included land uses. Figure 2-1 displays existing City parcels consistent with the Master Plan land uses. Parcels displayed as having no existing water use include parcels with no water meter billing data. These parcels were fully developed by applying the appropriate duty factor for the comprehensive plan horizon. Parcels displayed as sewered by others include parcels containing only water meters designated as sewered by others according to City data.

2.1.2 Near-Term Development

A table of near-term development projects (pending projects January 2007) was provided by the City (found in Appendix A). The list contained project numbers, associated parcel numbers, project address, dwelling unit (DU) per addition (residential only), acre per addition, and population per addition. Near-term sewer flows for residential developments were calculated using a factor of 194 gpd/DU. This factor was confirmed through wastewater flow monitoring and is consistent with that used for the Downtown/Westside Sewer System Study. Wastewater flows for commercial, industrial and institutional developments were calculated using the appropriate duty factor for the land use. Figure 2-2 shows the location of each near-term development project identified by the City. These developments are specifically identified in Table 2-2 showing project numbers, names, and anticipated dwelling unit counts for each residential development. This list of anticipated developments is not inclusive of all future developments.

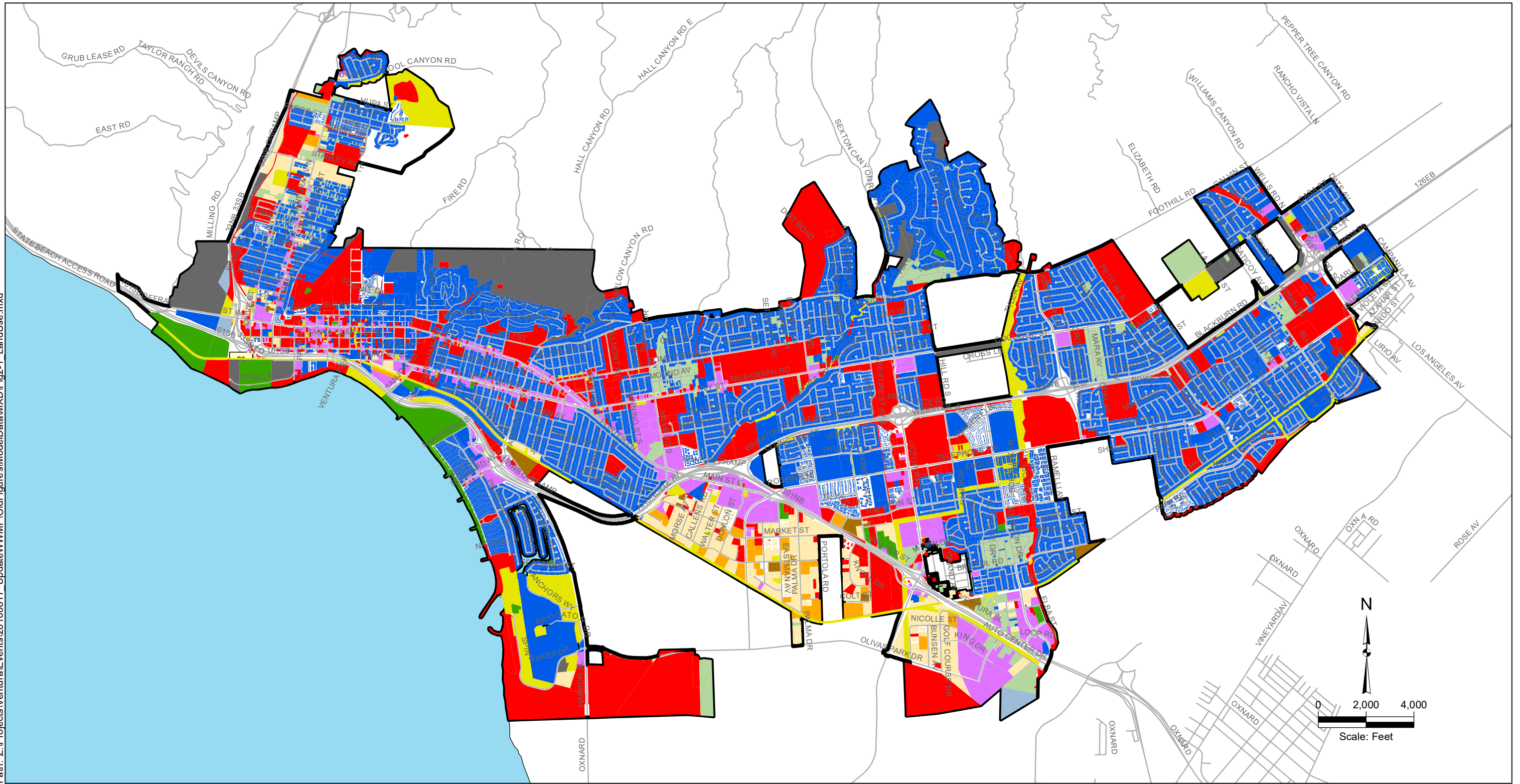
2.1.3 General Plan Development















General Plan development is based on allowable future redevelopment of all areas to General Plan limits. General Plan development assumes all vacant parcels will redevelop to the land use categories described in the General Plan. General Plan development also assumes 10 percent of existing parcels currently using less than General Plan allowance will redevelop to the General Plan allowance. Parcels currently using more than General Plan allowance were assumed to continue existing usage. General Plan allowance is calculated as the parcel area multiplied by the corresponding wastewater flow factor. Figure 2-3 displays ultimate land use by Master Plan category.

**TABLE 2-1
MASTER PLAN EXISTING LAND USE CATEGORIES**

Master Plan Category	Description
<i>Industrial 1</i>	Industrial/Manufacturing Usage Below 2,500 GPD
<i>Industrial 2</i>	Industrial/Manufacturing Usage Between 2,500 GPD and 7,500 GPD
<i>Industrial 3</i>	Industrial/Manufacturing Usage Above 7,500 GPD
<i>Recreational</i>	Sports Facilities Indoor Theaters
<i>Residential</i>	Single Family/Duplex Multi Family Mobile Homes High Density Estate
<i>Resource Production</i>	Crops Pasture and Range Land Orchards
<i>Services</i>	Schools Mid-size office Bldg (3000-10,000 sf) Major Office Bldg (over 10,000 sf) Full Care Hospital Colleges/Universities Churches/Organizations Cemetery
<i>Trade</i>	Retail Restaurants Auto
<i>Transportation, Community, and Utilities</i>	Utilities Streets, Roads and Walkways Parking Lots Railways Flood Control Basins
<i>Undeveloped</i>	Undeveloped and Unused Land

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\Old\Figures\ModeIData\MXD\Fig2-1_LandUse.mxd



 Industrial Type 1	 Services	 City Limits
 Industrial Type 2	 Trade	 Ventura Wastewater Reclamation Facility
 Industrial Type 3	 Trans/Comm/Util	 Seaside Transfer Station
 Recreation	 Undeveloped	
 Residential	 Sewer By Others	
 Resource Production		

Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

Master Plan Existing Land Use

K/J 1089015*00
August 2010

Figure 2-1

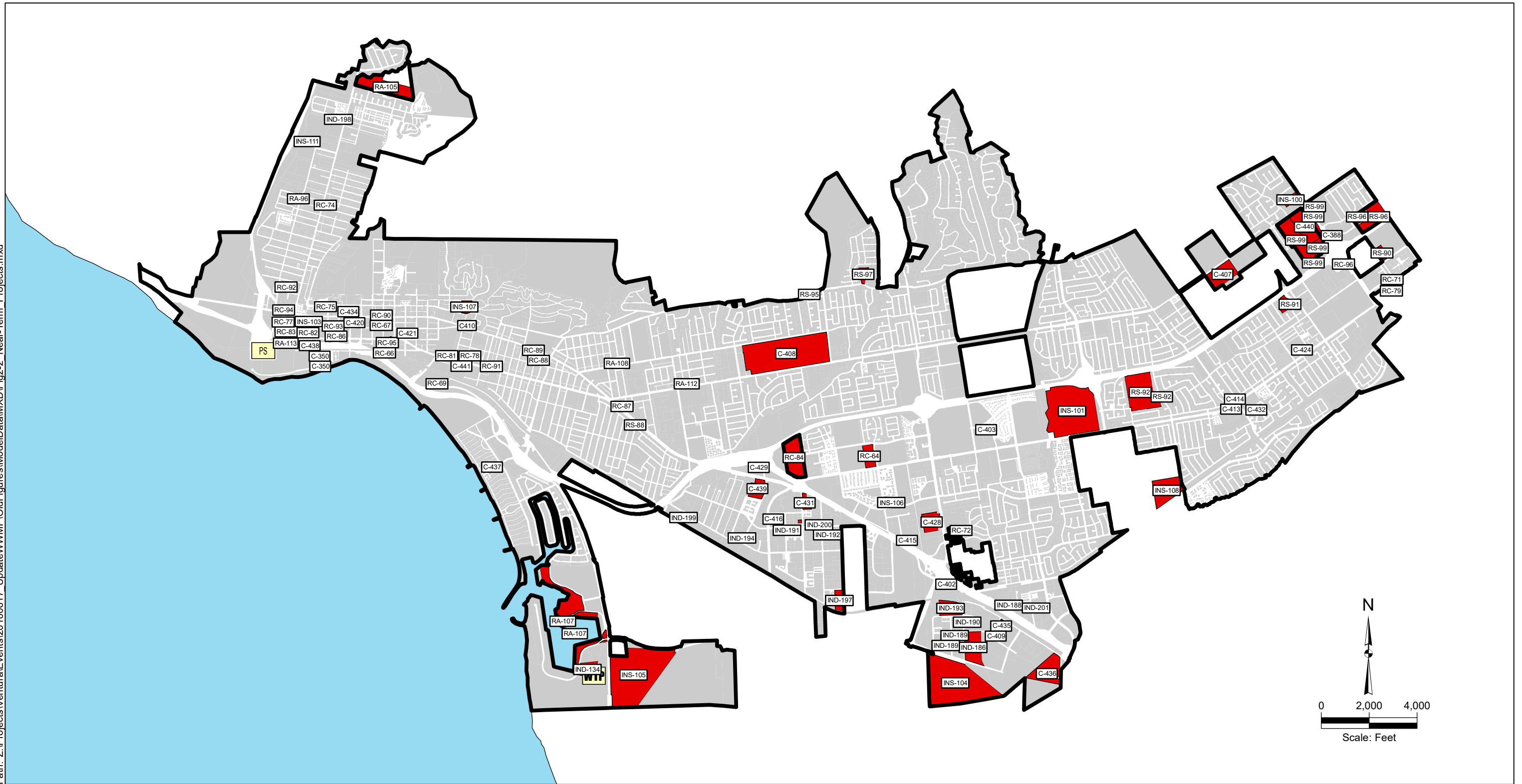
**TABLE 2-2
NEAR-TERM DEVELOPMENT PROJECTS**







Project Number	Project Name	Dwelling Units	Acres
RS-87	Island View	120	26.85
RS-88	-	4	0.43
RS-90	Aldea Hermosa	64	7.39
RS-91	The Cottages	38	6.2
RS-92	Hails	150	40.11
RS-94	The Renaissance	113	27.3
RS-95	-	4	2.57
RS-96	Citrus Place	59	23.3
RS-97	-	10	3.82
RS-98	The Grove	75	25.6
RS-99	Parklands	252	66.7
RC-60	Bella Vista	104	8.34
RC-61	Harmony	182	15.8
RC-64	Melody	74	15.7
RC-66	-	6	0.17
RC-67	Mayfair Lofts	18	0.42
RC-69	-	4	0.25
RC-70	Hails	82	40.11
RC-71	Chapel Lane	16	0.83
RC-72	-	72	3.91
RC-73	-	32	0.57
RC-74	-	12	0.34
RC-78	-	4	0.15
RC-75	-	22	0.4
RC-77	-	21	0.43
RC-79	Chapel Lane	15	0.64
RC-80	Citrus Place	60	23.3
RC-81	-	29	1.11
RC-82	Renaissance Walk	172	3.6
RC-83	13-Live Work Units	56	1.15
RC-84	The Grove	88	25.6
RC-85	Parklands	235	66.7
RC-86	Thompson Oak Ct	37	0.73
RC-87	Main/Central Condos	14	0.62
RC-90	15 DU Condos	15	0.63
RC-91	5 DU Condos	5	0.19
RC-93	34 DU Condos	34	1.2
RC-94	13 DU Condos	13	0.28
RC-95	-	12	0.39
RA-96	-	5	0.18

Project Number	Project Name	Dwelling Units	Acres
RC-92	-	14	0.88
RC-88	-	7	0.42
RC-96	-	4	0.53
RC-89	-	10	0.49
RA-105	The Renaissance	50	27.3
RA-107	-	300	26.9
RA-108	Mixed Use Res/Comm	4	0.35
RA-112	-	4	0.53
RA-113	Artspace	69	0.98
RA-114	The Grove	45	25.6
RA-116	Citrus Place	60	23.3
C-350	4 sty hotel, 162 room	NA	2.76
C-379	Mixed Use Comm Apts	NA	0.4
C-387	Mixed Use	NA	0.57
C-388	Carwash Addition	NA	0.79
C-397	Mixed Use Condos	NA	0.34
C-402	2 sty ofc/warehouse	NA	0.37
C-403	3 sty ofc bldg	NA	2.8
C-404	mixed use	NA	0.49
C-405	mixed use	NA	0.15
C-407	Comm Ofc Addition	NA	18.9
C-408	New community bldg	NA	0.841
C-409	new auto dealership	NA	2.2
C410	Mixed use comm/apts	NA	0.11
C411	Mixed Use condos	NA	0.23
C412	Mixed use marina retail	NA	26.9
C-413	1stry commercial bldg	NA	0.61
C-414	commercial addition	NA	0.92
C-415	commercial addition	NA	0.99
C-416	new auto repair bldg	NA	0.92
C-417	mixed use apts	NA	0.35
C-419	mixed use condos	NA	0.43
C-420	4 stry multi use bldg	NA	0.14
C-421	new accessory qtrs	NA	0.14
C-423	2 1-stry bldgs	NA	13.35
C-424	1 stry addition	NA	1.92
C-425	mixed use project	NA	1.15
C-426	mixed use project	NA	1.6
C-427	mixed use project	NA	0.73
C-428	new retail bldg	NA	12.41
C-429	new 2stry comm bldg	NA	0.57
C-431	commercial addition	NA	3.93
C-432	commercial addition	NA	0.48
C-434	Relocation of Top Hat building	NA	0.14

Project Number	Project Name	Dwelling Units	Acres
C-435	Add to exist indust bldg	NA	0.65
C-436	new auto repair bldg	NA	12
C-437	Timeshare units with ground floor retail	NA	0.51
C-438	mixed use project	NA	1.2
C-439	Add to exist retail bldg	NA	10.5
C-440	Major office building	NA	0.344
C-441	Paseo Mariposas retail	NA	0.1
IND-134	Warehouse Building	NA	0.6
IND-199	Warehouse Building	NA	2.51
IND-184	14 Mixed-use acres	NA	0.88
IND-186	2/Warehouse/Man	NA	14.6
IND-187	1stry industrial	NA	0.09
IND-188	2 stry industrial	NA	0.39
IND-189	1 stry industrial	NA	2.38
IND-190	1 stry industrial	NA	0.78
IND-191	2 stry industrial	NA	0.52
IND-192	2 1stry industrial	NA	2.66
IND-193	6 industrial	NA	19.56
IND-194	2 stry industrial	NA	1.13
IND-195	5 1stry industrial	NA	20.48
IND-197	Add to exist indust bldg	NA	7.41
IND-198	Personal Storage bldg	NA	1.65
IND-200	Add to exist indust bldg	NA	0.078
IND-201	2 stry industrial	NA	0.57
INS-101	Com Park, Aquatics Cntr, Rec Fields	NA	94.98
INS-103	County Museum expansion	NA	5
INS-104	Mantnce bldg add on, restroom	NA	92
INS-105	Clubhouse, mantnce bldg, restroom	NA	253.5
INS-106	Auditorium Addition	NA	4.19
INS-107	Auditorium	NA	4
INS-108	Rec Fields	NA	25.6
INS-109	3 bldg at WTP	NA	12.54
INS-100	Assisted Living Facility 97 rooms	NA	9.38
INS-110	Classroom Bldg	NA	0.19
INS-111	Education oper suppt cntr	NA	2.83
Total			1,256

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeIData\MXD\Fig2-2_Near-Term_Projects.mxd



-  Ventura Wastewater Reclamation Facility
-  Seaside Transfer Station
-  City Limits
-  ocean
-  Near Term Projects
-  Current City Parcels

Kennedy/Jenks Consultants

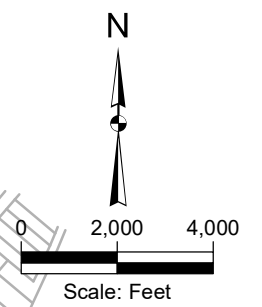
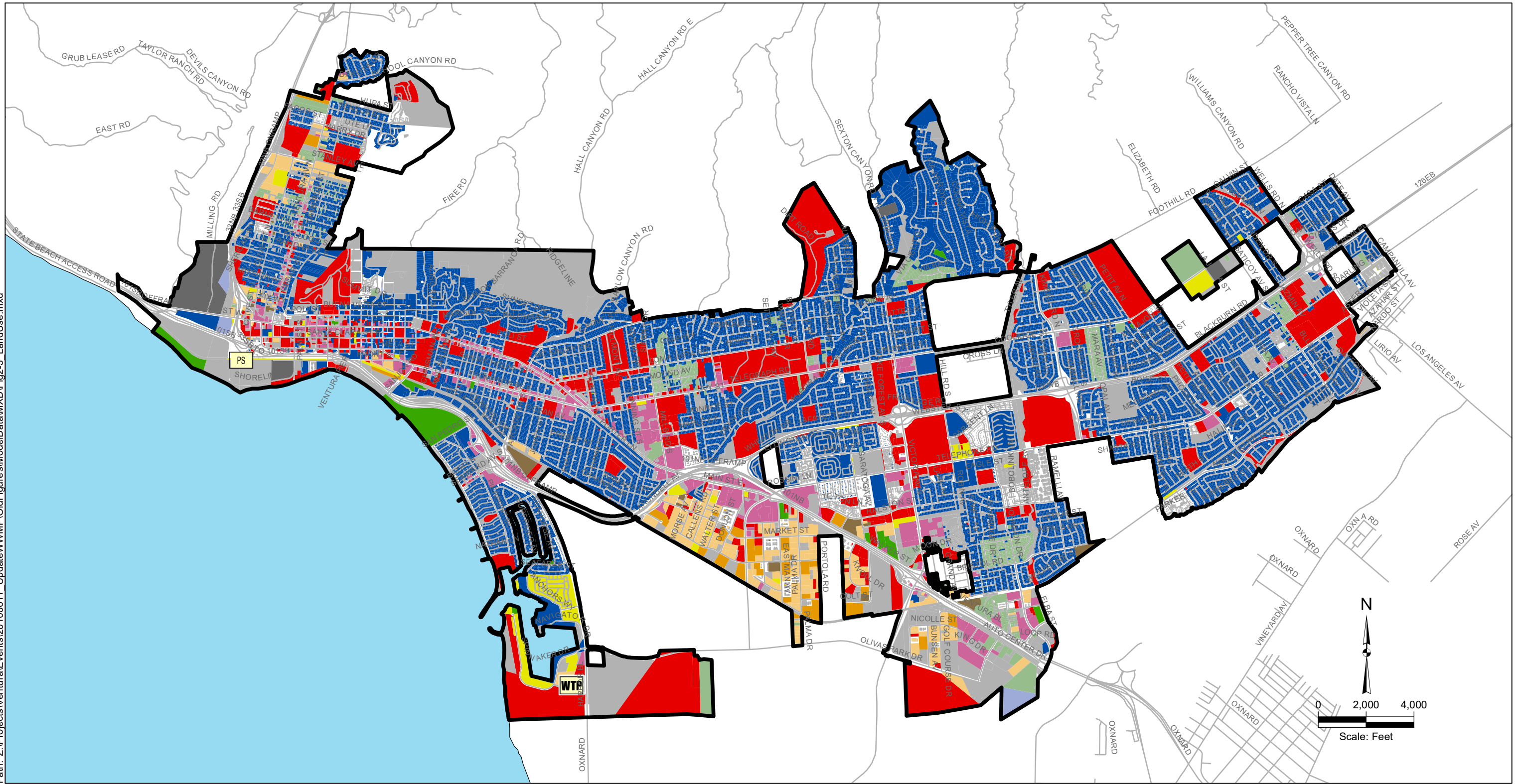
City of San Buenaventura
San Buenaventura, California

Near-Term Projects

K/J 1089015*00
August 2010

Figure 2-2

Path: Z:\Projects\Ventura\Events\20100617_Update\WMMP\Old\Figures\ModeIData\MXD\Fig2-3_LandUse.mxd



City Limits	Industrial Type 1	Services
Ventura Wastewater Reclamation Facility	Industrial Type 2	Trade
Seaside Transfer Station	Industrial Type 3	Trans/Comm/Util
	Recreation	Undeveloped
	Residential	No Existing Water Use
	Resource Production	Sewer By Others

Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California
Master Ultimate Land Use

K/J 1089015*00
 August 2010
Figure 2-3

2.2 Wastewater Flow Factors

Wastewater flow factors for the City's Wastewater Master Plan were developed using a combination of data, including:

- The City's landuse data base (described in Section 2.1)
- The City's water meter billing records
- Return-to-sewer ratio estimates

The City's water meter billing records were received for the time period of January 2004 to February 2006. The data from January 2004 to December 2005 was analyzed to compute water usage in gallons per day (gpd) for each meter. Each meter was then spatially assigned by parcel, and the total existing usage (gpd) was computed for each parcel.

The water billing database was used to estimate existing wastewater flows by utilizing return-to-sewer ratios for each Master Plan category. The return-to-sewer ratio for a given land use category is defined as the percentage of water demand that is returned to the sanitary sewer system for that land use category. Return-to-sewer ratios were used to develop wastewater flow factors, which were in turn used to estimate near-term and general plan flows. The return-to-sewer ratios for this Master Plan were calculated based on analysis of the parcel database in conjunction with flow monitoring studies conducted by MGD Technologies Inc. (MGD) and DownStream Services Inc. (DownStream), and flow monitoring data collected at the Seaside Transfer Station and Influent Pump Station by the City. Parcels were coded by basin and return-to-sewer ratios were developed to correspond with the basin flow monitoring information. Table 2-3 summarizes the return-to-sewer ratios used for the purpose of this study.

**TABLE 2-3
RETURN-TO-SEWER RATIOS**

No.	Land Use Category	Recommended Return-to-Sewer Ratio
1	Industrial Type 1 - Usage Below 2,500 GPD	80%
2	Industrial Type 2 - Usage Between 2,500 GPD and 7,500 GPD	77%
3	Industrial Type 3 - Usage Above 7,500 GPD	71%
4	Recreation	53%
5	Residential	69%
6	Resource Production	45%
7	Services	80%
8	Trade	79%
9	Transportation/Community/Utilities	81%
10	Undeveloped	0%

The return-to-sewer ratios shown in Table 2-3 were then applied by parcel to the water meter data provided by the City and a wastewater flow factor in gallons per day per acre was developed. Wastewater flow factors were developed for all 153 sub-categories. The sub-categories were analyzed and grouped into 23 Master Plan land use categories, shown in

Table 2-4. These flow factors and other analysis methods were utilized to estimate near-term and General Plan flow as needed.

**TABLE 2-4
WASTEWATER FLOW FACTORS**

No.	Master Plan Category	Master Plan Land Use	Recommended Wastewater Flow Factor (gpd/ac)
1	Industrial	Warehousing	600
2	Industrial	Major Manufacturing	2,800
3	Industrial	Industrial	1,700
4	Recreation	Sports Facilities	450
5	Recreation	Indoor Theaters	1,600
6	Residential	Single Family/Duplex	1,200
7	Residential	Multi Family	2,000
8	Residential	Mobile Homes	1,250
9	Residential	High Density	5,050
10	Residential	Estate	600
11	Resource Production	Resource Production	20
12	Services	Schools	550
13	Services	Mid-size Office Bldg (3,000-10,000 sf)	1,050
14	Services	Major Office Bldg (over 10,000 sf)	1,650
15	Services	Full Care Hospital	11,100
16	Services	Colleges/Universities	900
17	Services	Churches/Organizations	700
18	Services	Cemetery	80
19	Trade	Retail	1,500
20	Trade	Restaurants	2,750
21	Trade	Auto	700
22	Trans/Comm/Util	Utilities	500
23	Undeveloped	Undeveloped	0

2.3 Peaking Factors

Dry weather and wet weather peaking factors were developed for this study using a combination of flow data collected by the City, existing metering data at the City's Seaside Transfer Station, and Wastewater Treatment Plant Influent Pump Station, and data from prior studies.

The City contracted with both MGD and DownStream to conduct temporary sewer flow monitoring studies in the City during different times over the past five (5) years. MGD conducted two studies in the Downtown/Westside area during August and September 2003 and March 2004, respectively, of fourteen (14) and twenty-one (21) day durations, respectively. DownStream conducted a seven (7) day study in November 2005 for the Eastside area. All three flow monitoring studies took place during dry weather periods. Flow monitoring results from the March 2004 study were used to create a peak dry weather factor curve and equation,

because that study was of the longest duration and gave more conservative results than the other two studies. Recommended peak dry weather equation is shown below:

$$\text{Peak Dry Weather Factor} = 1.99 \times (\text{Average Dry Weather Flow Rate})^{-0.0295}$$

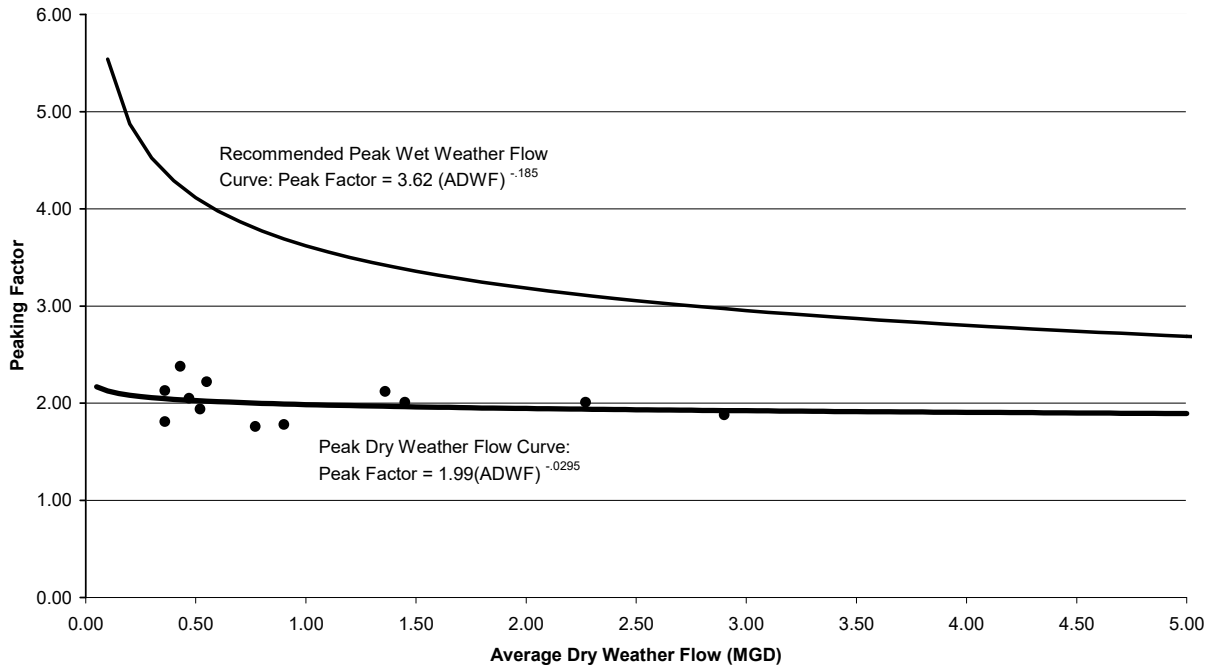
This peak dry weather equation corresponds well to the recommended peak dry weather curve equation for the City of Oxnard, which would be expected to have similar wastewater collection system characteristics.

MGD also conducted a wet weather flow monitoring study. Over a twenty-one (21) day period in March 2004. Measurements were taken at twelve (12) different sites in the Downtown/Westside area. However, no wet weather events occurred during this time frame. Without wet weather flow monitoring data, the peak wet weather curve and equation were determined from metered flows taken at the Seaside Transfer Station and the Influent Pump Station during wet weather events. This flow was adjusted using peaking curves from other recent studies in order to better represent peak flows for lower, average flow conditions. This method was also used to determine the peak wet weather curve and equation for the Downtown/Westside Sewer Study. This curve is recommended for use in this Master Plan as well. Recommended peak wet weather equation is shown below:

$$\text{Peak Wet Weather Factor} = 3.62 \times (\text{Average Dry Weather Flow Rate})^{-0.185}$$

It is recommended that the City conduct another wet weather flow monitoring study. Between late 2000 and late 2005, most rain events occurred between late November and mid-March. However, during the 2005/2006 rain season, most rain events occurred in the months of February, March, and April. Therefore, it appears that February and March provide the best opportunity for capturing a wet weather event. Peak wet and peak dry weather curves are shown in Figure 2-4.

**FIGURE 2-4
RECOMMENDED PEAKING FACTOR
CURVES**



2.4 Collection System Design Criteria

2.4.1 Lift Station Criteria

Lift Stations should be sized for peak wet weather flow with manufacturer’s recommended cycling times for pumping equipment and should be sized based upon the following criteria:

- Lift stations should be capable of meeting the criteria with the largest capacity pump serving as standby.
- Assume 60 percent pump except where other information is available.
- Assume 90 percent motor except where other information is available.
- Wetwell capacity to contain volume at peak flow for 4 hours and/or provide alternative sources of electrical power to operate lift station.

2.4.2 Forcemain Criteria

For the purposes of this study, the following design criteria are proposed for forcemains:

- Minimum forcemain size: 8-inch PVC designed for future loads, plus 25 percent
- Minimum velocity: 3 feet per second
- Maximum velocity: 5 feet per second
- Maximum allowable headloss: 10 ft per 1,000 ft of pipeline
- Maximum desirable headloss: 5 ft per 100 ft of pipeline
- Hazen-Williams C factor: 130

2.4.3 Gravity Main Criteria

For the purposes of this study, the following design criteria are proposed for gravity mains:

- Pipes 15 inches in diameter and smaller^(a): ½ full at peak flow
- Pipes greater than 15 inches in diameter^(b): ¾ full at peak flow
- Pipes constructed under freeways^(b): ½ full at peak flow
- Minimum velocity^(b): 2 feet per second
- Maximum velocity: 10 feet per second
- Manning's n for pipes: 0.013
- Dry Weather Flow peaking factor: $Q_{pk} = 1.99 * Q_{ave}^{-0.0295}$ (MGD)
- Wet Weather Flow peaking factor: $Q_{pk} = 3.62 * Q_{ave}^{-0.185}$ (MGD)
- Minimum Slope requirements: See Table 2-5

Notes:

- (a) The criteria to evaluate deficient pipes with a diameter 15 inches and smaller is different from the design criteria, as described in Section 5.
- (b) Per the *1997 Engineering Design Standards*, City of San Buenaventura.

**TABLE 2-5
MINIMUM SLOPE REQUIREMENTS**

Sewer Size (in)	Grade (%)
8	0.4 ^(a)
10	0.28
12	0.24
15	0.12
18	0.108
21	0.088
24	0.068
27	0.060
30	0.052
33	0.044
36	0.040
42	0.032

Note: (a) Per the *1997 Engineering Design Standards*, City of San Buenaventura.

These criteria were developed using the *1997 Engineering Design Standards*, City of San Buenaventura and recent project experience and will be used to evaluate collection system facilities and size proposed facilities as part of the forthcoming hydraulic modeling efforts.

Section 3: Wastewater Flow Projections

This section presents the wastewater flow projections used in evaluating the City's wastewater treatment and collection system, and in identifying facility requirements for the following development increments steps:

- Existing conditions
- Near-term conditions
- General Plan horizon

Wastewater flow projections have been developed utilizing the wastewater duty factors, peaking factors, and the existing, near-term, and ultimate land use designations described in Section 2.

3.1 Existing Wastewater Flow

Existing wastewater flows were calculated on a parcel-by-parcel basis by applying the return-to-sewer ratios to the geocoded water meter billing data. Land use flow values were checked using the results of wastewater flow monitoring efforts between 2004 and 2006 that were conducted for the purposes of this study and the Downtown/Westside Sewer System Study. Table 3-1 summarizes the calculation of the existing wastewater flows for a total flow of 9.3 MGD.

**TABLE 3-1
EXISTING WASTEWATER FLOW SUMMARY**

Land Use Category	Unit Flow (gpd)	Area Served (acres)	Wastewater Flow (gpd)
Auto	700	55	38,500
Cemetery	80	15	1,190
Churches/Organizations	700	152	107,000
Colleges/Universities	900	101	90,700
Estate	600	11	6,840
Full Care Hospital	11,100	6	61,100
High Density	5,050	232	1,170,000
Indoor Theaters	1,600	5	8,710
Industrial	1,700	202	343,000
Major Manufacturing	2,800	3	9,740
Major Office Bldg (over 10,000 sf)	1,650	191	315,000
Mid-size office Bldg (3,000 - 10,000 sf)	1,050	620	651,000
Mobile Home	1,250	208	261,000
Multi Family	2,000	112	225,000
Resource Production	20	1,363	27,300
Restaurants	2750	35	95,900
Retail	1,500	522	782,000
Schools	550	716	394,000
Single Family/Duplex	1,200	3,584	4,300,000
Sports Facilities	450	115	51,700

Land Use Category	Unit Flow (gpd)	Area Served (acres)	Wastewater Flow (gpd)
Undeveloped	0	0	0
Utilities	500	448	224,000
Warehousing	600	295	177,000
Total			9,340,000

3.2 Near-Term Wastewater Flow

Near-term wastewater flows were calculated using a combination of DU information and wastewater flow factors. Residential developments were calculated on a DU basis utilizing a factor of 194 gpd/DU. Industrial, commercial and institutional developments were calculated by applying the wastewater flow factor to the development area. Table 3-2 summarizes the calculation of the wastewater flows from near-term developments. When combined with the existing wastewater flow presented Table 3-1, total near-term wastewater flow is 11.1 MGD.

**TABLE 3-2
NEAR TERM WASTEWATER FLOW SUMMARY**

Land Use Category	Unit Flow (gpd/acre) (unless noted)	Area Served (acres) (unless noted)	Wastewater Flow (gpd)
Auto	700	13	8,855
Cemetery	80	0	0
Churches/Organizations	700	20	14,000
Colleges/Universities	900	1	900
Estate	600	0	0
Full Care Hospital	11,100	0	0
High Density	194 ^(a)	1,984 ^(b)	384,896
Indoor Theaters	1,600	5	8,711
Industrial	1,700	53	90,100
Major Manufacturing	2,800	3	9,742
Major Office Bldg (over 10,000 sf)	1,650	2	3,300
Mid-size office Bldg (3,000 - 10,000 sf)	1,050	753	790,650
Mobile Home	1,250	24	30,000
Multi Family	194 ^(a)	22 ^(b)	4,268
Resource Production	20	1,009	20,180
Restaurants	2,750	1	2,750
Retail	1,500	58	87,000
Schools	550	118	64,900
Single Family/Duplex	194 ^(a)	889 ^(b)	172,466
Sports Facilities	450	0	0
Undeveloped	0	0	0
Utilities	500	118	59,000
Warehousing	600	26	15,600
<i>Total Flow from Near-Term Developments</i>			<i>1,770,000</i>
<i>Total Existing Flow</i>			<i>9,340,000</i>
Total Flow			11,100,000

Notes:

- (a) Unit flows for residential properties are per dwelling unit and not per acre.
- (b) For residential properties the area served is the number of dwelling units.

3.3 General Plan Horizon Wastewater Flow

General Plan flows were calculated using the wastewater flow factors and land use database developed for this study. Both infill and densification were factors in development of General Plan flows. Wastewater duty factors were applied to parcels with no current water usage. A comparison was conducted between parcels with current water usage and their ultimate calculated water usage based on Master Plan category was made. Parcels currently using less than their calculated ultimate usage were assumed to have a 10 percent densification rate. Parcels using more than their calculated ultimate usage were assumed to continue existing usage. The combination of infill and densification produced an average dry weather flow increase of approximately 26 percent between existing and General Plan flow. Table 3-3 summarizes the calculation of the General Plan Horizon wastewater flows. As shown in Table 3-3, the total estimated wastewater flow for ultimate development conditions is 12.6 MGD.

**TABLE 3-3
GENERAL PLAN HORIZON WASTEWATER FLOW SUMMARY**

Land Use Category	Unit Flow (gpd)	Area Served (acres)	Wastewater Flow (gpd)
Auto	700	75	52,700
Cemetary	80	31	2,490
Churches/Organizations	700	172	120,000
Colleges/Universities	900	101	90,700
Estate	600	11	6,890
Full Care Hospital	11,100	6	61,100
High Density	5,050	412	2,470,000 ^(a)
Indoor Theaters	1,600	6	9,370
Industrial	1,700	367	623,000
Major Manufacturing	2,800	5	12,800
Major Office Bldg (over 10,000 sf)	1,650	215	354,000
Mid-size office Bldg (3,000 - 10,000 sf)	1,050	1,124	1,180,000
Mobile Home	1,250	237	296,000
Multi Family	2,000	149	301,000 ^(a)
Resource Production	20	1,799	36,000
Restaurants	2,750	40	109,000
Retail	1,500	669	1,000,000
Schools	550	757	416,000
Single Family/Duplex	1,200	3,861	4,810,000 ^(a)
Sports Facilities	450	179	80,400
Undeveloped	0	0	0
Utilities	500	649	325,000
Warehousing	600	325	195,000
Total			12,600,000

Note:

(a) Flows for residential properties include the additional flows from residential properties in the near-term development that were not based on land area.

3.4 Wastewater Flow Summary

Table 3-4 summarizes the projected average dry weather flows for the study area for existing, near-term, and general plan horizon time steps. In addition to the flows within the study area, there are four outside sources that are currently contributing flows, or may in the future. These other tributary areas are shown in Table 3-4 and are summarized further in Table 3-5. These four (4) sources are: the (1) McGrath State Beach Park, (2) the North Coast Communities (Ventura County Service Area No. 29), (3) the Montalvo Municipal Improvement District (MMID), and (4) the Saticoy Sanitary District (SSD).

**TABLE 3-4
SUMMARY OF PROJECTED AVERAGE DRY WEATHER FLOW**

Development Condition	Study Area Flow (MGD)	Other Tributary Areas (MGD)
Existing	9.3	0.1
Near Term	11.1	0.3
General Plan	12.6	0.4

**TABLE 3-5
SUMMARY OF OUTSIDE SOURCE WASTEWATER FLOWS**

Tributary Area	Existing (gpd)	Near-Term (gpd)	Ultimate (gpd)
McGrath	5,000 ^(a)	21,000 ^(b)	21,000 ^(b)
North Coast	56,760 ^(c)	56,760 ^(c)	73,330 ^(d)
Montalvo	0	250,000 ^(e)	250,000 ^(e)
Saticoy	0	0	50,000 ^(e)
Total	61,760	327,760	394,330

Notes:

- (a) City's estimate of existing flows.
- (b) From Sewerage Agreement.
- (c) Average daily flow from monthly totals provided by the City from January 2002 to August 2007.
- (d) From Sewerage Agreement (2.2 MG/month).
- (e) Per 2 January 2007 letter from City.

Table 3-6 summarizes the total projected flows for the study area for existing, near-term, and general plan horizon time steps as calculated from the peaking factor curves presented in Section 2.3. These flows incorporate the outside source tributary areas as presented in Tables 3-4 and 3-5.

**TABLE 3-6
TOTAL PROJECTED FLOWS**

Development Condition	Average Dry Weather Flow (MGD)	Peak Dry Weather Flow (MGD)	Peak Wet Weather Flow (MGD)
Existing	9.4	17.5	22.5
Near-Term	11.4	21.1	26.3
General Plan	13.0	24.0	29.3

Section 4: Wastewater Treatment Facility Process Evaluation and Improvement Plan

4.1 Introduction

The City is completing a Wastewater Master Plan that includes the collection system and treatment plant. Part of the planning element is an evaluation of the existing Ventura Water Reclamation Facility (VWRF). This section provides information on the VWRF assessment and performance evaluation. Specifically, this section includes the following items:

- Consideration of the previous and anticipated National Pollutant Discharge Elimination System (NPDES) permit requirements.
- Projections of the future influent waste loads based on previously projected flows and measured historical data.
- Evaluations of the capacities of the various unit processes.
- Identification of the process bottlenecks that may develop as flow and load increase.
- Discussions of the alternatives for improvements to address these bottlenecks.
- Recommendations for an improvement plan to increase VWRF capacity to the permit rated capacity of 14 MGD annual average flow (AAF).

Although the projections from Section 3 indicate that the ultimate AAF may not reach the permit rated capacity of 14 MGD, this capacity was selected as a defensible basis for evaluation to provide a reasonable level of conservatism in the improvement plan.

During the preparation of this Master Plan, the City's updated NPDES permit was in draft form (R4-2007-XXXX, Appendix C). Therefore discharge requirements were uncertain and the following two discharge alternatives were considered: (1) continued discharge to the Estuary and (2) ocean outfall discharge. This section discusses in detail the implications of these two discharge alternatives on the wastewater treatment facilities.

As the Master Plan was approaching completion, on March 6, 2008 the California Regional Water Quality Control Board (CRWQCB) adopted NPDES Permit No. CA0053651 (Appendix D). This new permit requires a third discharge alternative not addressed in detail in this Master Plan. This third alternative limits the effluent discharge to the Estuary to 9.0 MGD. This permit also changes the point of compliance to the Effluent Transfer Station and requires further studies to determine the impact of the VWRF effluent discharge on the Estuary. In addition, these studies are to explore alternative effluent disposal options including the construction of treatment wetlands and recycled water use. Upon completion of these studies, the new Permit will be reopened for potential revision.

4.1.1 NPDES Discharge Requirements

NPDES Permit No. CA0053651, Order No. 00-143, was issued by the CRWQCB on December 10, 2000, and defined the previous requirements for discharge from the VWRF to the Santa Clara River and Estuary (Estuary). This permit was replaced by NPDES Permit No. CA00535, Order No. R4-2008-0011 adopted March 6, 2008.

In accordance with these permits, the rated capacity of the VWRF is 14 MGD AAF. At the time this report was prepared, the City of Ventura (City) was negotiating with the State Water Resources Control Board (SWRCB) regarding proposed effluent criteria, including criteria for some constituents that cannot be met with the existing secondary or tertiary treatment processes and the discharge volume to the Estuary. The City is interested in continuing to upgrade and improve the VWRF to promote NPDES compliance at the permitted capacity under a variety of circumstances anticipated by the draft NPDES permit (R4-2007-XXXX).

Previous effluent permit limits are summarized in Table 4-1a. The entire previous NPDES permit is included in Appendix B, which also contains many other permit limits for non-conventional pollutants.

**TABLE 4-1A
PREVIOUS NPDES PERMIT CA0053651 EFFLUENT REQUIREMENTS
(10 DECEMBER 2000)**

Requirements	Units	Average Monthly ^(a)	Average Weekly ^(a)	Maximum Daily ^(a)
<i>Effluent Requirements</i>				
BOD ^(b)	mg/l ^(c)	20	30	45
Total Suspended Solids	mg/l	15	40	45
Oil and Grease	mg/l	10	-	15
Settleable Solids	ml/l	0.1	-	0.3
Residual Chlorine	mg/l	-	-	0.1
<i>Receiving Water Requirements</i>				
pH	-	6.5 to 8.5, no change by more than 0.2 units		
Dissolved Oxygen	mg/l	7, no determination less than 5		
Total Coliform Organisms	MPN ^(d) /100 ml ^(e)	200		

Notes:

- (a) To be ascertained by a 24-hour composite.
- (b) 5-day, 20 degrees Celsius (°C) biochemical oxygen demand (BOD).
- (c) mg/l = milligrams per liter.
- (d) MPN = most probable member.
- (e) ml = milliliter.

The assessment of performance for the VWRf is based on the previous NPDES permit limits for BOD and total suspended solids (TSS). These effluent requirements remained unchanged in the Draft Permit Order No. R4-2007-XXXX and the newly adopted Permit Order No. R4-2008-0011. Effluent requirements from NPDES Permit No. CA0053651, Order No. R4-2007-XXXX, which was issued by the California Regional Water Quality Control Board (CRWQCB) on July 12, 2007 were considered in anticipation of future permit revisions. The adopted NPDES Permit No. CA0053561, Order No. R4-2008-0011 was consistent with the anticipated effluent quality requirements. In accordance with the revised permit, additional effluent quality limitations are summarized in Table 4-1b. The proposed and adopted NPDES permits are included in Appendices C and D, respectively.

From review of the draft effluent requirements that were available at the time of this evaluation, it seemed reasonably conservative to consider a design average effluent total ammonia limit of 1 mg/l and a design average effluent total inorganic nitrogen limit of 10 mg/l, in addition to the stipulations of the previous permit requirements (December 10, 2000).

Furthermore, the proposed revisions to the VWRf NPDES permit included a stepped reduction in discharge to the Santa Clara Estuary (Estuary), at a rate of 1 MGD per year beginning in 2008, such that discharge to the Estuary will be completely eliminated by 2018. However, consideration for this option was not given in this report. An alternative long-range plan is discussed in more detail in Sections 4.4 and 4.5 to address how the near-term recommended improvements for NPDES permit compliance may be impacted by a complete withdrawal of discharge to the Estuary and an alternative discharge point.

**TABLE 4-1B
NEW NPDES PERMIT CA0053651 EFFLUENT REQUIREMENTS
(6 MARCH 2008)**

Requirements	Units	Average Monthly ^(a)	Average Weekly ^(a)	Maximum Daily ^(a)
<i>Proposed Effluent Requirements</i>				
Summer Ammonia-N ^(b) (May to October)	mg/l	0.045	-	0.30
Summer Total Ammonia-N ^(c) (May to October)	mg/l	2.6	-	1.5
Winter Ammonia-N ^(b) (November to April)	mg/l	0.079	-	0.53
Winter Total Ammonia-N ^(d) (November to April)	mg/l	6.3	-	3.5
Nitrate + Nitrite as Nitrogen	mg/l	10	-	-
Nitrite as Nitrogen	mg/l	1	-	-

Notes:

- (a) To be ascertained by a 24-hour composite.
- (b) Interpreted from the revised permit to mean free, unionized ammonia.
- (c) Conversion from free, unionized ammonia to total ammonia assuming 25°C, 7.5 pH, and no salinity for Average Monthly conversion and 30°C, 8.5 pH, and no salinity for Maximum Daily conversion.
- (d) Conversion from free, unionized ammonia to total ammonia assuming 20°C, 7.5 pH, and no salinity for Average Monthly conversion and 25°C, 8.5 pH, and no salinity for Maximum Daily conversion.

In addition to discharging to the Estuary, the VWRP is permitted to produce recycled water for turf and landscape irrigation. The recycled water Permit Order No. 87-45, issued by the CRWQCB on March 23, 1987, defines reliability and effluent quality requirements for the production of recycled water at the VWRP. In accordance with this permit, the recycled water must meet more stringent requirements with regard to disinfection, effluent turbidity, and other non-conventional pollutants. The City is interested in improving the VWRP to promote recycled water compliance up to the capacity allowed under the NPDES permit for a variety of circumstances.

4.1.2 Existing and Projected Flows and Loadings

Historical data were analyzed and used to project future loadings for use in this evaluation. Data sets from January 2002 through December 2005 were specifically excluded from analysis, since this data was not considered representative of actual loadings. During this period, influent sampling may have included recycle streams for solids handling processes. A headworks improvement project and temporary relocation of the influent sampler would have exaggerated influent measurements.

Based on a history of relatively consistent influent loading prior to the temporary relocation of the influent sampler, data sets from January 1997 through December 2001 were used to estimate the current waste loads and loading projections. Current flow, peaking factors, and flow projections were estimated using data from January 1997 through December 2005, since

the flow measurements were not affected by relocation of the influent sampler. A summary of the existing and projected flows and loadings are provided in Table 4-2.

**TABLE 4-2
DESIGN FLOWS AND LOADS**

Criteria	Units	Current (1997-2001 Loads, 1997-2005 Flows)	General Plan (Ultimate)
Annual Average Flow (AAF)	MGD	9.5	14.0
Average Dry Weather Flow (ADWF)	MGD	9.3	13.0
Maximum Month Flow (MMF)	MGD	11.9	17.5
Maximum Day Flow (MDF)	MGD	16.2	23.8
Maximum Day Flow, Summer (MDFS)	MGD	12.8	18.9
Maximum Hour Flow (MHF)	MGD	25.7	37.8
Annual Average TSS	lbs/d ^(a)	18,700	26,750
Maximum Month TSS	lbs/d	24,040	34,300
Annual Average BOD	lbs/d	21,580	30,800
Maximum Month BOD	lbs/d	24,780	35,360
Annual Average COD ^(b)	lbs/d	43,100	61,520
Maximum Month COD	lbs/d	50,380	71,900
Annual Average Ammonia	lbs/d	2,010	2,870
Maximum Month Ammonia	lbs/d	2,330	3,320
Annual Average TKN ^(c)	lbs/d	3,330	4,750
Maximum Month TKN	lbs/d	3,850	5,490
Assumed Alkalinity, as CaCO ₃ ^(d)	mg/l	350	350
Assumed pH	-	7.2	7.2
Winter Wastewater Temperature	°C	16.6	16.6
Summer Wastewater Temperature	°C	23.0	23.0

Notes:

- (a) lbs/d = pounds per day.
- (b) COD = chemical oxygen demand.
- (c) TKN = total kjeldahl nitrogen.
- (d) CaCO₃ = calcium carbonate.

It should be noted that since completion of the headworks improvement project, influent sampling has returned to its permanent location and should not include any recycle streams. Influent sampling should be monitored carefully to validate the accuracy of these loading assumptions.

4.2 VWRF Assessment and Performance Evaluation for Continued Discharge to the Estuary and Production of Recycled Water

This evaluation assesses limitations of the existing VWRF to treat projected flows and loads in compliance with anticipated NPDES effluent permit limits for continued discharge to the Estuary and production of recycled water.

The following sections address each unit process within the liquid and the solids treatment streams. A long-range plan for an alternative discharge location, after permit regulated withdrawal from the Estuary, is discussed in more detail in Sections 4.4 and 4.5 of this chapter. Four methods were used to evaluate these unit processes: (1) mathematical determinations based on known engineering principles and common practice, (2) stress testing, (3) information provided by the VWRF Staff, and (4) computer simulations.

Each section includes the following:

- Technical data for each unit process.
- Predicted operational parameters at projected flows and loads.
- Current operational constraints and redundancy considerations.
- Identified needs for improvements.

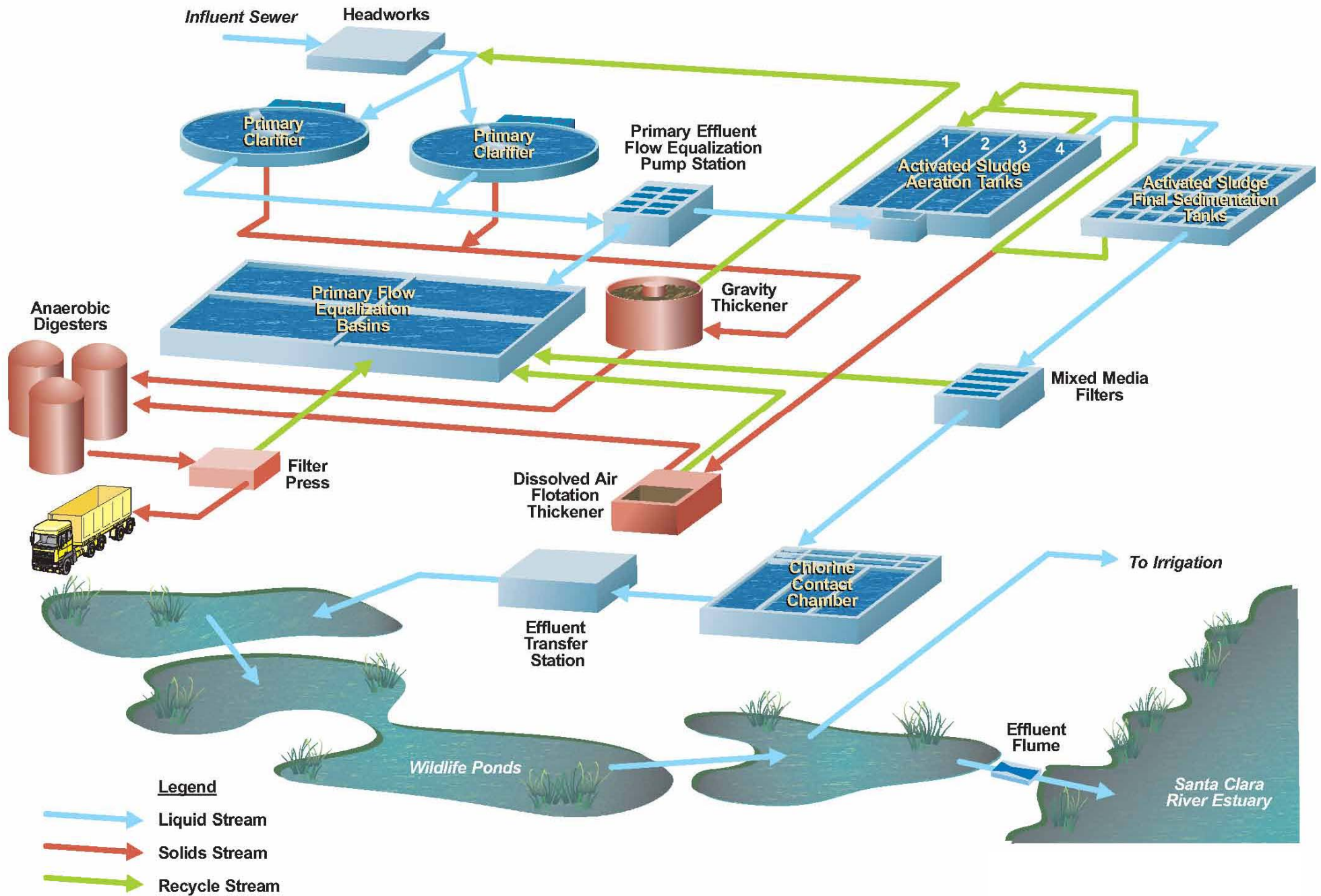
4.2.1 Existing Treatment Facilities

The VWRF is a tertiary treatment facility with primary clarification, equalization basins, an activated sludge process designed for biological nutrient removal, secondary clarification, tertiary filtration, and chlorination. The VWRF is currently required to discharge a minimum of 5.6 MGD to the Estuary, but it also produces recycled water for turf and landscape irrigation. The VWRF treats domestic, commercial, and industrial wastewater flows from the City.

More information on service population and industry is provided in Sections 2 and 3. A process schematic of the VWRF is attached as Figure 4-1. The assessment and performance evaluation addresses the following unit processes:

Liquid Treatment Processes

- Headworks (screening, influent pumping, grit removal, and influent flow measurement)
- Primary Clarifiers
- Aeration Tanks
- Secondary Clarifiers
- Mixed Media Filters
- Disinfection
- Effluent Pumping



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

Plant Schematic
 K/J 1089015*00
 August 2010

Figure 4-1

Solids Handling Processes

- Gravity Thickener
- Dissolved Air Flotation
- Anaerobic Digestion
- Filter Presses

It should be noted that information for some components of the VWRF was unavailable or possibly out of date. This evaluation used the best information available from VWRF Staff. Further consideration should be given to performing a plant assessment to compile comprehensive, accurate, and up-to-date information on the facility.

It is critical to note that not all components of the VWRF were included in this evaluation. Components not considered in this evaluation included liquid and sludge process piping, chemical storage and metering equipment, equalization basins, process mixing requirements, and electrical equipment.

Based on previous hydraulic analyses of the equalization system, it is understood that the City is planning an improvement project to replace the forcemain between the primary effluent pump station and the aeration basins. The City is confident that this improvement will be sufficient to ensure adequate equalization capacity for 14 MGD AAF. However, if for some reason this improvement does not yield sufficient capacity, it is recommended that the City compile flow data at 15-minute intervals to allow for analysis of diurnal flow patterns in evaluating capacity at the equalization basins. For the purpose of this assessment, it is assumed the equalization basins have sufficient capacity to equalize the projected maximum day flow.

4.2.2 Process Capacity and Redundancy Requirements

Process capacity has been defined in different terms within this evaluation.

- Total Capacity: Defined as the capacity of a unit process with all tanks or units in operation.
- Firm Capacity: Defined as the capacity of a unit process when the largest single tank or a unit is taken out of service.

Because the VWRF produces recycled water, it is subject to both the water quality criteria and reliability requirements of Title 22 of the California Code of Regulations (CCR) as well as NPDES water quality criteria and reliability requirements. A stipulation of the CCR is that primary treatment, biological treatment, secondary clarification, coagulation, filtration, and disinfection have installed redundancy, replacement equipment available onsite with provisions for short-term storage, or provisions for long-term storage.

For the purposes of this assessment, all liquid treatment processes and associated equipment will be evaluated on the basis of firm capacity (i.e., maintaining NPDES and recycled water quality requirements with the largest single tank or unit out of service).

The solids handling facilities are not subject to the same redundancy requirements, but the VWRP does have an agreement with the San Joaquin Composting Facility (SJCF) that sludge being shipped to the SJCF will meet the USEPA 40 CFR Part 503 definition of Class B biosolids.

High dewatered solids concentration is preferred to facilitate hauling and disposal, but not required by the SJCF. The SJCF also has provisions to accept sludge that does not meet Class B standards. Therefore, the digesters and dewatering equipment will be evaluated on the basis of total capacity because the VWRP has alternative options for disposal. Other components of the solids handling facilities, including thickeners and ancillary pumping equipment, will be evaluated on the basis of firm capacity because the efficiency of these units can affect the performance of the liquid treatment processes.

4.2.3 Liquid Treatment Processes

4.2.3.1 Headworks and Influent Pumping

4.2.3.1.1 Technical Data

The headworks and influent pumping station, which includes influent pumping, screening, grit removal, and flow measurement, was recently upgraded and put into service in January 2005. Primary components and capacities of these facilities are summarized in Table 4-3.

**TABLE 4-3
HEADWORKS AND INFLUENT PUMPING STATION TECHNICAL DATA**

Technical Data	Number of Units	Type	Total Capacity MGD	Firm Capacity MGD
Influent Pumps	2 duty, 1 standby	Centrifugal	54.0	36.0
Influent Screens	1 duty, 1 standby	3/8-inch Cog Screen	90.0	45.0
Grit Removal	1	Aerated Grit Chamber	54.0 ^(a)	0.0
Flow Measurement	2	18-inch Parshall Flume	31.8	15.9

Note:

(a) The rated capacity is assumed to be the total capacity of the influent pumps. The rated capacity could not be determined with the available information, but typically aerated grit chambers are sized to provide a 2 to 5 minute detention time at the design flow (M&E, 4th Edition).

4.2.3.1.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Referring to the flow projections in Table 4-2, the headworks and influent pumping station must accommodate the projected maximum hourly flow of 37.8 MGD, because flow equalization does not occur until after the primary clarifiers. Additional observations include the following:

- **Influent Pumping:** Influent pumping consists of three (3) mixed-flow centrifugal pumps. The pumps were installed as a part of the headworks improvement project completed in 2005. The primary design capacity of each pump is 18 MGD; however, the pumps may have a higher actual capacity. Although influent pumping is a potential bottleneck, the

difference between the projected flows (37.8 MGD) and firm capacity (approximately 36 MGD) is small. This potential bottleneck may not exist if the actual capacity of the pumps is marginally higher than the design value.

Taking this into consideration, along with the fact that the pumps are newly installed, no improvements are recommended at this time.

- **Influent Screening:** Influent screen capacity is limited primarily by approach velocity [typically 3 feet per second (fps)] to prevent pushing the screenings through the bars. Approach velocity could be reduced, and firm capacity increased, by increasing the operating water surface level in the channel. However, the motor drives for the screens are not currently enclosed. Motor drives would need to be adequately protected from the wastewater to function at a higher operating level.

Since the capacity of the screen is greater than that of the projected maximum hourly flow, no improvements are recommended for influent screening at this time.

- **Grit Removal:** Grit removal is not limited in total capacity. However, the VWRP does not have a redundant unit for use when the existing grit chamber is out of service. In such an event, an existing bypass could be used to direct flow around the grit chamber while servicing the unit. Because the aerated grit system is relatively new, the unit has not been offline for maintenance. The recent headworks improvement design includes a gate to direct flow to a redundant grit chamber, but did not include installation of a redundant unit.

Improvement of grit removal is recommended to allow for maintenance without disruption to normal operations. Alternatives to address identified improvement needs are discussed in Section 4.3.

- **Flow Measurement:** Influent flow is recorded by two (2) 18-inch Parshall flumes after screening and grit removal. Flow is split prior to influent measurement, and is not combined again until after the primary clarifiers.

Based on the capacity determinations using the throat size of the flumes, replacement will be required for accurate monitoring at future flows. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.3.2 Primary Clarifiers

4.2.3.2.1 Technical Data

The VWRP normally operates with two circular primary clarifiers in service and uses ferric chloride for hydrogen sulfide control. Screened and dewatered influent is split prior to influent flow measurement, passes through the clarifiers, and is recombined again before flowing into the flow equalization/primary effluent pump station (FE/PE).

Depending on the equalization flow control settings in the FE/PE, wastewater is either pumped up to the aeration tank inlet or pumped to the equalization basins for temporary storage. Two (2) centrifugal solids handling pumps draw settled solids from the clarifiers into a gravity thickener prior to anaerobic digestion. The pumps are valved such that either pump can draw from either clarifier utilizing a timed wasting mode. VWRP Staff has indicated that the system is

difficult to balance when one pump draw sludge from both clarifiers at the same time. Primary clarifier components are summarized in Table 4-4.

Sludge pumping normally occurs 24 hours a day. Flow monitoring indicates that the pump actually operates close to



The Ventura WRF has two circular primary clarifiers, each with a diameter of 115 feet.

500 gpm, which appears to be in excess of the rated capacity. Recently, VWRF Staff installed 1½-inch reducing fittings on the primary sludge piping to increase pumping head and reduce pump output. For capacity determinations, the rated pumping capabilities are assumed to be as listed in Table 4-4.

**TABLE 4-4
PRIMARY CLARIFIER TECHNICAL DATA**

Technical Data	Units	
Number of Tanks	-	2
Shape	-	Circular
Tank Diameter	ft	115
Area - Each	square feet (sf)	10,380
Volume - Each	gallons	698,900
Total Area	sf	20,760
Total Volume	gallons	1,397,800
Number of Sludge Pumps	-	1 duty, 1 standby
Sludge Pump Capacity ^(a) , Total	MGD	0.58
Sludge Pump Capacity ^(a) , Firm	MGD	0.29
Number of Primary Effluent Pumps	-	2 duty, 1 standby
Primary Effluent Pump Capacity, Total	MGD	17.3
Primary Effluent Pump Capacity, Firm	MGD	11.5

Note:

(a) Rated capacity from review of VWRF design documents does not reflect measured pump output, which is considerably higher.

4.2.3.2.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Due to the issues with influent sampling from 2002 to 2005, insufficient operating data is available to characterize recent primary clarifier performance or project performance at increased flows and loadings. Therefore, conservative typical removal rates will be used. Projected operation is summarized in Table 4-5 and compared against typical design values.

**TABLE 4-5
PRIMARY CLARIFIER OPERATIONAL PARAMETERS**

Operations Parameters	Units	Projected Operation	Typical Range	Typical Design
Number of Operating Tanks	-	2	2 Minimum ^(a)	
Side Water Depth	ft	9	10-16	14
Maximum Day Flow, Summer	MGD	18.9		
Maximum Hour Flow	MGD	37.8		
Overflow Rate at Maximum Day Flow, Summer	gpd ^(b) /sf	910	800-1,200 ^(a)	1,000 ^(a)
Overflow Rate at Maximum Day Flow, Summer, with One Clarifier in Service	gpd/sf	1,820	800-1,200 ^(a)	1,000 ^(a)
Overflow Rate at Peak Hour Flow	gpd/sf	1,820	2,000-3,000 ^(a)	2,500 ^(a)
Overflow Rate at Peak Hour Flow, with One Clarifier in Service	gpd/sf	3,640	2,000-3,000 ^(a)	2,500 ^(a)
Detention Time at Maximum Day Flow, Summer	hours	2.6	1.5-2.5 ^(a)	2 ^(a)
Detention Time at Maximum Day Flow, Summer, with One Clarifier in Service	hours	1.3	1.5-2.5 ^(a)	2 ^(a)
BOD Removal Efficiency	%	20 ^(c)	20-40%	
TSS Removal Efficiency	%	65 ^(c)	45-65%	
Projected Maximum Month TSS	lb/d	34,300		
Estimated Maximum Primary TSS Removal	%	65		
Estimated Maximum Primary TSS Removal	lb/d	22,295		
Estimated Primary Solids Concentration	%	2	4-12	
Estimated Maximum Primary Sludge Flow at 2% Solids	MGD	0.13		

Notes:

(a) Metcalf and Eddy guidelines, 2003.

(b) gpd = gallons per day.

(c) Unable to estimate due to issues with influent sampling location. Conservative values applied based on pilot testing data.

Based on a review of typical engineering design criteria, the primary clarifiers appear to be large enough to meet future operating conditions, provided that both tanks are in operation. A redundant unit would provide more flexibility for maintenance without jeopardizing performance. Because the existing tanks are relatively shallow compared to typical design standards, the Staff has established a goal of removing the blanket as fast as it accumulates.

For the purposes of estimating primary sludge percent solids at the projected condition, it was conservatively assumed that 2 percent solids can be achieved. Settled solids in conventional primary clarifiers typically range from 5 to 12 percent solids. Although each clarifier ideally would have a dedicated duty and redundant sludge pump, the present pumping operation appears to be sufficient for future flows and loads, because the pump should not run for much more than half a day at 2 percent solids. Improvements to the existing pump configuration and controls may be warranted to allow for better control of the sludge blanket and solids concentration.

Based upon an equalized maximum day flow of 23.8 MGD, primary effluent pumping appears to be a bottleneck. Although the primary effluent/equalization pump station was designed to allow for the addition of a fourth pump, it is unlikely that this improvement alone would provide enough firm capacity for the maximum day scenario. At most, installation of a fourth pump alone would allow for operation up to a firm capacity of 17.3 MGD.

The deficiency in primary effluent pumping capacity was addressed in Brown and Caldwell's Secondary Treatment Technical Memorandum No. 1 (B&C's TM No. 1; see Appendix E). This memorandum suggests that a portion of the flow be directed around the primary clarifiers to a new mixed liquor pumping system that would pump the influent, along with mixed liquor, back into the aeration tanks. Although the proposed split-stream treatment mode would be able to convey the maximum day flow, extended operation in this manner is not recommended. At a minimum, the primary effluent pump capacity should allow for conveyance of the projected maximum month flow to minimize loading on the secondary treatment processes.

Additional consideration should be given to further improvements such that split-stream treatment does not become a routine function during the maximum month period. Alternatives to address identified improvements are discussed in Section 4.3.

4.2.3.3 Aeration Basins

4.2.3.3.1 Technical Data

The aeration system consists of four tanks with fine-bubble diffusers operated in series. The process is operated in a modified Ludzack-Ettinger (mLE) configuration, with Tank 1 being operated in an anoxic mode and Tanks 2, 3, and 4 being aerated (see Figure 4-1). Equalized primary effluent, return activated sludge (RAS), and recycled mixed liquor flow into Tank 1 and proceeds sequentially through Tanks 2, 3, and 4 in series. Technical data for the aeration basins are summarized in Table 4-6.

**TABLE 4-6
AERATION BASINS TECHNICAL DATA**

Technical Data	Units	
Number of Tanks	-	4
Shape	-	Rectangular
Total Volume	gallons	2,860,000
Number of Blowers	-	2 duty, 1 standby
Process Air Capacity, Total	scfm ^(a)	31,500
Process Air Capacity, Firm	scfm	21,000
Diffuser Type	-	fine bubble
Oxygen Available ^(b)	lbs O ₂ /day	49,250
Number Biological Nutrient Removal (BNR) Pumps	-	1
BNR Pump Capacity ^(c) , Total	MGD	7.5
BNR Pump Capacity ^(c) , Firm	MGD	-

Notes:

- (a) scfm = standard cubic ft per minutes.
- (b) Based on assumed site-specific factors and operating efficiencies.
- (c) Based on estimate from VWRf Staff. No pump data available.

4.2.3.3.2 Capacity Assessment, Operational Limitations, Redundancy Considerations and Identified Improvement Needs

After a review of historical operating data, it was apparent that the VWRP does not completely nitrify during cold weather. Nitrifier growth, sensitive to both temperature and solids retention time (SRT), will likely be a limiting factor in meeting permitted effluent quality requirements in the future. Operation at projected flows and loads is summarized in Table 4-7 and compared against typical design values.

**TABLE 4-7
AERATION BASINS OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected	Typical Range ^(a)	Typical Design ^(a)
Number of Operating Tanks	-	4		
BNR recycle at Maximum Month Flow	%	43	100-200	150
BNR recycle at Peak Day Flow	%	32		
Average MLSS ^(b)	mg/l	1,400	3,000-4,000	3,500
Average MLVSS	mg/l	1,200		
Maximum Month BOD Load	lb/day	26,520 ^(c)		
Maximum Month Ammonia Load	lb/day	3,320		
Maximum Month Organic Loading Rate	lb BOD ₅ /1,000 cf day ^(d)	71.2	20-40	
Maximum Month Organic Loading Rate, One Basin Out of Service	lb BOD ₅ /1,000 cf day	94.9	20-40	30
Anoxic Detention at Maximum Month Flow	hours	1.0	1-3	2
Anoxic Detention at Maximum Month Flow, One Basin Out of Service ^(g)	hours	1.0	1-3	2
Aerobic Detention at Maximum Month Flow	hours	3.0	4-12	8
Aerobic Detention at Maximum Month Flow, One Basin Out of Service ^(g)	hours	2.0	4-12	8
Estimated COD Removal in Primary Clarifiers	%	30		
Maximum Month COD Load	lb/d	50,330 ^(c)		
Estimated Observed Yield ^(j)	lb VSS/lb COD	0.45		
Projected WAS VSS/TSS Ratio ^(j)	%	85		
Projected Maximum Month WAS	lb/d	26,645		
Maximum Month SRT ⁽ⁱ⁾		1.25	5-15	10
Maximum Month SRT, One Basin Out of Service ⁽ⁱ⁾	d	0.94	5-15	10
Maximum Month F/M ^{(e)(i)}	lb BOD ₅ /lb MLVSS	0.79	0.2-0.4	
Maximum Month F/M, One Basin Out of Service ⁽ⁱ⁾	lb BOD ₅ /lb MLVSS	1.06	0.2-0.4	
Maximum Month Oxygen Requirements	lb O ₂ ^(f)	56,478 ^(h)		

Notes:

(a) Metcalf and Eddy (2003).

(b) MLSS = mixed liquor suspended solids.

(c) Estimated based on 30 percent COD and 25 percent BOD removal in the primary clarifiers.

(d) cf = cubic ft.

- (e) F/M = food to microorganism ratio.
- (f) O₂ = oxygen.
- (g) Assumed one aerobic basin out of service. If Tank 1 is out of service, then Tank 2 will be made anoxic.
- (h) No denitrification credit was allocated in the determination of the oxygen requirement because the VWRF currently does not consistently denitrify.
- (i) Assumes 1,400 mg/l MLSS.
- (j) Conservative estimate based on historical operating data.

BOD₅ = 5 day biochemical oxygen demand.
 WAS = waste activated sludge.
 VSS = volatile suspended solids.
 MLVSS = mixed liquor volatile suspended solids.



The Ventura WRF has four aeration basins operated in series.

The projected BNR recycle rate, organic loadings, detention times, SRT, F/M, and oxygen requirements were outside typical design values for one tank out of service, and also when all tanks were in service. Under this scenario, it is unlikely that the aeration system achieves sufficient nitrification, denitrification, or BOD removal for compliance with the anticipated NPDES effluent limits.

Based on review of recommended design criteria, improvements to the secondary treatment system will be critical for future compliance. These improvements were addressed in B&C's TM No. 1 including the following: addition of a bioaugmentation reaeration (BAR) basin, the addition of approximately 1.46 million gallon (MG) of aeration tank volume, replacement of the BNR pumping, RAS pumping, and aerator blowers, and a new mixed liquor waste (MLW) pumping system. Additionally, it is proposed that the existing four aeration basins be operated in parallel to relieve some of the hydraulic bottlenecks presently experienced at the plant.

The adequacy of these recommended improvements was not reviewed. However, the BAR process is a new technology with limited application at operating treatment facilities. Therefore, modeling and/or pilot testing of the proposed system is recommended before full-scale implementation.

If VWRF Staff desires to continue to operate the system at a low mixed liquor concentration, it is recommended that the City verify that the proposed system includes the operational flexibility to do so. In particular, MLW pump capacity and SRT should be verified at the preferred operational MLSS concentration. Also, process redundancy requirements should be confirmed under a maximum month loading scenario to ensure that the system will be robust enough to meet the more stringent effluent total ammonia requirements under a range of operational conditions.

No additional improvement needs beyond those addressed by Brown and Caldwell (B&C's TM No. 1).

4.2.3.4 Secondary Clarifiers

4.2.3.4.1 Technical Data

The VWRF has six rectangular secondary clarifiers. Operationally, VWRF Staff has experienced problems with sludge settleability while operating at mixed liquor concentrations

above 1,500 mg/l. Dissolved oxygen in the effluent mixed liquor has been maintained near saturation in an attempt to mitigate denitrification and floating sludge in the clarifiers. Technical data for the clarifiers are summarized in Table 4-8.

**TABLE 4-8
SECONDARY CLARIFIERS TECHNICAL DATA**

Technical Data	Units	
Number of Clarifiers	-	6
Shape	-	Rectangular
Length, each	ft	150
Width, each	ft	20
Surface Area, Total	sf	18,000
Weir Length, Total	lf ^(a)	2,952
Number of WAS Pumps	-	1 duty, 1 standby
WAS Pump Capacity, Total	MGD	0.72
WAS Pump Capacity, Firm	MGD	0.36
Number of RAS Pumps	-	2 duty, 1 standby
RAS Pump Capacity, Total	MGD	12.9
RAS Pump Capacity, Firm	MGD	8.6

Note:

(a) lf = lineal ft.

4.2.3.4.2 Capacity Assessment, Operational Limitations, Redundancy Considerations and Identified Improvement Needs

Data collected during stress testing and a state-point analysis (see Appendix F) indicated that the VVRF secondary clarifiers had sufficient size and capacity to adequately treat at least 16 MGD with only five clarifiers in service. Long term RAS and WAS pumping capabilities were not assessed during stress testing and required more evaluation. Due to operational constraints, the secondary clarifiers were unable to be loaded beyond the equivalent of 16 MGD to five clarifiers for a sustained period. Operation of the secondary clarifiers at projected flows and loads is summarized in Table 4-9, and compared with typical design values.

**TABLE 4-9
SECONDARY CLARIFIERS OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Range ^(a)	Typical Design ^(a)
Number of Operating Tanks	-	6	2 Minimum	
Side Water Depth	ft	10	12-20	16
Surface Area of Operating Tanks	sf	18,000		
Overflow Rate at Annual Average Flow	gpd/sf	778	400-700	550
Overflow Rate at Annual Average Flow, One Clarifier Out of Service	gpd/sf	934	400-700	550
Overflow Rate at Maximum Day Flow	gpd/sf	1,322	1,000-1,600	1,300
Overflow Rate at Maximum Day Flow, One Clarifier Out of Service	gpd/sf	1,586	1,000-1,600	1,300
Solids Loading Rate at Average Flow ^(c)	lbs/d/sf	9.1-16.3	20-30	
Solids Loading Rate at Average Flow ^(c) , One Clarifier Out of Service	lbs/d/sf	10.9-19.6	20-30	
Solids Loading Rate at Peak Day Flow ^(c)	lbs/d/sf	19.8-35.3		40
Solids Loading Rate at Peak Day Flow ^(c) , One Clarifier Out of Service	lbs/d/sf	23.8-42.4		40
Weir Loading Rate at Peak Day Flow	gpd/lf	8,062		20,000
Weir Loading Rate at Peak Day Flow, One Clarifier Out of Service	gpd/lf	9,675		20,000
RAS at Maximum Month Flow	%	49%	50-150%	100%
Estimated Maximum Month WAS ^(d)	lb/d	26,645		
Estimated WAS Concentration ^(b)	mg/l	4,000		
Estimated Maximum Month WAS Flow	MGD	0.8		

Notes:

- (a) Metcalf and Eddy.
- (b) Conservative estimate based on historical data.
- (c) Based on MLSS between 1,400 to 2,500 mg/l.
- (d) Calculated from Table 4-7.

Although projected overflow rates were outside of the recommended design values with all tanks in service and one tank out of service, the projected solids loading rates were well within typical design values due to the low mixed liquor concentration. This observation indicates that additional capacity may be available beyond the limitations of typical design values for overflow rates.

Despite the projected annual average hydraulic loading rate being outside the typical design range, stress testing data indicated that the VWRP secondary clarifiers have sufficient firm capacity to operate at the projected AAF. A maximum day flow scenario could not be reproduced during stress testing due to operational limitations with the equalization pumps. However, the equalized maximum day overflow rate was within the typical design range. Additionally, state-point analysis



One of the six rectangular secondary clarifiers.

indicated that the clarifiers could function adequately at the projected flows and loads.

Since the apparent firm capacity of the clarifiers was adequate, no improvements for this process are recommended at this time. However, it should be cautioned that tanks with depths less than 12 ft often have difficulty containing low density sludge, and low density sludge blankets are more easily disturbed by hydraulic fluctuations. Since the existing tanks are relatively shallow as compared to typical design standards, careful control of the sludge blanket and hydraulic loading will need to be maintained in the future to minimize solids carryover. Use of the equalization basins will help minimize hydraulic fluctuations.

Both RAS and WAS pumping capacities may limit the capacity of the process under a maximum month flow and loading scenario. RAS and WAS pumping capacity was addressed in B&C's TM No. 1, which proposed installation of two new dedicated RAS pumps for each clarifier and new mixed liquor wasting pumps. Adequacy of these improvements was not reviewed. Therefore, review of the proposed WAS improvements is recommended to ensure that they allow for a comfortable level of operational flexibility under a maximum month loading scenario.

No additional necessary improvements for the RAS or WAS systems are recommended, beyond those addressed by Brown and Caldwell (B&C's TM No. 1).

4.2.3.5 Mixed Media Filters

4.2.3.5.1 Technical Data

The VWRP operates six low-pressure, mixed media multi-media filters (MMF's) for effluent polishing. The filters are intermittently backwashed to remove accumulated solids with spent backwash water returned to the headworks. Aluminum sulfate is used as a coagulant to improve filtration performance and satisfy recycled water treatment requirements. Technical data for the MMF's are summarized in Table 4-10.

**TABLE 4-10
MIXED MEDIA FILTERS (MMF) TECHNICAL DATA**

Technical Data	Units	
Number of Filters	-	6
Type of Filter	-	Low Pressure, Mixed Media
Filter Area, Each	sf	380
Filter Area, Total	sf	2,280
Title 22 Requirements	gpm/sf	5
Filter Capacity, Total ^(a)	MGD	16.4
Filter Capacity, Firm ^(a)	MGD	13.7

Note:

(a) Assumes four (4) 10-minute backwashes per day.

4.2.3.5.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

The California Water Recycling Criteria (CWRC) define Disinfected Tertiary Recycled Water as a wastewater that has been oxidized, coagulated, and passed through natural undisturbed soils

or a bed of filter media (maximum rate of 5 gpm/sf in mono, dual, or mixed media gravity or pressure filtration).

The CWRC criteria must be applied to all wastewater currently treated by the VWRP, because the existing system is configured such that disinfected tertiary recycled water commingles with Estuary discharge in the CCT's, effluent transfer station (ETS), and wildlife ponds. Even if recycled water was not commingled with plant effluent, filtration would be typically provided for secondary effluent since NPDES effluent quality requirements mandate consistently achieving an effluent TSS of 15 mg/l and below.



Six mixed-media filters are used for tertiary treatment.

Based upon the CWRC criteria, the existing MMF's have insufficient firm or total capacity to filter the projected maximum day flow while maintaining compliance with CWRC requirements. If the City desires continued beneficial reuse of tertiary recycled water, then the existing MMF's must be rehabilitated and expanded or replaced completely. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.3.6 Disinfection Facilities

4.2.3.6.1 Technical Data

Treated and filtered wastewater is disinfected in a series of chlorine contact tanks (CCTs). Baffling divides each tank into two passes to encourage plug flow and prevent short-circuiting. Ammonia is injected before dosing a chlorine solution, and reacts to form a strong disinfectant called chloramine. Although chloramine is not as effective of a disinfectant as free chlorine, the VWRP re-introduces ammonia to prevent formation of trihalomethanes (THMs) and other disinfection byproducts prohibited by the facility's NPDES and recycled water permits. At the termination of the contact tanks, a sulfur dioxide solution is used to dechlorinate the effluent.

This evaluation focuses primarily on the CCTs and assumes sufficient dosing and mixing of chemicals is provided. CCT technical information is summarized in Table 4-11.

**TABLE 4-11
CCT TECHNICAL DATA**

Technical Data	Units	Tanks
Number of Basins	-	3
Volume, Per Basin	gallons	588,000
Total Volume	gallons	1,764,000

4.2.3.6.1 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Title 22 of the California Code of Regulations (Title 22) governs recycled water treatment in California. Title 22 requires that disinfection of recycled water must result in a minimum of 99.999 percent removal or inactivation of the plaque forming units of F-specific bacteriophage MS2, with polio virus inactivation as the standard. Inactivation can be achieved with chlorination following tertiary filtration if the product of the contact time and total chlorine residual is at least 450 milligram-minutes per liter (mg-min/L) with a contact time of at least 90 minutes at peak dry weather design flow.

Because the chlorine contact tanks provide a contact time of approximately 260 minutes at the current AAF, the VWRf is presently able to operate at a low total chlorine residual to achieve the required modal contact time (CT) of 450 mg-min/L required to produce recycled water in California. Operational parameters for the CCTs at projected flows and loads are summarized in Table 4-12.

As indicated in Table 4-12, the existing chlorine contact tanks provide hydraulic retention times within typical design guidelines with all tanks in service and with one tank out of service. To achieve the required modal contact time of 450 mg-min/L at the Maximum Day Summer Flow with all tanks in service and one tank out of service, the operating total chlorine residual would need to be approximately 3.4 to 5.0 mg/l.



Baffles located in the chlorine contact tanks prevent short-circuiting.

**TABLE 4-12
CCT OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Range^(a)	Typical Design
Number of Operating Tanks	-	3		
Detention Time at Annual Average Flow	Minutes	181	30-120	60 ^(a)
Detention Time at Annual Average Flow, One Tank Out of Service	Minutes	121	30-120	60 ^(a)
Detention Time at Maximum Day Summer Flow	Minutes	134	30-120	90 ^(b)
Detention Time at Maximum Day Summer Flow, One Tank out of Service	Minutes	90	30-120	90 ^(b)
Detention Time at Maximum Day Flow	Minutes	107	15-90	30 ^(b)
Detention Time at Maximum Day Flow, One Tank Out of Service	Minutes	71	15-90	30 ^(b)

Notes:

(a) Based on typical disinfection requirements from Metcalf and Eddy.

(b) Based on Title 22 disinfection requirements.

Although typical dechlorinating chemicals neutralize this total chlorine residual to meet effluent total chlorine limits prior to discharge, the ammonia added for chloramination remains in the

effluent. This is problematic since, based on interpretation of the proposed permit, a total effluent ammonia concentration of 1 mg/l and total nitrogen of 10 mg/l should be targeted to address the potential effluent nitrogen limitations under most foreseeable conditions. For these reasons, it appears that disinfection using chloramination may not be able to meet both the new effluent ammonia limitations and the Title 22 chlorine disinfection requirements in the future.

The disinfection process also occasionally experiences “nitrite lock,” which adversely impacts chlorine disinfection by significantly increasing the chlorine demand. Typically, the conversion of nitrite to nitrate in the biological process is not a rate-limiting step in wastewaters with temperatures consistently above 17°C. Since the projected winter wastewater temperature is below 17°C, it is possible during cold weather periods that some nitrite may accumulate in the secondary process and result in increased chlorine demand, although this cannot be confirmed with existing operational data.

Improvements to or reconfiguration of the disinfection system should be considered for the reasons stated above. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.3.7 Effluent Pumping and Metering

4.2.3.7.1 Technical Data

Dechlorinated effluent is pumped to wildlife ponds at the VWRP as shown in Figure 4-1. From the wildlife ponds, flow proceeds to either the Estuary or is pumped out of the ponds and reused for turf and landscape irrigation. Effluent flow to the Estuary is metered at the termination of the wildlife ponds. Primary components and capacities of these facilities are summarized in Table 4-13.

**TABLE 4-13
EFFLUENT PUMPING AND METERING TECHNICAL DATA**

Technical Data	Number of Units	Type	Total Capacity (MGD)	Firm Capacity (MGD)
Effluent Pumps	2 duty, 1 standby	Vertical Turbine	14.2	9.5
Flow Measurement	1	24-inch Parshall Flume	21.4	-

4.2.3.7.1 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Referring to the flow projections in Table 4-2, effluent pumping will need to accommodate the projected equalized maximum daily flow of 23.8 MGD. It is also assumed that effluent metering will need to accommodate the projected equalized maximum daily flow, because recycled water demand may decrease during wet weather periods.

- **Effluent Pumping:** Effluent pumping consists of three vertical turbine pumps. Based on the rated capacity determinations, improvements to the ETS will be required to convey the projected maximum day flow. Alternatives to address identified improvement needs are discussed in Section 4.3.
- **Flow Measurement:** Based on the capacity determination using the throat size of the flume, improvements will be required for accurate monitoring at future flows and to address redundancy considerations. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.4 Solids Handling Processes

4.2.4.1 Gravity Thickener

4.2.4.1.1 Technical Data

The gravity thickener (GT) receives settled solids from the primary clarifiers. GT underflow is routed to the anaerobic digesters, and the overflow returned to the headworks. Ferric chloride is used to improve thickener performance and solids capture and control sulfides. GT technical data is summarized in Table 4-14.



One gravity thickener is used to thicken the primary sludge.

**TABLE 4-14
GRAVITY THICKENER TECHNICAL DATA**

Technical Data	Units	
Number of Tanks	-	1
Shape	-	Circular
Diameter	ft	30
Side Water Depth	ft	10
Surface Area	sf	707
Depth	ft	12
Total Volume	gallons	52,850
Thickened Sludge Pumps	-	1 duty, 1 standby
Thickened Sludge Pump Capacity	MGD	0.216

4.2.4.1.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

According to VWRP Staff, parts of the GT weir are missing. Although repairs are planned for the GT, Staff indicated that uncharacteristic performance may be expected from this process due to its poor condition. Operation of the GT based on projected flows and loads are summarized in Table 4-15.

**TABLE 4-15
GRAVITY THICKENER OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Design
Maximum Month Primary Solids ^(a)	lbs/d	22,295	
Maximum Month Primary Sludge Flow ^(b)	MGD	0.29	
Estimated Thickened Sludge Concentration	mg/l	50,000	
Estimated Thickened Sludge Flow	gpd	53,500	
GT Hydraulic Loading Rate	gpd/sf	410	390-780 ^(c)
GT Solids Loading Rate	lbs/sf/d	31.5	20-30 ^(c)

Notes:

- (a) Based on an estimated 65 percent solids removal efficiency with EPT in the primary clarifiers.
- (b) Based on rated capacity.
- (c) Manual of Practice (MOP) – MOP 11 (1998) guidelines for typical gravity thickener sizing criteria.

The calculated hydraulic and solids loading rates indicate that projected operational parameters exceed typical design values. Under this projected scenario, the GT may perform in a manner that results in reduced solids capture and reduced performance in the primary clarifiers. Although difficult to quantify the impact of a thickener's reduced performance, based on these projections and given the condition of the existing process, it is suggested that provisions be made to improve and expand this process. In addition, installation of a redundant unit would offer the operators more flexibility during maintenance without jeopardizing performance. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.4.2 Dissolved Air Flotation Thickeners (DAFT)

4.2.4.2.1 Technical Data

The DAFT receives settled WAS from the secondary clarifiers. DAFT subnatant returns to the headworks or equalization basins, and supernatant is routed to the anaerobic digesters. Two (2) tanks are available, yet only one is used. This is due to the difficulty balancing the flow split in its current configuration. Polymer is added as a coagulant to improve DAFT performance and solids capture. DAFT technical information is summarized in Table 4-16.

**TABLE 4-16
DAFT TECHNICAL DATA**

Technical Data	Units	
Number of Tanks	-	2
Shape	-	Rectangular
Surface Area, each	sf	510
Target Air/Solids Ratio	ml/g ^(a)	0.02
Number of Pressurization Pumps	-	1 duty, 1 standby
Pressurization Pump Capacity, Firm	MGD	0.43
Pressurization Pump Pressure	psi ^(b)	65
Number of Subnatant Pumps	-	1 duty, 1 standby
Subnatant Pump Capacity, Firm	MGD	0.94
Supernatant Pumps	-	1 duty, 1 standby
Supernatant Pump Capacity, Firm	MGD	0.144

Notes:

- (a) ml/g = milliliters per gram.
- (b) psi = pounds per square inch.

4.2.4.2.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Operation of the DAFT at projected flows and loads is summarized in Table 4-17.

The calculated solids loading rate exceeds the typical maximum design values with one unit out of service. Under this projected scenario, the DAFT may perform in a manner that results in an increased underflow of solids and reduced performance in the secondary treatment system. Although difficult to quantify the impact of this projected scenario, it is suggested that provisions be made to improve and expand this process. Alternatives to address identified improvement needs are discussed in Section 4.3.

**TABLE 4-17
DAFT OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Design
Maximum Month WAS Flow	MGD	0.8 ^(a)	
Estimated Supernatant Concentration	mg/l	50,000 ^(b)	
Estimated Maximum Supernatant Flow	gpd	63,900	
Estimated Maximum Subnatant Flow	gpd	736,100	
Air/Solids Ratio	ml/mg ^(c)	0.0056	0.005-0.06 ^(d)
Hydraulic Loading Rate	gpm/sf	0.5	2 ^(e)
Hydraulic Loading Rate, One Tank Out of Service	gpm/sf	1.0	2 ^(e)
Solids Loading Rate	lbs/sf/d	26.1	48 ^(d)
Solids Loading Rate, One Tank Out of Service	lbs/sf/d	52.2	48 ^(d)

Notes:

- (a) Calculated in Table 4-9.
- (b) Estimate based on plant operating data.
- (c) ml/mg = milliliters per milligrams.
- (d) Metcalf & Eddy (2003), with polymer addition.
- (e) Manual of Practice – MOP 11 (1998).

4.2.4.3 Anaerobic Digesters

4.2.4.3.1 Technical Data

Three (3) anaerobic digesters currently operate in parallel, with the contents mixed by a combination of sludge recirculation and gas mixing. The digesters have operated reliably and consistently achieved and exceeded pathogen and vector attraction reduction requirements for Class B biosolids. Methane gas produced and recovered from the digesters has been used for cogeneration. Digester technical data is summarized in Table 4-18.



The Ventura WRF has three anaerobic digesters.

**TABLE 4-18
DIGESTER TECHNICAL DATA**

Technical Data	Units	
Number of Digesters	-	3
Operating Temperature	°F	95-98
Diameter	ft	55
Sidewall Depth	ft	28
Total Volume	gallons	1,500,000
Number of Digested Sludge Holding Tanks	-	2
Digested Sludge Holding Tank Volume, Total	gallons	92,300
Sludge Transfer Pumps	-	1 duty, 1 standby
Sludge Transfer Pump Capacity, Total	MGD	0.72
Sludge Transfer Pump Capacity, Firm	MGD	0.36

4.2.4.3.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

Operation of the digesters at projected flows and loads is summarized in Table 4-19.

The sludge transfer pumps appear to have sufficient capacity, and projected loading to the digesters is within the typical design range. However, the calculated detention time and volatile solids loading rate for the digesters are outside typical design values. Under this projected scenario, it is possible that the digesters may not consistently achieve pathogen and vector attraction reduction as required for Class B biosolids.

**TABLE 4-19
DIGESTERS OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Design Range ^(a)	Typical Design ^(a)
Thickened Primary Sludge Flow	gpd	53,500		
Maximum Thickened Primary Sludge Load	lb/d	22,295		
Estimated Primary Sludge VSS/TSS	%	82		
Maximum Thickened WAS Flow	gpd	63,900		
Maximum Thickened WAS Load	lb/d	26,645		
Estimated WAS VSS/TSS	%	85		
Total Sludge Flow	gpd	117,400		
Total Sludge Load	lb/d	48,940		
Total Sludge VSS	lb/d	41,599		
Detention Time	days	12.8	15-20	15
Digester VS Loading	lb VSS/cf-day	0.21		< 0.18
Digester Design Temperature	oF	95-98	95 - 98	95 - 98

Note:

(a) Metcalf and Eddy guidelines (2003).

The City anticipates the need for improvements to the WWRf digestion process and has already allocated space for an additional digester. Alternatives to address identified improvement needs are discussed in Section 4.3.

4.2.4.4 Recessed Plate Filter Presses (RPF)

4.2.4.4.1 Technical Data

The existing sludge handling facility contains two plate-and-frame filter presses that dewater anaerobically digested sludge. Digested solids are pumped into a flocculation tank, where polymer is added before the sludge is pumped into the press chambers. The presses are operated at high pressures to facilitate removal of excess water. Filtrate is returned to the equalization basins, and cake solids are hauled offsite and land applied. RPF technical information is summarized in Table 4-20.

**TABLE 4-20
RPF TECHNICAL DATA**

Technical Data	Units	
Number of Presses	-	2
Number of Plates/Press	-	75
Operating Pressure	psi	100
Plate Dimensions	m	1.5 x 2
Number of Digested Solids Feed Pumps	-	2 duty, 1 standby
Digested Solids Feed Pump Capacity, Total	gpm	600
Digested Solids Feed Pump Capacity, Firm	gpm	400

4.2.4.4.2 Capacity Assessment, Operational Limitations, Redundancy Considerations, and Identified Improvement Needs

The presses are over 20 years old and are usually operated for eight to ten 8-hour shifts per week. Spare parts for the units are difficult to obtain and require a long lead time, and the batched nature of the process requires full-time attention during operation. RPF operational parameters are summarized in Table 4-21.

**TABLE 4-21
RPF OPERATIONAL PARAMETERS**

Operational Parameters	Units	Projected Operation	Typical Design ^(a)
Weight of Wet Solids per Drop	lbs/chamber	140	
Sludge Percent Solids	%	18	
Weight of Dry Solids per Drop	lbs/chamber	25	
Dry Solids per Cycle	lbs/cycle/press	1,875	
Number of Presses in Operation	-	2	
Cycle Time	hours/cycle	2.5	2 - 2.5
Maximum Hours per Day	hours/day	16	
Maximum Hours per Week	hour/week	112	
Cycles per Day	cycle/day	12.8	
RPF Solids Capacity, Total	lb/day	24,000	
Digested Sludge Load ^(b)	lb/day	28,141	

Notes:

- (a) Metcalf and Eddy guidelines (2003).
- (b) Assumes 50 percent VS destruction in digesters.

Current operating procedures for these presses will not yield sufficient capacity to handle the projected sludge load. Process capacity will be limited by press capacity and the available time for VWRF Staff to dedicate to press operation.

The City is planning an improvements project for the filter presses. Following a life-cycle cost assessment, Brown and Caldwell in the Sludge Dewatering Alternatives Evaluation (Appendix G) recommended the installation of three centrifuges with a cake transfer/storage/loadout system to facilitate continuous operation and maximum flexibility. Adequacy of these recommended improvements was not reviewed. No additional improvements to the dewatering system were identified, beyond those addressed by Brown and Caldwell.

4.2.5 Summary of the Capacity Limitations of the Liquid Treatment and Solids Handling Facilities

Existing unit processes' firm and total capacities were estimated through a desktop evaluation using typical design criteria from literature (Metcalf & Eddy, 2003 and WEF Manual of Practice 11, 1998), stress testing, and VWRF Staff input. Process capacities were evaluated using the reliability requirements described in Section 4.2.2. Existing capacities are summarized in Table 4-22 in the following pages, and a flow-based timeline for the identified improvement needs is presented in Figure 4-2.

**TABLE 4-22
VWRF CAPACITY EVALUATION SUMMARY**

Unit Process	Expected Limitations	Total Capacity Limitation (MGD)	Firm Capacity Limitation (MGD)	Firm-Total Equivalent AAF (MGD)^(a)	Alternatives Discussion
<i>Headworks and Influent Pumping Station</i>	<ul style="list-style-type: none"> Influent flow measurement capacity.^(b) 	31.8 MHF	15.9 MHF	5.9 – 11.8	<ul style="list-style-type: none"> Influent flow measurement capacity – Section 4.3.1.1.
	<ul style="list-style-type: none"> No redundancy in grit removal system.^(b) 	54.0 MHF	0 MHF	0.0 – 18.5	<ul style="list-style-type: none"> Grit removal redundancy – Section 4.3.1.2.
<i>Primary Clarifiers</i>	<ul style="list-style-type: none"> Primary effluent pump capacity.^(c) 	17.3 MDF	11.5 MDF	6.7 – 10.1	<ul style="list-style-type: none"> Primary effluent pump capacity– Section 4.3.2.1.
	<ul style="list-style-type: none"> No redundancy. Both clarifiers must be operational to function adequately under projected flows and loads.^(d) 	20.8 MDFS	10.4 MDFS	7.7 – 15.4	<ul style="list-style-type: none"> Primary clarifier redundancy – Section 4.3.2.2.
<i>Aeration Basins</i>	<ul style="list-style-type: none"> BNR pump capacity and channel hydraulics.^(e) No redundancy for BNR pump. 	7.5 MMF	0 MMF	0.0 - 6.0	<ul style="list-style-type: none"> Limitations are addressed in B&C's TM No. 1 and will not be discussed in this report.
	<ul style="list-style-type: none"> With current operational strategy, tanks are undersized to provide sufficient SRT for complete nitrification.^(f) 	3.4 AAF ^(g)	2.5 AAF ^(g)	2.5 – 3.4	<ul style="list-style-type: none"> Limitations are addressed in B&C's TM No. 1 and will not be discussed in this report. Review SRT for recommended system.
	<ul style="list-style-type: none"> Projected air requirements exceed firm capacity of blowers.^(r) 	18.4 AAF ^(g)	12.3 AAF ^(g)	12.3 – 18.4	<ul style="list-style-type: none"> Limitations are addressed in B&C's TM No. 1 and will not be discussed in this report.
<i>Secondary Clarifiers</i>	<ul style="list-style-type: none"> WAS pump capacity.^(h) 	12.6 AAF ^(g)	6.3 AAF ^(g)	6.3 – 12.6	<ul style="list-style-type: none"> WAS pumping capacity is addressed in B&C's TM No. 1 and will not be discussed in this report. Review MLW pump capacity.
	<ul style="list-style-type: none"> RAS pump capacity.⁽ⁱ⁾ 	12.9 MMF	8.6 MMF	8.6 – 12.9	<ul style="list-style-type: none"> RAS pumping capacity is addressed in B&C's TM No. 1 and will not be discussed in this report.

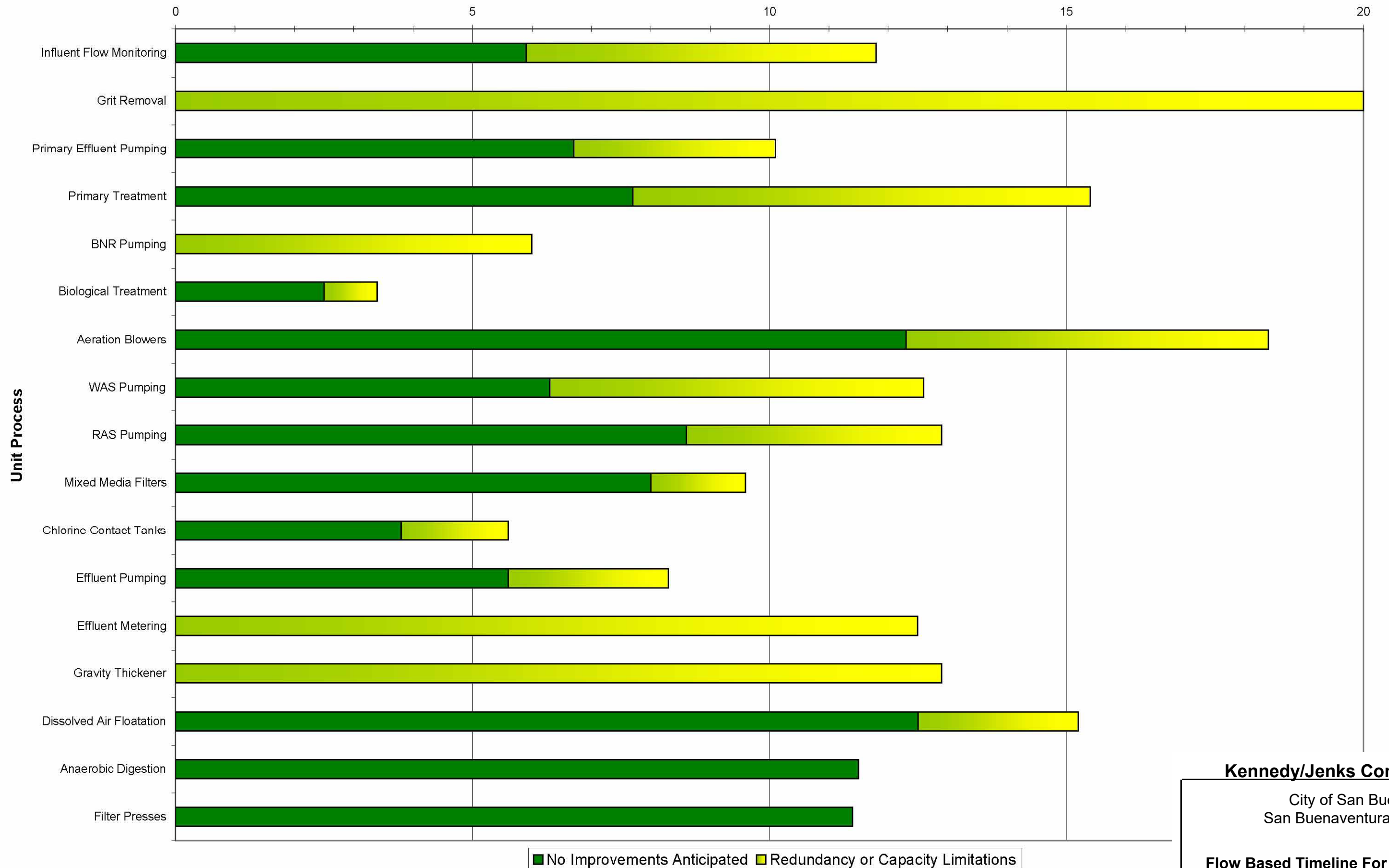
Unit Process	Expected Limitations	Total Capacity Limitation (MGD)	Firm Capacity Limitation (MGD)	Firm-Total Equivalent AAF (MGD) ^(a)	Alternatives Discussion
<i>Mixed Media Filters</i>	<ul style="list-style-type: none"> Hydraulic loading rate criteria.^(j) 	16.4 MDF	13.7 MDF	8.0 – 9.6	<ul style="list-style-type: none"> Mixed media filter capacity – Section 4.3.3.1.
<i>Chlorine Contact Tanks</i>	<ul style="list-style-type: none"> Total chlorine residual limitations. Disinfection byproducts limitations. “Nitrite Lock” during cold weather periods. Effluent ammonia and TN limitations 	3.8 AAF ^(k)	5.6 AAF ^(k)	3.8 – 5.6	<ul style="list-style-type: none"> Disinfection limitations – Section 4.3.4.1.
<i>Effluent Pumping and Flow Measurement</i>	<ul style="list-style-type: none"> Effluent pump capacity.^(l) 	14.2 MDF	9.5 MDF	5.6 – 8.3	<ul style="list-style-type: none"> Effluent pumping capacity – Section 4.3.5.1.
	<ul style="list-style-type: none"> Effluent flow metering capacity.^(l) No redundancy in effluent flow metering. 	21.4 MDF	0 MDF	0.0 – 12.5	<ul style="list-style-type: none"> Effluent flow measurement capacity and redundancy – Section 4.3.5.2.
<i>Gravity Thickener</i>	<ul style="list-style-type: none"> Solids loading rate criteria.^(m) Missing weir on existing thickener. No redundant gravity thickener. 	12.9 AAF ^(g)	0.0 AAF ^(g)	0.0 – 12.9	<ul style="list-style-type: none"> Solids thickening bottlenecks are discussed in Brown and Caldwell’s Preliminary Design Report for Ventura WRF Upgrade Project, Phase II and will not be discussed further in this report.
<i>Dissolved Air Floatation</i>	<ul style="list-style-type: none"> Solids loading rate criteria.⁽ⁿ⁾ Pressurization pump capacity.^(o) Compressor capacity.^(o) 	15.2 AAF ^{(g)(o)}	12.5 AAF ^(g)	12.5 – 15.2	<ul style="list-style-type: none"> Solids thickening bottlenecks are discussed in Brown and Caldwell’s Preliminary Design Report for Ventura WRF Upgrade Project, Phase II and will not be discussed further in this report.
<i>Anaerobic Digesters</i>	<ul style="list-style-type: none"> Detention time.^(p) 	11.5 AAF ^(g)	N/A	11.5	<ul style="list-style-type: none"> Anaerobic digester capacity – Section 4.3.6.1.

Unit Process	Expected Limitations	Total Capacity Limitation (MGD)	Firm Capacity Limitation (MGD)	Firm-Total Equivalent AAF (MGD) ^(a)	Alternatives Discussion
<i>Filter Presses</i>	<ul style="list-style-type: none"> Filter press capacity/availability of operational time.^(q) 	11.4 AAF ^(g)	N/A	11.4	<ul style="list-style-type: none"> Dewatering bottlenecks are addressed by Brown and Caldwell's Sludge Dewatering Alternatives Evaluation (see Appendix G) and will not be discussed further in this report.

Notes:

- (a) Firm and total capacity limitations are translated to an average annual basis through dividing by the current AAF/MMF/MDFS/MDF and multiplying by the current AAF.
- (b) Capacities as presented in Table 4-3.
- (c) Capacities as presented in Table 4-4.
- (d) Estimate considered on the basis of not exceeding a typical design hydraulic loading rate of 1,000 gpd/sf.
- (e) Estimate considered on the basis of providing a minimum of 100 percent of the MMF as capacity for the BNR recycle.
- (f) Estimate considered on the basis of providing a minimum 5-day SRT. WAS assumptions (VSS/TSS, observed yield, etc) are as presented in Table 4-7.
- (g) Indicated capacities were estimated using maximum month load calculations. Maximum month load limitation is translated to annual average flow by dividing the maximum month load capacity by the current maximum month load and by the current AAF.
- (h) WAS assumptions (VSS/TSS, observed yield, etc) are as presented in Table 4-7.
- (i) Estimate considered on the basis of providing a minimum of 100 percent of the MMF as capacity for the RAS recycle.
- (j) Capacities as presented in Table 4-10.
- (k) Estimate considered on the basis of providing a CT value of 450 mg-min/L with a chloramine residual of 1 mg/l.
- (l) Capacities as presented in Table 4-13.
- (m) Estimate considered on the basis of not exceeding a typical design solids loading rate of 30 lbs/d/sf. Primary clarifier solids capture rate was assumed to be 80 percent.
- (n) Estimate considered on the basis of not exceeding a typical design solids loading rate of 48 lbs/d/sf. WAS assumptions (VSS/TSS, observed yield, etc) are as presented in Table 4-7.
- (o) Estimate considered on the basis of providing a typical air/solids design ratio of 0.005 ml/mg.
- (p) Estimate considered on the basis of providing a typical design detention time of 15 days.
- (q) Operational assumptions (cycles per day, digester volatile solids destruction rates, etc) are as presented in Table 4-21.
- (r) Oxygen requirement assumptions (denitrification credit, etc.) are as presented in Table 4-7.

Annual Average Flow, MGD



Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

Flow Based Timeline For Identified Improvement Needs

K/J 1089015*00
August 2010

Figure 4-2

4.2.6 Process Modeling

GPS-X 5.0, a process simulator developed by Hydromantis, was used to model VWRF performance. A model of the complete facility was developed and calibrated, including all major liquid and solids unit processes, to assist in identifying process bottlenecks at the design AAF of 14 MGD. Results from the process modeling were used to confirm the bottlenecks identified from desktop evaluation.

4.2.6.1 Model Calibration

Model calibration adjusts parameters until predictions match selected sets of performance data from the actual facility. The VWRF process model was calibrated using historical data from November 1, 2005 to December 31, 2005. However, as discussed previously, VWRF Staff indicated that influent data from this period was not representative due to the temporary relocation of the influent sampler. Therefore, influent and filter press filtrate characterization performed as a part of B&C's TM No. 1 was used for model calibration instead of the November to December 2005 data. The remaining 2005 performance data was assumed to be accurate

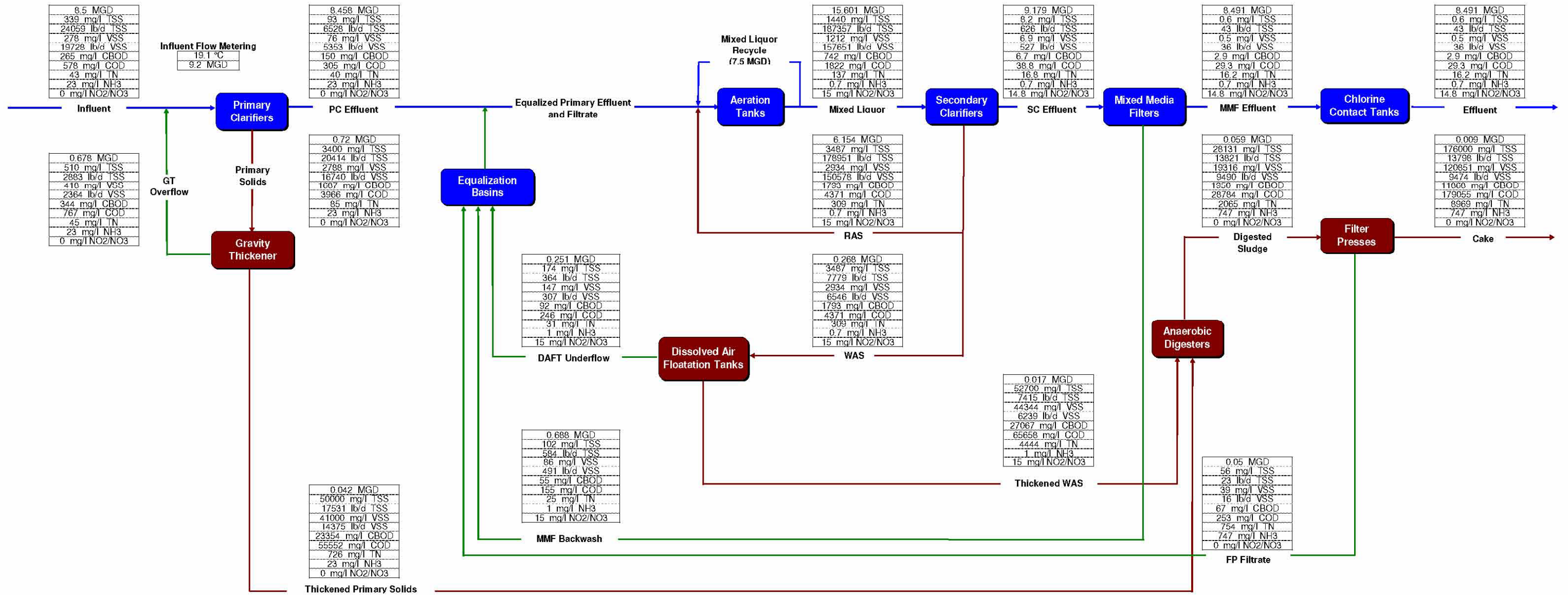
Calibration of a model minimizes the error between the model predictions and selected data sets with minimal change to model parameters. A perfect fit is rarely achieved. In steady-state simulations, modeled variables typically match within 5 to 20 percent of the actual values. During this process, modeling often encounters data that falls outside normal ranges or does not satisfy a mass balance.

Quite often, predicted WAS rates have greater than 20 percent difference in value compared to reported data, as was the case with the VWRF calibration. However, considering that the predicted primary solids production and dewatered solids production fit the actual data set closely, it appears that the calibrated model was reasonably accurate with respect to secondary solids production. Calibrated model results are presented as a mass balance in Figure 4-3 and compared against historical operating and additional characterization data in Table 4-21.

4.2.6.2 Model Application

Following model calibration, performance of the VWRF was simulated at the projected maximum month loading, maximum month flow, and winter wastewater temperature without improvements to the identified bottlenecks. Simulation assumed the following: (1) capture rates of the thickening processes (DAFT and GT) were reduced by 10 percent at the maximum month condition, (2) the units were operating outside of a typical design range, and (3) the filter presses were operated with additional shifts as required to handle the increased solids production.

Additionally, it was assumed that the ancillary solids and liquid conveyance equipment and process piping had enough capacity to convey the projected flows. However, the simulations identified limitations of the ancillary conveyance equipment. A mass balance sheet was developed for the simulation and used to confirm the identified deficiencies. Maximum month simulation results are presented in Figure 4-4.



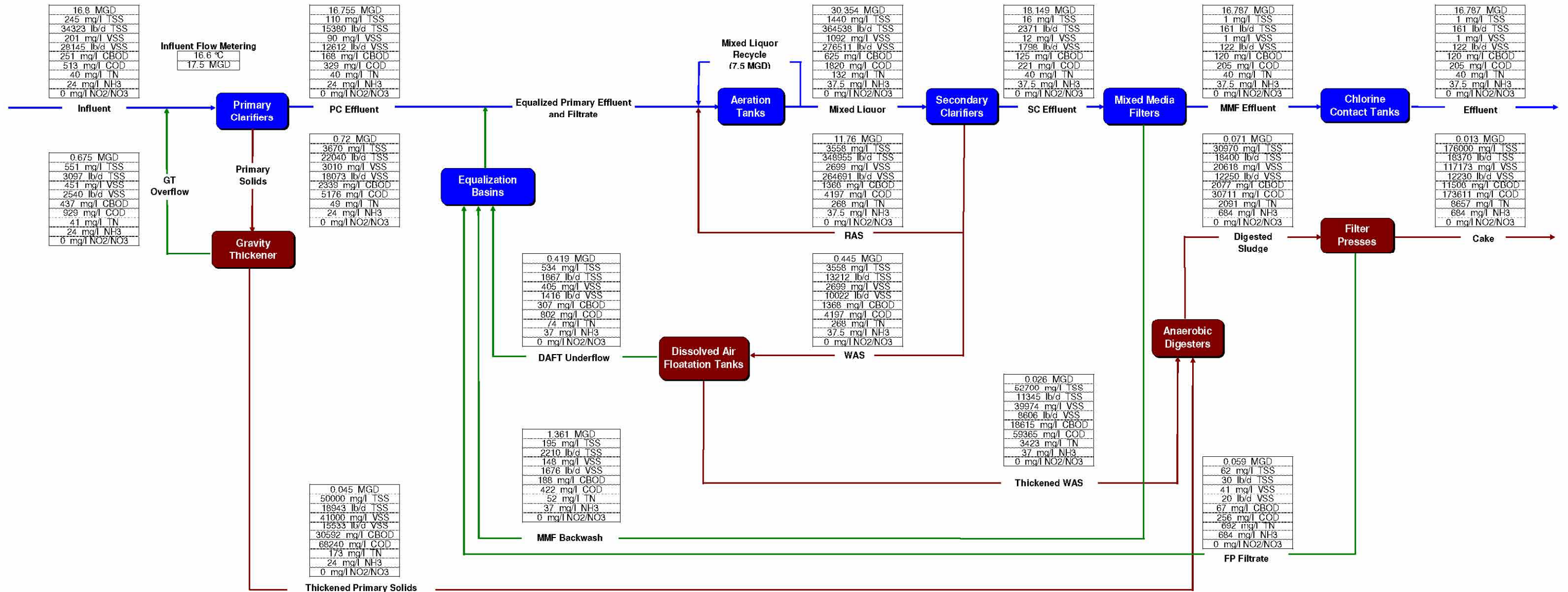
Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

**Process Simulation Mass Balance
for November – December 2005**

K/J 1089015*00
August 2010

Figure 4-3



Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

**Process Simulation Mass Balance
for Unimproved Plant at Project Maximum
Month Flow and Load**

K/J 1089015*00
August 2010

Figure 4-4

4.2.6.2.1 Comparison of Simulation Results and Desktop Evaluation

It is apparent, from review of Figure 4-4, that the unimproved VWRF at the projected maximum month flow and load may not consistently achieve the performance requirements. The predicted effluent quality exceeds the anticipated permit limits for BOD, total nitrogen and ammonia. This observation reinforces the bottlenecks identified for the aeration tanks, RAS pumps, and BNR pumps. The predicted solids capture rate for the primary clarifiers was lower than assumed in the desktop evaluation, but still within an acceptable performance range for primary treatment. Predicted primary clarifier performance validated the observation that improvements to primary clarifier capacity may not be required, although redundancy considerations may be necessary. Loading to the GT was predicted to be above typical design values, indicating that improvements to the GT may be required.

Loading to the WAS pumps, DAFTs, anaerobic digesters, and RPFs were low as compared to desktop calculations. This was primarily due to the loading to these processes proportionate to the amount of COD removal predicted in the biological system. Since process simulation predicted that the existing aeration basins were unable to remove a significant portion of the COD at the maximum month condition, the simulation predicts lower loading to these ancillary processes. This observation does not indicate that bottlenecks for these processes do not exist. Rather, it indicates that those bottlenecks may not be encountered until improvements are implemented to address the deficiencies of the biological treatment system.

Identified bottlenecks for these ancillary processes cannot be confirmed without first simulating the recommended improvements to the biological treatment system. It is recommended that the identified bottlenecks for the WAS pumps, DAFTs, anaerobic digesters and RPFs be revisited after completion of the other improvements. However, that analysis is beyond the scope of this report.

4.3 Alternatives for Identified Improvements for Continued Discharge to the Estuary and Production of Reclaimed Water

The evaluation discussed in Section 4.2 assessed limitations of the existing VWRF to treat projected flows and loads in compliance with anticipated NPDES effluent permit limits for continued discharge to the Estuary and production of recycled water. Primarily, the evaluation identified capacity limitations of liquid and solids treatment processes.

The following paragraphs discuss alternatives to address these limitations to enable the entire VWRF to treat an AAF of 14.0 MGD. Additionally, a comprehensive replacement plan is presented as an alternative to the identified improvements to address some uncertainties regarding the general condition of the VWRF, loading projections, and regulatory considerations.

4.3.1 Headworks and Influent Pumping Station

4.3.1.1 Influent Flow Measurement Capacity

As mentioned previously, the existing influent Parshall flumes would be too small for projected flows, and redundancy would not be available. Flow restriction at an undersized flume could yield excessive headlosses that limit upstream process capacity, result in inaccurate flow measurement, and may even cause the flume to overflow. Therefore, expansion of the influent flow measurement is recommended. Several different types of flow measurement can be used to replace the existing equipment.

4.3.1.1.1 Larger Parshall Flumes

The existing influent Parshall flumes could be replaced with two new 48-inch flumes. Each flume would have a capacity of 43.8 MGD and each would accurately measure flows as low as 0.8 MGD. This larger flume would provide sufficient capacity to accurately gauge the projected peak hourly flow if the other flume was out of service without excessive surcharging and provide accurate measurements at low flows.

The primary advantages of Parshall flumes are that they have wide flow ranges and are relatively simple to calibrate. However, installation of a larger flume may require significant structural modification to the channels if they were not designed to facilitate expansion. Also, piping from the flumes to the primary clarifiers would need to be modified to address redundancy considerations.

Furthermore, Parshall flumes typically have a lower accuracy than ultrasonic or magnetic flow meters, though the accuracy is typically sufficient for this application. Alternatively, the existing flumes could be decommissioned and replaced with an ultrasonic or magnetic flow meter.

4.3.1.1.2 Ultrasonic Flow Meter

An ultrasonic flow meter is a non-intrusive device that operates using the Doppler Effect, in which the sound wave changes frequency when reflected by moving particles in a flowing liquid. Probes placed on the outside surface of a pipeline measure the frequency shift (Doppler Effect) of an ultrasonic signal when reflected by suspended particles in motion. The frequency shift is directly proportional to the rate of flow.

Current technologies generally require that the liquid contain 100 parts per million of suspended particles or bubbles, which is typically not an issue with wastewater streams. The primary advantages of ultrasonic flow meters are that they have low headloss. Chemical compatibility is not a concern because the ultrasonic probes are non-intrusive. The primary disadvantages are that the meters can be very sensitive to conditions of the installation and uniformity of flow.

4.3.1.1.3 Magnetic Flow Meter

Operation of a magnetic flow meter is based upon Faraday's Law, which states that the voltage induced across any conductor as it moves at right angles through a magnetic field is proportional to the velocity of that conductor. This principle requires that the fluid be electrically conductive.

Magnetic flow meters are typically constructed for installation as part of the pipeline. The liquid flows through the flow meter, where electrodes measure the voltage through the magnetic field. Like ultrasonic flow meters, magnetic flow meters have low headloss, low pressure drop, and are compatible with most all chemicals. The primary disadvantages of magnetic meters are that they require a straight run of pipe both upstream and downstream for accurate flow measurement and tend to be somewhat more expensive than either a Parshall flume or ultrasonic flow meter.

4.3.1.1.4 Recommended Alternative

If the facility layout and hydraulic conditions are conducive, it is recommended that one or more magnetic flow meters be installed on the discharge piping of the influent pumps. Either a single flow meter could be installed on the common discharge header, or if redundancy is desired, a separate flow meter could be installed on each individual pump discharge.

Although magnetic flow meters are more expensive, their costs are typically only marginally higher than ultrasonic flow metering and would likely be significantly less expensive than two Parshall flumes, factoring in the cost of the structural modifications. In addition, it is typical for magnetic flow meters to perform with better accuracy and consistency than ultrasonic flow meters thereby reducing installation and calibration issues.

If the facility layout and hydraulic conditions are not conducive to the installation of magnetic flow meters, the existing flumes should be replaced with larger 48-inch flumes.

4.3.1.2 Grit Removal Redundancy

As discussed previously, the VWRP does not have a redundant aerated grit chamber. If the existing aerated grit chamber needed to be taken offline for maintenance or repair, screened influent flow would be bypassed to the primary clarifiers without grit removal. It is probable that most of the grit in the bypassed wastewater would be captured by the primary clarifiers and sent to thickening and digestion.

4.3.1.2.1 Additional Aerated Grit Chamber Capacity

Although not required, the addition of a redundant aerated grit chamber is recommended because downstream mechanical equipment could be susceptible to excessive wear from the presence of grit. At the VWRP, increased wear on the primary sludge and thickened sludge pumps could be expected, as well as grit deposition in the anaerobic digesters and primary sludge piping. Adding a redundant aerated grit chamber could reduce maintenance on the anaerobic digesters and primary and thickened sludge pumps and piping.

Although other grit removal processes could be considered, such as vortex grit removal and horizontal-flow (velocity-controlled) channels, aerated grit chambers are recommended for grit removal. Implementation of aerated grit chambers will minimize the overall complexity by standardizing on one process type and will integrate well with the existing process, which is already configured for the addition of a second aerated grit chamber. Furthermore, VWRP Staff is already familiar with the operation and maintenance (O&M) of an aerated grit chamber.

Four (4) alternatives are available for expanding the existing grit removal process:

1. Add a second aerated grit chamber of equal size
2. Subdivide the existing aerated grit chamber into two units of equal size
3. Subdivide the existing aerated grit chamber into two units of equal size and add a third unit equal in size to the subdivided units
4. Verify that redundancy in mechanical equipment has been provided with the existing aerated grit chamber and bypass when the unit needs to be taken offline.

4.3.1.2.2 Recommended Alternative

Although constructing a second grit chamber of equal size or subdividing the existing unit and constructing a third, smaller unit could minimize the potential for excessive wear on downstream equipment, the additional capital and O&M costs associated with installing equipment for running and maintaining separate units could likely make these alternatives undesirable.

Considering the infrequency with which the VWRf Staff has needed to take the aerated grit chamber offline for maintenance since it first entered operation after completion of the headworks improvement project, it is recommended to verify that mechanical redundancy is provided in the existing unit and continue to bypass infrequently. If further reliability is desired, it is recommended to assess the feasibility of subdividing this unit such that one half can always remain operational.

4.3.2 Primary Clarifiers

4.3.2.1 Primary Clarifier Redundancy

4.3.2.1.1 Addition of a Third Primary Clarifier

The primary clarifiers appear to be large enough to meet future operating conditions, provided that both tanks are operating. However, if one primary clarifier is taken out of service, the remaining primary clarifier could be overloaded. The addition of a third primary clarifier of equal size for redundancy could give the operators more flexibility during maintenance without jeopardizing performance of the VWRf.

4.3.2.1.2 No Primary Clarifier Improvements

Alternatively, the entire influent flow could be treated through a single primary clarifier while the second clarifier is out of service, resulting in reduced TSS and BOD removal efficiencies. The biological system would need to be designed with enough capacity to handle this increased loading.

4.3.2.1.3 Enhanced Primary Treatment (EPT)

Another option is to implement EPT by improving upon the existing chemical feed system. Currently, ferric chloride is dosed at low concentrations in the headworks for odor control.

Stepping up the dosing concentration could improve the settling characteristics of the raw influent and, consequently, result in higher removal rates in the primary clarifiers.

Based on pilot testing data from the South Bayside System Authority (SBSA) and San Elijo wastewater treatment facilities, it may be possible to nearly double the hydraulic loading on a primary clarifier using EPT without a significant decrease in performance. It may be feasible to implement such an EPT program to help mitigate the loading on the downstream biological process with one clarifier out of service and a single clarifier treating the entire influent flow. In addition, polymer could be added to supplement the ferric and reduce the overall chemical requirements and cost of the program. This program would require a more sophisticated flow-paced chemical metering and mixing system than the VWRf currently uses.

4.3.2.1.4 Recommended Alternative

It does not appear feasible to take one clarifier out of service at any time during the year without risking a substantial increase in loading to the secondary process. Based on a projected MDFS of 18.9 MGD and a projected ADWF of 13.0 MGD, the SOR with one clarifier in service would be 1,820 gpd/sf and 1,280 gpd/sf respectively. Both of these SOR's are above typical design rates. The primary bypass proposed by B&C's TM No. 1 could also be utilized in conjunction with taking a clarifier out of service to reduce primary loadings. However, designing a more robust biological treatment system to handle a long-term increase in loadings in lieu of implementing improvements to the primary clarifiers is likely a less cost effective solution long-term.

Additionally, although pilot studies at San Elijo and SBSA with EPT have been promising and indicated good TSS and CBOD removal rates at SOR's well above recommended design parameters, conservative design practice suggests that EPT performance is highly variable from facility to facility.

It is therefore recommended that a third primary clarifier be installed to ensure operational flexibility in the future under a range of flow and loading conditions. However, considering the potential cost and land allocation involved in construction of a new clarifier, it is also suggested that EPT be pilot tested at the VWRf to explore the feasibility of implementing this option in lieu of building a third clarifier.

4.3.2.2 Primary Effluent Pumping Capacity

Some improvements to primary effluent pumping could be addressed by utilizing the split stream treatment strategy proposed in B&C's TM No. 1. With this treatment strategy, a portion of the influent flow bypasses the primary clarifiers. The bypassed influent is then conveyed to a new mixed liquor pumping system that pumps the bypassed influent, along with recycled mixed liquor, into the aeration basins. Although this treatment strategy could allow the maximum day flow to be conveyed to the aeration basins with no improvements to the primary clarifiers or primary effluent pumping, extended operation in this mode of treatment is not recommended. For this reason, other improvements are also considered such that utilization of split stream treatment does not become a routine function.

Based upon an equalized maximum day flow of 23.8 MGD, the existing primary effluent pumping system lacks sufficient capacity. The primary effluent wet well has been designed

such that it can facilitate the addition of a fourth pump. At most, addition of a fourth pump would provide a total capacity of 23.0 MGD and a firm capacity of 17.3 MGD. Influent flows exceeding the available pumping capacity could be handled using the split stream treatment strategy discussed above.

Alternatively, a firm pumping capacity equal to or greater than 23.8 MGD could be provided by:

1. Replacing the existing pumps with higher capacity pumps.
2. Upgrading the existing pumps and adding a fourth pump.
3. Adding a fourth pump and enlarging the discharge piping to the aeration basins to allow the pumps to operate at a higher capacity.

The existing vertical turbine primary effluent pumps could be upgraded by installing larger impellers, larger motors, and/or additional stages. The pump upgrades could yield a total capacity equal to or greater than the projected maximum day flow of 23.8 MGD, but they may or may not yield a firm capacity meeting that criterion. It is also uncertain as to whether or not sufficient space exists for installing higher capacity pumps or upgrading the existing pumps. Either option for increasing primary effluent pumping capacity by replacing or improving the pumps may also require improvements to the discharge pipelines to prevent excessive headloss at the higher flow rates.

4.3.2.2.1 Recommended Alternative

An evaluation of the system hydraulics summarized by B&C's TM No. 1 indicated that the discharge piping velocity may be excessive under high flow conditions. It was recommended to replace the existing discharge piping to the aeration basins with a larger pipe. Additionally, after review of the PE/FE pump station and discussion with the VWRf Staff, it was clear that the facility could be unable to accommodate larger equipment without significant modification. The City is confident that, after addition of a fourth pump and enlargement of the discharge piping, the VWRf could convey the projected flows under normal operating conditions. In addition, the VWRf would rely on split-treatment operation only during wet-weather events.

Considering this, it is recommended that a fourth pump be added and the PE/FE discharge piping be enlarged as planned. If these improvements are not sufficient to convey the projected maximum day flow, further expansion of the PE/FE pump station may be required.

4.3.3 Mixed Media Filters

4.3.3.1 Mixed Media Filter Capacity

4.3.3.1.1 Additional Mixed Media Filters

The six (6) existing low pressure mixed media filters lack sufficient total or firm capacity to treat the projected maximum day flow of 23.8 MGD. Furthermore, the VWRf Staff observed decreased filter performance over the past few years. Observed issues include, but are not limited to, shorter filter runtimes (resulting in an increase of filter backwashing procedures), and loss of filter media.

Rehabilitation of the six (6) existing filters and the addition of at least four new filters of equal size would be necessary to achieve operational efficiency and firm capacity to treat projected flows.

Alternatively, the filtration process could be changed to a surface, rather than granular media, filtration process. Surface filtration is a system that achieves particle removal by straining the liquid through a thin fabric or membrane. Particles are rejected when larger than the nominal size of the surface opening. Interception, adhesion, and adsorption may also become significant removal mechanisms as particles accumulate on the surface of the fabric or membrane. The surface must be intermittently purged of accumulated particles by backwashing in order to minimize headloss through the system.

4.3.3.1.2 Cloth Disc Filters

The most common fabric filtration system for tertiary treatment is a cloth disc filter with a typical nominal pore size of 10 microns. The cloth fabric is supported by a series of discs that are mounted vertically inside a tank. The discs are connected on their axes by a common effluent tube. Water enters the tank, passes through the cloth fabric, and then leaves the process through the common effluent tube.

The fabric is completely submerged during normal operation. When a backwash cycle is initiated, suction heads on both sides of the discs vacuum solids off the exterior of the cloth fabric while the discs rotate. The vacuuming draws filtered water back through the cloth fabric, which helps to remove particles trapped within the cloth.

The primary advantage of cloth disc filters over conventional mixed media filters is a reduction in energy usage. In addition, the modularity of cloth disc filter equipment is conducive to relatively easy expansion of the facility.

4.3.3.1.3 Membrane Tertiary Filtration

Membrane filtration is a second alternative to mixed media filters. Membranes with a very small (typically 0.1 micron) pore size serve as a physical barrier to essentially all solids, and permeate is consistently of very high quality. Two (2) main types of membrane filtration are available:

1. submerged membranes
2. pressure cartridge membranes.

Submerged membranes are installed in a tank and use permeate pumps to apply a vacuum to the interior of the membranes to draw water through. Pressure cartridge membranes are installed inside pressure vessels and use feed pumps to apply pressure, forcing water through the membranes. The existing filter tanks could possibly be modified for installation of submerged membranes. For a tertiary filtration application, pressure cartridge membranes are typically the most cost effective.

Alternatively, using a smaller packaged membrane system to scalp directly from the aeration tanks could reduce loading on the tertiary filters to acceptable limits. A membrane system could also reduce loading on the secondary clarifiers. Secondary sedimentation would not precede

the membranes in this application, so the operating flux rate could be lower than if membranes were used only for tertiary filtration. Since the flux rate could be lower, more membranes could be required for an equivalent capacity. A higher capital investment could be required also. Although the firm capacity of the secondary clarifiers appears adequate, the investment in additional membranes may be worthwhile since the hydraulic loading rate on the secondary clarifiers exceeds a typical design rate and a low design conservatism exists for this process.

4.3.3.1.4 Recommended Alternative

The following alternatives are recommended for consideration:

1. Rehabilitation of the existing filters and the addition of four new mixed media filters.
2. Installation of cloth disc filters.
3. Installation of a pressure cartridge membrane system for tertiary filtration.
4. Installation of a submerged membrane system for scalping from the aeration tanks.

Although conversion to an MBR process (Alternative No. 4) is much more expensive than the other three alternatives, consideration should be given to the savings resulting from other recommended improvements that would no longer be necessary.

Due to the high operations and maintenance cost of conventional mixed media filtration, along with the disinfection limitations posed for recycled water production (discussed in Section 4.3.4), it is recommended that the existing mixed media filters be replaced with a cloth media filter system. A cloth media system with a capacity of 24 MGD typically consists of seven individual 12-disk units.

4.3.4 Disinfection

4.3.4.1 Disinfection Limitations

The issue of nitrite “lock” could be addressed by adding a bioaugmentation reaeration basin, as proposed by Brown and Caldwell (B&C’s TM No. 1). This modification should provide complete nitrification year-round, which would eliminate the occurrence of nitrite “lock” in the disinfection process. Therefore, the alternatives discussed below focus on ensuring compliance with the effluent ammonia and total chlorine residual permit limits while providing the minimum CT value required for disinfected tertiary recycled water.

4.3.4.1.1 Disinfect Recycled Water Separately and Continue Chlorination and Dechlorination for Discharge to Estuary

As mentioned previously, chloramination is used for disinfection to prevent the formation of THMs and other disinfection byproducts prohibited by the NPDES and recycled water permits. However, it appears that disinfection using chloramination may not be able to satisfy both the effluent nitrogen limitations and the Title 22 required CT value for production of recycled water at the projected flows. It may be feasible, however, to disinfect recycled water and estuary discharge separately while maintaining compliance with NPDES and Title 22 regulations.

For disinfection of Estuary discharge, a dosage of between 6 to 12 mg/l of chlorine with a 30 minute contact time is typically applied to filtered nitrified effluent to meet an effluent total coliform standard of 200 MPN/100 ml (Metcalf & Eddy, 2003, Table 12-13). To achieve the equivalent CT value of 180 to 360 mg-min/L with a 90-minute contact time, as the estimated HRT at the future maximum day dry weather flow, could require a chloramine residual between 2.0 to 4.0 mg/l. Although the higher residual ammonia concentrations following dechlorination would seem prohibitive to this operational strategy, improvements for continued chloramination of discharge to the Estuary are discussed below due to the uncertainty in the interpretation of the proposed NPDES effluent requirements regarding total ammonia and total nitrogen.

Control of the chlorine dose could be improved by having two or more locations available for dosing chlorine. This could allow for more precision dosing at the first location, then adjusted based upon feedback from the effluent flow meter and chlorine residual analyzer. Dosing at the subsequent locations could be necessary only if the measured chlorine residual was below the specified setpoint. A second chlorine analyzer could be used to determine the chlorine residual upstream of a dechlorination zone. Location of the analyzer could be such that at the Maximum Day Flow, the effluent may not reach the dechlorination zone from the time of sample collection to the time the results of the analysis were reported.

To improve dosing efficiency of sulfur dioxide and ensure compliance with the chlorine residual permit limit, two locations should be available for dosing sulfur dioxide. The measured chlorine residual just upstream of the dechlorination zone could be used to determine an appropriate initial sulfur dioxide dose for dechlorination. Just downstream of the first dechlorination dose, an analyzer could measure the chlorine residual. If a residual is detected, more sulfur dioxide could be dosed at the second location. The location of the analyzer could be such that at the Maximum Day Flow, the effluent may not reach the second sulfur dioxide dosing location from the time of sample collection to the time the results of the analysis were reported. A final chlorine analyzer could be located at the end of the dechlorination zone and contact tanks to provide the chlorine residual measurements for permit compliance. Based on typical design criteria, the existing chlorine contact tanks appear to have abundant capacity and creating a dechlorination zone in the third contact tank may be feasible.

In 1997, California implemented the California Accidental Release Prevention Program (CalARP). CalARP issues regulations that call for the publishing of Risk Management Plans (RMP) for facilities that store or handle toxic chemicals such as chlorine and sulfur dioxide above specific quantities. As a facility with more than the threshold quantity for both of these regulated substances, the VWRf must evaluate and determine the potential for and impacts of accidental releases for these substances. After implementation of this program, many wastewater treatment facilities moved away from these regulated substances to not only avoid the potential hazards of working with these toxic chemicals, but also to avoid the RMP process. If the VWRf continues to disinfect with chlorine, consideration should be given to alternative methods of chlorination and dechlorination that present less risk to the operations Staff and surrounding community as well as facilitate regulatory compliance with CalARP.

Liquid sodium hypochlorite (NaOCl) contains chlorine that can be utilized for disinfection. Sodium hypochlorite is not a regulated substance under CalARP. Thus the city is not required to prepare an RMP for sodium hypochlorite. Liquid sodium hypochlorite is used at wastewater treatment facilities with a number of advantages over chlorine gas (most notably, increased public safety, since the chemical can be easily contained in liquid form). Liquid sodium

hypochlorite has a high degradation rate at higher solution strengths and higher temperatures. The typical 12.5 percent trade strength sodium hypochlorite solution could be diluted onsite with potable water to increase longevity of the product, but this could increase storage requirements.

Liquid sodium hypochlorite could also be generated onsite. Onsite generation of liquid sodium hypochlorite is becoming increasingly popular as an alternative to conventional delivery and storage of sodium hypochlorite. The major advantage includes eliminating the risks associated with transportation and transfer of the chemical to the facility and storage tanks. In addition, onsite generation produces sodium hypochlorite at 0.8 percent concentration. At this solution strength, the chemical is classified as non-hazardous. In addition, this concentration does not require secondary containment, and operators do not require HAZMAT training. Off-gassing of chlorine is significantly reduced, with less wear on the chemical delivery and containment systems due to lower corrosivity. The cost feasibility of onsite generation is highly dependent on the local cost of power. A life-cycle cost assessment is recommended if the City considers this alternative for implementation.

Since the VWRF uses a CalARP regulated substance for dechlorination, alternatives should also be considered for the sulfur dioxide system. Sodium bisulfite is a widely used dechlorination agent in the wastewater industry. The chemical is classified as hazardous and susceptible to crystallization and off-gassing of sulfur dioxide at higher concentrations and temperatures. Calcium thiosulphate is not as widely used. However, it possesses major advantage over sodium bisulfite in that it is non-toxic, non-corrosive, and does not break down or crystallize over long periods of time. However, calcium thiosulphate also requires a longer contact time than sodium bisulfite. These chemicals are not regulated under CalARP. The City is not required to prepare a RMP for storage and handling.

For production of recycled water, chloramination is a feasible method of disinfection because Title 22 does not limit ammonia or total nitrogen for production of tertiary disinfected recycled water. If this option is considered, it may be most cost-effective to use one of the existing CCTs or construct a smaller sidestream CCT operating at a higher residual chloramine concentration to achieve the target CT value of 450 mg-min/L. At the minimum required contact time of 90 minutes at Maximum Day Summer Flow, the operating chloramine residual could be approximately 5.0 mg/l. Other disinfectants and dechlorinating agents could also be utilized, as discussed previously.

Alternatively, ultraviolet (UV) disinfection could be provided for production of recycled water or for disinfection of Estuary discharge. UV disinfection is described in more depth in the following section.

4.3.4.1.2 UV Disinfection

UV is widely accepted in the wastewater treatment industry as a viable alternative to chlorine disinfection. Major advantages cited include the elimination of chlorine residuals and byproducts, elimination of health risks and maintenance problems associated with onsite storage and handling of chlorine, and easier compliance with the CalRMP and Occupational Safety and Health Administration (OSHA) regulations. In addition, UV disinfection is not affected by nitrite accumulation in the effluent. The primary disadvantages of UV systems are high capital cost when compared to a facility with adequate contact tank capacity, higher power consumption, and lamp replacement costs. Although some smaller installations rely on manual

cleaning of lamps, most UV systems are equipped with automated cleaning systems. In addition, UV systems monitor lamp status and notify the operator when one or more lamps require replacement.

UV systems can be installed as an open channel gravity flow configuration or as an in-pipe configuration. Selection of the UV system configuration could depend on upstream and downstream hydraulic conditions. An open channel system could be most applicable when preceded by a gravity filtration system such as the existing mixed media filters or cloth media filters. It is possible that a portion of the existing chlorine contact tanks could be retrofitted as an open channel for UV banks. Other modifications, such as installing level control weirs, could be required to ensure that the UV lamps stay submerged during low flows.

An in-pipe UV system could be most applicable if preceded by membrane filtration. The permeate pumps or feed pumps could provide sufficient pressure to convey the effluent through the UV system. UV disinfection may not be the most cost-effective alternative, unless substantially more CCT volume is required to meet the recycled water CT value without increasing the chloramine residual concentration. The cost-effectiveness of UV disinfection is often improved when used with membrane filtration, since the high clarity of effluent from membrane filtration improves the effectiveness of UV radiation as a disinfectant. This reduces the number of lamps required and amount of energy consumed.

If sidestream disinfection of recycled water were provided by chloramination, UV disinfection could be utilized for disinfection of Estuary discharge. However, the incremental cost of additional UV capacity to include disinfection of recycled water is likely marginal when compared to the overall cost of implementing UV disinfection for Estuary discharge only. Therefore, if the City considers this option for implementation, it is recommended that UV facilities be designed for disinfection of both recycled water and Estuary discharge.

4.3.4.1.3 Recommended Alternative

As indicated previously, disinfection to meet Title 22 requirements would likely require that the VWRP carry a total chlorine residual between 3.4 to 5.0 mg/l in the CCTs for production of recycled water. NPDES disinfection requirements would likely require that the VWRP carry a total chlorine residual between 2.0 and 4.0 mg/l in the CCTs for Estuary discharge. The VWRP scales the dosage of ammonia with chlorine dosage to prevent the formation of disinfection byproducts that are regulated by NPDES and recycled water permits. This additional residual ammonia persists in the CCT effluent following dechlorination and could exceed permitted limits.

For these reasons, it is recommended to replace the existing chlorine system with UV disinfection for both Estuary discharge and production of recycled water. If actual NPDES permit limits allow for higher effluent ammonia concentrations than assumed, these recommendations should be re-visited to assess the feasibility of continued chloramination as the primary method of disinfection.

4.3.5 Effluent Pumping and Metering

4.3.5.1 Effluent Pumping Capacity

4.3.5.1.1 Complete Pump Replacement

The existing effluent pumps consist of three vertical turbine pumps (two [2] duty, one [1] standby) with a firm capacity of 9.5 MGD. Based on the projected equalized maximum daily flow of 23.8 MGD, replacement of the pumps or expansion of the ETS will be required. Replacement of the pumps with three 11.9 MGD vertical turbine pumps would be feasible, provided the size and hydraulic characteristics of the existing effluent pump station structure are sufficient.

4.3.5.1.2 Pump Upgrade and Expansion

An alternative to replacing the existing pumps is to upgrade the existing pumps to operate at a higher capacity and expand the ETS to add more pumps, if necessary. The existing vertical turbine pumps could be upgraded by installing larger impellers, larger motors, and/or additional stages. Either option for increasing effluent pumping capacity may require improvements to the discharge pipelines to avoid excessive headloss at the higher flow rates. The system hydraulics should be evaluated to determine the need for enlarging the discharge piping and the feasibility of upgrading the existing pumps.

4.3.5.1.3 Elimination of Effluent Pumping with Membrane Filtration

If membrane filtration is implemented, another alternative is to use the head generated by the permeate or feed pumps to convey effluent to the wildlife ponds. This option is feasible only if an in-pipe UV system is used for disinfection.

4.3.5.1.4 Recommended Alternative

After discussion with VWRP Staff, the most feasible alternative contains the following components:

- Expand the existing pump station by adding a new wet well with two new 9.5 MGD pumps.
- Connect the new wet well to the existing ETS wet well.
- Rehabilitate the existing pumps.
- Make modifications to the existing discharge piping.

4.3.5.2 Effluent Metering Capacity and Redundancy

The new NPDES Permit, Order No. R4-2008-0011, indicates on page E-7 that the VWRP shall monitor effluent flow at the ETS. As mentioned previously, the VWRP currently measures effluent flow to the Estuary at the termination of the wildlife ponds. Due to the limitations identified with the capacity and redundancy of the existing flume and also the proposed relocation of monitoring, improvements are considered to effluent flow monitoring below.

4.3.5.2.1 New Parshall Flume

Two (2) new 36-inch Parshall flumes, each with a capacity of up to 32.5 MGD, could be installed near the ETS. This larger flume could provide sufficient capacity to accurately gauge the projected maximum day flow without excessive surcharging and also provide accurate measurements at low flows. A flume would need to be installed in an easily accessible location on the upstream side of the ETS. Since a flume is an open-channel measurement device it requires access for calibration and visual observation. Also, installation of a flume could require significant structural modification if existing structures are not designed to accommodate the addition.

4.3.5.2.2 Magnetic Flow Meter

Alternatively, two (2) magnetic flow meters could be installed on the discharge header from the ETS. A magnetic flowmeter would need to be installed in an easily accessible location, since the flowmeter requires access for calibration and maintenance. Additionally, the meter would require a straight run of pipe both upstream and downstream and the discharge piping at the meter would always need to be full for accurate flow measurement. Installation of a magnetic flowmeter could require some piping modification if the ETS discharge piping is not configured for the addition.

4.3.5.2.2 Recommended Alternative

If the piping layout and hydraulic conditions are conducive, it is recommended that two magnetic flow meters be installed on the discharge piping of the effluent transfer pumps. If piping modifications are not significant, magnetic flow meters could be significantly less expensive than two Parshall flumes, after factoring in the cost of the structural modifications.

If the facility layout and hydraulic conditions are not conducive to the installation of magnetic flow meters at the effluent transfer, it is recommended to assess the feasibility of installing two (2) 36-inch Parshall flumes at the CCT. If the disinfection system is converted to UV, then extra space within the existing footprint of the CCT may accommodate the addition of new flumes.

4.3.6 Anaerobic Digestion

4.3.6.1 Anaerobic Digestion Capacity

As discussed in Paragraph 4.2.2 above, it is understood that the VRWF could dispose of solids on an occasional and temporary basis with one (1) digester out of service. Therefore, firm capacity is assumed to be equal to the total process capacity.

The three existing digesters could be severely overloaded before the AAF reaches the 14 MGD design flow. Considering both key anaerobic digestion design criteria (volatile solids loading and detention time), the digester volume must be increased from the existing 1.5 MG to a total of 2.0 MG.

The existing mesophilic anaerobic digestion offers the following key advantages:

- Production of Class B biosolids through effective stabilization of the sludges.
- Volatile solids reduction through conversion into a renewable fuel for power production.
- Stable, low-cost operation.

The existing three digesters should be gradually rehabilitated to provide improved mixing, reliable heating, and new gas-handling equipment. For each mesophilic digestion alternative described below, it is assumed that the existing three (3) digesters could be rehabilitated unless otherwise noted.

The following are some alternatives for expanding the capacity of the anaerobic digestion facilities.

4.3.6.1.1 Add a Fourth Digester with Provisions for Alternative Disposal Options

The least-cost alternative for addressing the digester bottleneck includes the addition of a single, new 0.5 MG, pump-mixed, mesophilic digester.

4.3.6.1.2 Abandon Existing Digestion Facilities, Dewater Sludge, and Haul to Regional Biosolids Facility

This alternative would involve centrifuge dewatering of raw sludge for trucking to the proposed regional biosolids facility in Ventura County. The existing digestion, dewatering and co-generation facilities would be abandoned.

4.3.6.1.3 Produce Class A Biosolids Using Pasteurization

This alternative would involve the addition of lime, pre-thickening, dewatering in a screw press, and heating with steam to meet EPA pathogen reduction requirements.

4.3.6.1.4 Recommended Alternative

The digesters operate reliably and consistently achieve and exceed pathogen and vector attraction reduction requirements for Class B biosolids. Also, the City already anticipated the need for improvements to the VWRP digestion process and allocated space for a fourth digester. Considering this, it is recommended to continue with the planned addition of the fourth mesophilic digester. The project could bring the projected SRT and volatile solids loading rates within typical design standards.

Additional consideration may also be given to enhancing the ability to receive fats, oils, and grease (FOG) with the construction of the new digester. In order to appropriately digest FOG, the new digester would need to be equipped with a pump mixing system that is specifically designed to keep the FOG mixed into the digester biomass. However, the FOG could be a substantial source of both revenue and savings for the VWRP. It is estimated that FOG received from the VWRP service area could yield approximately \$50,000 in tipping fees and produce sufficient digester gas to generate approximately \$50,000 worth of power in a cogeneration facility.

4.3.7 Comprehensive Replacement Plan

Alternatives to increase VWRP capacity to 14 MGD AAF were discussed in previous sections. However, the scope of this evaluation could not encompass every potential limitation. Many of the facilities at the VWRP are operating beyond a typical design life, and the condition of these facilities was not assessed within the scope of this project.

Considering the age of some components of the VWRP, assessing the state of these facilities is critical to developing an appropriate improvement plan. A condition assessment is recommended to collect this information. If the results of this assessment indicate that many structures, connective piping, or equipment are not in adequate condition to operate reliably, then implementation of a comprehensive replacement plan could be considered in place of the previously recommended improvements. Other considerations for implementation of a comprehensive replacement plan include the following:

1. Confirm loading projections used for the capacity assessment with recent historical operating data
2. Reevaluate several components of the VWRP that approach the limits of conventional design such as the filters, thickeners, and digesters
3. Determine whether or not the proposed alternatives will address all of the possible SWRCB permit requirements and the unpredictable regulatory climate.

The comprehensive replacement plan will facilitate the expansion of the VWRP to serve 14 MGD AAF, and also addresses some of these uncertainties. Replacement options are presented in the following sections.

4.3.7.1 Conventional BNR

One option for a comprehensive replacement plan is application of a conventional activated sludge BNR system. The BAR system that Brown and Caldwell (B&C's TM No. 1) recommended, could potentially integrate with the existing aeration tanks depending on the results of the condition assessment. The process could be designed to facilitate nitrification and denitrification like the existing mLE process, or could be expanded to incorporate phosphorus removal as well. The benefit of such a system is the low cost and operational flexibility and familiarity. Since the City is already familiar with BNR processes and innovative variations such as the BAR, this option will not be discussed in more depth.

Additional consideration would be required for improvements to address other limitations including the following: influent and effluent flow measurement, primary clarifier redundancy, primary effluent pumping, RAS pumping, WAS pumping, tertiary filtration, disinfection, gravity thickening, dissolved air floatation, digestion, dewatering, and the need for repair to older facilities.

4.3.7.2 Integrated Fixed-film Activated Sludge (IFAS)

Another option to replace secondary treatment would be to apply an integrated fixed-film activated sludge (IFAS) technology. An IFAS system provides the benefits of attached growth

biological systems to the suspended growth activated sludge process. Biomass accumulation on media added to a typical activated sludge system provides a higher SRT without increasing solids loading on the clarifiers, since much of the biomass is retained with the media in the reactors.

Media can be mounted in the tank and fixed in place, or introduced as loose pieces that are suspended and circulated throughout the tank. Select types of media have been shown to achieve some degree of denitrification, in addition to nitrification, within one aerobic reactor.

The effective SRT of this system is higher than a typical activated sludge system. Thus the process is less susceptible to shock loads or large fluctuations in influent quality. This could allow a greater margin of safety if more recent plant loadings did not confirm the loading projections based on older historical data. Also, in the event of a hydraulic upset, the system is much less susceptible to washout. Much of the biomass is attached to fixed film media which remains in the tanks regardless of the flow condition.

Depending on the results of the condition assessment, the existing aeration tanks may be able to be retrofitted with IFAS. Modifications to the diffusers, air piping and blowers could be required to accommodate the new system. Also, additional consideration would be required for improvements to address other limitations including the following: influent and effluent flow measurement, primary clarifier redundancy, primary effluent pumping, RAS pumping, WAS pumping, tertiary filtration, disinfection, gravity thickening, dissolved air floatation, digestion, dewatering, and the need for repair to older facilities.

If the City considers this technology favorable, then it is recommended to pilot test or model the IFAS system. The pilot testing, or modeling, could verify the degree of treatment to be expected. Various manufacturers of the IFAS system offer trailer mounted pilot installations.

4.3.7.3 Membrane Bioreactor (MBR)

Membranes could also be applied to a membrane bioreactor (MBR) process that would replace or supplement the existing activated sludge process, rather than using membranes to filter secondary effluent as discussed in Section 4.3.3.

Completely converting to an MBR process could eliminate the need for improvements to the aging secondary clarifiers and capacity-limited mixed media filters, because the membranes could provide liquid-solids separation at a tertiary level of treatment. Additionally, if reinforced membranes already replaced the MMF's, these same membranes could be repackaged and reused in the MBR process. The identified RAS pumping improvements would not be necessary, because the MBR process contains the biomass (except when wasted).

In addition, improvements to address redundancy or the aging condition of the primary clarifiers may not be necessary, because an MBR process operates at high mixed liquor concentrations (typically around 10,000 mg/l). This high mixed liquor concentration provides greater capacity to treat organic waste, yields a longer SRT, and improves the stability of the process when experiencing shock loads or large fluctuations in influent quality. This would also allow a greater margin of safety if more recent plant loadings did not confirm the loading projections based on older historical data.

If the City upgrades or expands the secondary treatment process with membranes, the requirements for fine screening associated with protecting the membranes could also be used to provide satisfactory grit removal. This could eliminate the need for expansion of the existing grit removal process to address redundancy considerations. Hollow fiber membrane manufacturers typically require at least a 2 mm fine screen and often prefer a 1 mm unit when membrane modules are more tightly packed than in a typical cassette. Flat plate membrane manufacturers typically require a 3 mm fine screen. Given that relatively limited grit quantities would pass through fine screens with 1 to 3 mm openings, additional grit removal may not be necessary with installed fine screens.

An in-pipe UV system would be the most applicable alternative if proceeded by membrane treatment, since the UV would eliminate concerns with chlorine residual and disinfection byproducts. The membrane permeate pumps could then also replace the effluent transfer pumps. Additionally, reverse osmosis (RO) could be implemented more easily if an MBR system was already in place. RO could be used to achieve greater removal of metals and other non-conventional pollutants required by future regulatory permits.

Additional consideration would be required for improvements to address other limitations including the following: influent and effluent flow measurement, primary effluent pumping, WAS pumping, gravity thickening, dissolved air floatation, digestion, dewatering, and the need for repair to older facilities.

Although conversion to an MBR process is more expensive than the previously recommended alternatives, consideration must be given to the savings resulting from eliminating other process improvements due to the installation of an MBR. Also, if the cost of membranes continues to decline, as experienced over the last few years, membrane technology may become a very cost-effective alternative in the future.

Other factors that may make membranes more feasible are permitting pressures to expand the recycled water system and the value of high quality water in Southern California. As regulatory limits become increasingly stringent and as water becomes more valuable in this region, the benefit of and potential to attract customers and sell recycled water also improves.

If the City considers this technology favorable, then it is suggested to first evaluate the adequacy of the post equalization basins as described previously in this section. Ensuring that enough volume is available to equalize the maximum day flow will reduce the required design conservativeness and the overall cost of implementing an MBR.

4.3.7.4 Comprehensive Replacement Costs

As stated above, if the results of an overall plant assessment indicate that many components of the plant are not in adequate condition to operate reliably, then implementation of a comprehensive replacement plan could be considered in place of the improvements recommended in Section 4.3.

While it is difficult to estimate the costs for such a comprehensive plan, typical capital costs for the construction of wastewater treatment facilities range from \$15 to \$20 per gallon capacity. For a 14 MGD facility, the comprehensive replacement costs could range from approximately \$210 to \$480 million dollars.

4.3.8 Summary of Recommended Improvements and Conceptual Capital Costs for Continued Discharge to the Estuary

The previous paragraphs discussed alternatives to address the process limitations in Section 4.2 to enable the entire VWRP to treat an AAF of 14.0 MGD. Additionally, a comprehensive replacement plan was presented as an alternative to the identified improvements to address some uncertainties having to do with the general condition of the VWRP, loading projections, and regulatory considerations.

A summary of recommendations, with associated capital costs for continued discharge to the estuary, is summarized in Section 4.5 (Table 4-24). Also, as mentioned previously, a flow-based timeline for the identified improvement needs is presented in Figure 4-2.

4.4 Long-Range Plan for Discharge Prohibitions to the Estuary

In accordance with NPDES Permit No. CA0053651, Order No. R4-2007-XXXX, Paragraphs III.A and B:

“the discharge of treated wastewater to the Estuary is prohibited after December 31, 2018, unless there has been a determination from responsible resource agencies that sustenance flow is required to support endangered species habitat...The discharge to the Estuary must be removed as early as practicable, and to facilitate this, it is required that an incremental decrease of 1 MGD occurs per year, beginning in 2008.”

In consideration of the proposed stepped reduction in discharge to the Estuary, this section explores the options for future discharge of wastewater at other permitted or permissible locations. In addition, this section addresses the impacts of an alternative discharge point on the previously recommended improvements for NPDES permit compliance.

4.4.1 Increased Production of Reclaimed Water

Paragraph II.A of the proposed NPDES permit suggests that the requirement of the previously mandated maintenance flows to the Estuary may be lifted such that water recycling can be increased. In the interest of promoting beneficial reuse and expanding their recycled water system, the City contracted Kennedy/Jenks to perform a Recycled Water Market Assessment (Assessment) to evaluate the potential for recycled water markets within the city and estimate the potential for recycled water usage.

After review of the water usage and land-use information within the city, the Assessment suggested that there is a potential to increase recycled water usage from 0.6 MGD to about 1.9 MGD, on an average annual flow basis, if the system were expanded to include all the potential irrigation customers. Based on this evaluation, and considering that recycled water demand varies seasonally, it does not appear that increased production of recycled water will completely address the proposed discharge prohibition to the Estuary.

4.4.2 Ocean Outfall

Another potential alternative to address the discharge prohibition to the Estuary includes construction, permitting, and discharge of treated effluent through an ocean outfall. Since effluent quality requirements for ocean outfalls are typically less stringent than the proposed effluent performance goals outlined in the City's proposed NPDES and recycled water permits, effluent discharge through an ocean outfall could address some of the process limitations identified in Section 4.2.

Discussion in this section includes the following items:

- Consideration of typical NPDES permit requirements for an ocean outfall.
- A conceptual plan for construction of an ocean outfall.
- Discussions of how different effluent quality and redundancy requirements may impact the recommended improvements on a process-by-process basis.
- A conceptual capital and operation and maintenance cost estimate.
- A discussion of the impact on continued production of recycled water.

4.4.2.1 Typical Outfall NPDES Permit Limitations

The San Elijo Water Reclamation Facility (SEWRF) in the City of Cardiff, California, is located approximately 30 miles north of San Diego on the Pacific coast. The SEWRF discharges treated wastewater through an ocean outfall pipe where it commingles with discharges from the City of Escondido before entering the Pacific Ocean. NPDES Permit No. CA0107999, Order No. R9-2005-0100, defines requirements for discharge from the SEWRF to the Pacific Ocean for conventional pollutants as indicated in Table 4-23.

**TABLE 4-23
NPDES PERMIT CA0107999 EFFLUENT REQUIREMENTS (11 MAY 2005)**

Requirements	Units	Average Monthly	Average Weekly	Instantaneous
<i>Effluent Requirements</i>				
BOD	mg/l	25	40	-
Total Suspended Solids	mg/l	30	45	-
Oil and Grease	mg/l	25	40	75
Settleable Solids	ml/l	1	1.5	3.0
Turbidity	NTU ^(a)	75	100	225
pH	-	-	-	6.0-9.0
Total Residual Chlorine	mg/l	480 ^(c)	-	14,000
Total Coliform Organisms ^(b)	MPN/100 ml	70	-	230

Notes:

- (a) Nephelometric Turbidity Unit.
 (b) Conservative determination based on median coliform density requirements in areas where shellfish may be harvested for human consumption.
 (c) Six month median value.

For the purposes of considering permit requirements for an ocean outfall at the VWRP, it is assumed that effluent limitations and performance goals would be similar to that of the SEWRP for discharges to the Pacific Ocean.

4.4.2.2 Conceptual Plan for Construction of an Ocean Outfall

A conceptual plan for a 30-inch ocean outfall was prepared and is included in Appendix H. The conceptual alignment for the outfall originates near the beach approximately 2,000 ft from the VWRP and runs westerly approximately 1 mile out into the ocean to a water depth of roughly 15 ft. The location and profile for the outfall, construction considerations, and estimated costs are included in the referenced Appendix.

4.4.2.3 Headworks and Influent Pumping Station

Limitations identified with the headworks and influent pumping station were hydraulic in nature or pertained to process redundancy. Therefore, these limitations would exist regardless of a change in effluent discharge requirements, and the previous recommendations discussed in Section 4.3 are applicable.

4.4.2.4 Primary Clarifiers

Limitations identified with the primary clarifiers and PE/FE pumps were hydraulic in nature or pertained to process redundancy. Therefore, these limitations would exist regardless of a change in effluent discharge requirements, and the previous recommendations discussed in Section 4.3 are applicable.

4.4.2.5 Aeration Basins

Capacity limitations identified with the aeration basins in Section 4.2 were based on typical process requirements for achieving the nitrification and denitrification required by the proposed effluent limitations in the revised NPDES permit. As seen in the San Elijo permit, NPDES requirements for ocean outfalls do not typically include effluent limits for ammonia, nitrate, or nitrite. Considering that nitrification and nitrogen removal may not be required with an ocean outfall, operating the biological system at a low SRT for BOD removal only may be a feasible treatment strategy that would reduce the amount of improvements expected for permit compliance.

In some wastewater treatment facilities (Seattle, San Francisco), an anaerobic selector was used before the aeration tank in low SRT activated sludge systems designed for BOD removal, even though phosphorus removal was not required. The process involves placing an anaerobic contact zone ahead of an aerobic zone in an activated sludge treatment system.

Solids separation is one of the most important aspects of biological wastewater treatment. Frequently, a biological selector is incorporated in the design to limit the growth of organisms that do not settle well. The concept of a selector is the use of a specific bioreactor design that favors the growth of floc-forming bacteria instead of filamentous bacteria to provide an activated sludge with better settling and thickening properties. The goal in the selector is to have most of the readily biodegradable (soluble) substrate consumed by the floc-forming bacteria, which then translates to an advantage in the aerated zones.

Anaerobic metabolic conditions used in an activated sludge process favors the growth of the floc-forming bacteria since the filamentous bacteria do not store polyphosphates and cannot consume acetate in the anaerobic contact zone, thus giving an advantage for substrate uptake and growth to the floc-forming phosphorus-storing bacteria. Improved sludge settling characteristics, and in many cases, minimal filamentous bacteria growth has been observed with anaerobic selector-based systems. For high F/M anaerobic selectors, the resultant mixed liquor SVI typically ranges from 65 to 90 mL/mg. Additionally, anaerobic treatment processes are known to have a lower biomass yield, which may result in a lower net solids production and may help alleviate some of the projected bottlenecks with the solids handling systems.

Anaerobic contact detention times are typically 30 to 60 minutes and the zone is mixed to provide contact between mixed liquor and influent wastewater. Aerobic detention time generally ranges between 1 to 3 hours at typical design mixed liquor concentrations. A low operating SRT is used to prevent the initiation of nitrification, with desirable SRT's ranging from 2 to 3 days at 20⁰C, and 4 to 5 days at 10⁰C. RAS recycle is typically 25 to 100 percent of the influent flow without the requirement for internal recycle. Anaerobic and aerobic reactors are typically compartmentalized to promote plug flow and reduce short circuiting.

Comparing these typical design values against the projected operation in Table 4-7 in Section 4.2, it appears that some improvements to the secondary treatment system could be necessary. Under this scenario, if the VWRP continued to operate at a low mixed liquor concentration, the projected SRT will be below typical design values and the VWRP may not be able to consistently achieve compliance with typical NPDES effluent limits for an ocean outfall. An approximate doubling of solids inventory would be required to bring the projected SRT back within typical design range. This could be achieved by doubling the process volume, doubling the operating mixed liquor concentration, or some combination therein.

Since a low SRT system would not induce nitrification, the projected oxygen requirements could be reduced significantly and the aeration blower improvements may not be required. Also, since nitrogen removal may not be required by permit, and would not be required to prevent floating sludge in the clarifiers, the BNR pump improvements may not be needed either. Additional improvements such as baffling to compartmentalize the reactors, mixers for the anaerobic zones, and restructuring of flow routing to prevent hydraulic bottlenecks could be required.

It is recommended that this alternative be reevaluated if it is determined that an ocean outfall is viable. Pilot testing of this process may be beneficial to assess the feasibility of implementation at the VWRP, specifically to gauge the impact of an anaerobic selector on sludge settleability and solids production, and also to assess the viability of operating at higher mixed liquor concentrations in lieu of installing additional process volume.

4.4.2.6 Secondary Clarifiers

Capacity limitations with both the RAS and WAS pumping systems were identified in Section 4.2. The method used in Section 4.2 to evaluate WAS production incorporated simple calculation methods that were independent of the SRT in the biological system. Consequently, the results of the desktop evaluation with regards to WAS production in Section 4.2 are reasonably conservative and applicable to the secondary clarifiers if the City implements a low SRT treatment system. Therefore, if the City determines that a low SRT biological system is

feasible, WAS pumping capacity may limit the capacity of the process under a maximum month loading scenario. Applying typical RAS design ratios for a low SRT treatment system, as mentioned in Section 4.4.2.5, to the projected annual average flow in Section 4.2, it also appears that RAS improvements may still be necessary.

Alternatives and recommendations to improve the WAS and RAS systems, based on continued discharge to the Estuary, were addressed by Brown & Caldwell in B&C's TM No. 1. It was recommended in this memorandum that improvements to the RAS system include the installation of twelve RAS pumps, two per clarifier, to provide a total RAS flow of 16 MGD. Based on typical RAS ratios, this appears to be sufficient for a low-SRT biological system. It was also recommended that the improvements to the WAS system include the installation of a waste pumping system that would draw mixed liquor from the channel connecting the aeration basins and secondary clarifiers.

The primary benefit cited for wasting mixed liquor, instead of RAS, is the operational simplicity in controlling SRT since WAS flow would be set based on a fixed tank volume rather than a variable RAS concentration. The drawback of a mixed liquor waste (MLW) system is increased energy consumption, since the MLW pumps would need to pump approximately three times the flow of a RAS pump to waste the same amount of solids.

Considering the operational importance of SRT control and also that waste pumping is a relatively small component of total energy usage at the VWRf, it appears that the recommendation to install an MLW system remains applicable when considering construction of an ocean outfall. If VWRf Staff desires to continue to operate the system at a low mixed liquor concentration, it would be prudent to verify that the proposed MLW system has the operational flexibility to do so. More specifically, MLW pump capacity should be verified at the preferred operational MLSS concentration, minimum operating SRT, and maximum month loading scenario. This verification would ensure that the system is robust enough to function under a range of feasible operating scenarios. Based on the projected maximum month WAS of 26,645 lbs/d and an operating MLSS concentration of 1,400 mg/l, approximately 1,600 gpm of MLW pump capacity would be required to maintain a fixed solids inventory. No additional improvement needs for the RAS or WAS system were identified, beyond those already addressed by Brown and Caldwell in B&C's TM No. 1.

4.4.2.7 Mixed Media Filters

Improvements to the mixed media filters were identified in Section 4.2 based on limiting the filtration rate to 5 gpm/sf for a MDF of 23.8 MGD, in order to comply with the CWRC criteria for production of disinfected tertiary recycled water. The CWRC criteria must currently be applied to all wastewater treated by the VWRf, because the disinfected tertiary recycled water is commingled with Estuary discharge in the CCT's, ETS, and wildlife ponds.

If recycled water was not commingled with plant effluent, however, filtration may not be needed for secondary effluent prior to discharge if filtration is not needed to consistently achieve NPDES effluent TSS requirements. Based on the SEWRf permitted effluent TSS limit for an ocean outfall in Table 4-23, it could be possible to consistently achieve an average effluent TSS of 30 mg/l at the VWRf without tertiary filtration with an adequate biological treatment and sludge collection/wasting system. If tertiary filtration were not required for NPDES compliance, it could

be more economically feasible to treat recycled water separately from plant effluent to avoid the extensive rehabilitation or complete replacement of the existing MMF's.

For example, based on CWRC criteria for production of recycled water and the findings of the Recycled Water Market Assessment, only two (one duty, one redundant) of the six existing MMF's would need to be replaced or rehabilitated for recycled water production presently and after the recycled water system is expanded to include all potential customers. The remaining four mixed media filters could potentially be decommissioned if separate disinfection and conveyance were provided for the recycled water.

Cloth disc filters or membranes could also be used for filtration, as an alternative to MMF's, as discussed in Section 4.3.3.

Alternatively, a small packaged membrane system scalping directly from the aeration tanks could produce recycled water and also have the benefit of reducing loading on the secondary clarifiers as discussed in Section 4.3.3. Since no secondary sedimentation would precede the membranes in this application, the operating flux rate would be lower than if membranes were used only for tertiary filtration. Since the flux rate would be lower, more membranes would be required for an equivalent capacity, and a higher capital investment would be required. Although the firm capacity of the secondary clarifiers appears adequate, the investment in additional membranes could be worthwhile since the hydraulic loading rate on the secondary clarifiers is above a typical design rate and includes a low design conservatism.

4.4.2.8 Chlorine Contact Tanks

Although not limited in capacity, improvements to the disinfection system at the VWRP were recommended in Section 4.3 based on a combination of the following: low effluent chlorine residual limitations, more stringent effluent ammonia limitations, NPDES mandated relocation of the chlorine residual compliance point to a more restrictive location, and the Title 22 regulated CT value for production of recycled water that requires a minimum chlorine residual and potential addition of ammonia above the permitted effluent limits.

Reviewing the San Elijo coliform and chlorine residual limits in Table 4-23, it is apparent that an ocean discharge may be less restrictive with regards to chlorine disinfection than continued discharge to the Estuary. A discharge permit for an ocean outfall would not likely regulate effluent ammonia. Thus, the re-introduction of ammonia to prevent the formation of trihalomethanes would not be necessary because ammonia would not be converted to nitrite or nitrate by a low-SRT biological system. "Nitrite lock" would also no longer be an issue because nitrification would be inhibited by maintaining a low SRT. Additionally, since the permitted chlorine effluent limits are typically much less restrictive for ocean outfalls. Thus, improvement to the chlorine dosing control could be unnecessary since discharging a higher residual in the effluent may not be an issue.

For these reasons, it is anticipated that no major improvements to the existing disinfection system would be required if the VWRP discharged treated effluent through an ocean outfall. It is recommended that consideration be given to alternative chemicals for disinfection and dechlorination, to simplify compliance with reporting requirements, if the City pursues discharge via an ocean outfall. Specifically, a life-cycle cost assessment is recommended for disinfection with liquid sodium hypochlorite and dechlorination with sodium bisulfite or calcium thiosulfate.

4.4.2.9 Effluent Pumping and Flow Measurement

Limitations identified with effluent pumping and flow measurement were hydraulic in nature or pertained to process redundancy. Therefore, these limitations would exist regardless of a change in effluent discharge requirements, and the previous recommendations discussed in Section 4.3 remain applicable.

4.4.2.10 Solids Handling – Gravity Thickener, Dissolved Air Floatation, Anaerobic Digesters, and Filter Presses

The capacity limitations identified for the solids handling systems were not discussed in depth in this evaluation, since most of these limitations were already addressed by B&C in technical memorandums and planned improvement projects. The method used in this evaluation to determine projected loading rates to these solids handling processes incorporated simple calculation methods that were independent of the SRT in the biological system. Consequently, the results of the desktop evaluation in Section 4.2 and the recommendations for improvements to anaerobic digestion in Section 4.3 were reasonably conservative and applicable if the City implements a low SRT treatment system.

Alternatives proposed by B&C to address GT, DAF, and RFPF limitations were not reviewed in detail. Thus, it is uncertain as to whether or not implementing an anaerobic selector proceeding a low SRT treatment system could increase loading rates to these solids handling processes beyond the intended design capacities proposed in the B&C technical evaluations.

A detailed review of the B&C technical evaluations is beyond the scope of this analysis. Thus, it is recommended to reevaluate sludge production projections if the City further pursues a low SRT biological system. This evaluation would confirm the design criteria proposed for those solids handling processes.

4.4.2.11 Conceptual Capital Costs for an Ocean Outfall

Conceptual capital costs for the construction of an ocean outfall were developed for this evaluation and are included in the comparative cost evaluation in Section 4.5 (Table 4-24).

4.4.2.12 Impact on the Continued Production of Recycled Water

As discussed in Section 4.4.2.7, if tertiary filtration were not required for NPDES compliance, it could be more economically feasible to treat recycled water separately from plant effluent to avoid the extensive rehabilitation or complete replacement of the existing MMF's.

This could be accomplished through the rehabilitation of two of the existing MMF's, or the installation of a cloth media filtration system.

4.5 Comparative Evaluation of Recommended Alternatives

The objectives of Sections 4.1 through 4.4 have been to identify potential treatment plant limitations due to anticipated flow and load increases, discuss alternatives for improvements to address the limitations, and provide recommendations for an improvement plan to increase the

VWRF capacity. Recommendations for two separate discharge scenarios, in addition to a comprehensive replacement plan scenario, were presented in Sections 4.3 and 4.4.

Table 4-24 summarizes those recommendations and presents a comparative costs evaluation between a continued discharge to the Estuary and ocean outfall scenarios. These costs have an assumed level of accuracy for conceptual-level design of +50 percent to -30 percent. The estimates of probable cost assume March 2008 construction costs and incorporate a 20 percent allowance for project contingencies.

**TABLE 4-24
WRF COMPARATIVE COST MODEL FOR TWO DIFFERENT DISCHARGE SCENARIOS**

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge		Cost Differential ^(c)	Existing Project Identified by City ^(d)
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)		
Headworks and Influent Pumping Station	Influent flow measurement capacity	Install magnetic flow meters on discharge piping of each influent pump	\$300,000	Install magnetic flow meters on discharge piping of each influent pump	\$300,000	\$0	
Primary Clarifiers	Primary effluent pump capacity. No clarifier redundancy.	Construct a third primary clarifier and addition of 4th pump	\$6,300,000	Construct a third primary clarifier and addition of 4th pump	\$6,300,000	\$0	
Aeration Basins and RAS/WAS Pumping	BNR pump capacity. Insufficient SRT for nitrification.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$18,800,000 ^(e)	Construct additional aeration basin volume (similar to that required for Estuary Discharge, but without RAS pump and blower improvements).	\$16,100,000 ^(f)	-\$2,700,000	Currently out to bid (#96855)
Aeration Blowers	Aeration capacity.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$4,500,000 ^(e)	No improvements recommended	\$0	-\$4,500,000	#96855
Mixed Media Filters	Hydraulic loading rate criteria	Replace existing mixed media system with a cloth media filtration system	\$8,500,000	Abandon existing mixed media filters; install 2 MGD cloth media filter system for RW production	\$3,200,000	-\$5,300,000	#96874
Chlorine Contact Tanks	Chlorine residual limitations. "Nitrite Lock" during cold weather periods	Replace existing chlorine system with UV disinfection	\$11,200,000	Not Applicable	\$0	-\$11,200,000	#74026

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge		Cost Differential ^(c)	Existing Project Identified by City ^(d)
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)		
Effluent Pumping and Flow Measurement	Effluent pump and flow metering capacity	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000	\$0	#74027
Thickening	Solids loading rate criteria. No thickener redundancy.	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000	\$0	Currently out to bid (#96855)
Anaerobic Digesters	Detention Time	Construct a fourth digester	\$3,900,000	Construct a fourth digester	\$3,900,000	\$0	#96878
Filter Press	Filter press capacity / availability of operational time	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(g)	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(g)	\$0	
Ocean Outfall		Not Applicable	\$0	Construct ocean outfall	\$26,300,000	\$26,300,000	
Engineers Estimate of Probable Cost of Construction			\$70,400,000		\$73,000,000	\$2,600,000	

Notes:

- (a) See Figure 4-2 for a flow-based timeline for the expected limitations.
- (b) Estimate accuracy is +50% to -30%.
- (c) Difference in cost between two alternatives (Ocean outfall - Estuary).
- (d) Project similar to some recommended alternatives have been identified by the City in their 2008-2013 Capital Improvement Project Plan. The projects are identified by their Project ID's.
- (e) Capital costs were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II. Costs were escalated from December 2006 to October 2008 using the ENR-Construction Cost Index for Los Angeles.
- (f) Capital costs assume the same improvements for Estuary discharge, but exclude pumps.
- (g) Capital costs were presented in Brown and Caldwell's Sludge Dewatering Alternatives Evaluation. Cost was assumed for Alternative 10 (3 centrifuges, 7 shifts). Costs were escalated from April 2002 to October 2008 using the ENR- Construction Cost Index for Los Angeles.

The cost evaluation in Table 4-24 above results in an approximate cost differential of \$11,000,000 more for the ocean outfall versus the Estuary discharge scenario. Given the level of accuracy for the estimate, this differential is not significant enough to conclude that one alternative holds a considerable capital costs advantage over another.

Furthermore, it should be noted that the recommended alternatives presented for each scenario for increasing VWRP capacity are based upon information provided VWRP Staff. However, because this evaluation is limited and does not include all potential deficiencies, there are several recommendations for further studies and investigations which may modify the need for the recommended alternatives shown in Table 4-24. Due to limited information, these costs modifications could not have been quantified at the time that this report was prepared. However, further studies that the VWRP may want to consider are described below.

- Influent flow measurement capacity: Determine whether the facility layout and hydraulic conditions are conducive to installing magnetic flow meters on the discharge piping of the influent pumps (Section 4.3.1.1.4).
- Grit removal redundancy: Verify that mechanical redundancy is provided in the existing grit removal unit; if further reliability is desired, assess the feasibility of subdividing the existing unit (Section 4.3.1.2.2).
- Primary clarifier redundancy: Pilot test Enhanced Primary Treatment (EPT) to explore the feasibility of implementing EPT in lieu of building a third clarifier (Section 4.3.2.1.4).
- Aeration basins: Review adequacy of aerations improvements recommended by Brown and Caldwell (B&C) in their TM No. 1. Modeling and/or pilot testing of the proposed system is recommended before full-scale implementation (Section 4.2.3.3.2).
- Secondary Clarifiers: Review adequacy of the proposed Waste Activated Sludge (WAS) improvements recommended by B&C TM No. 1 to ensure that they allow for a comfortable level of operational flexibility under a maximum month loading scenario (Section 4.2.3.4.2).
- Anaerobic digestion capacity: Consider enhancing the ability to receive fats, oils, and grease (FOG) with the construction of a new digester (Section 4.3.6.1.4).

This comparison of alternatives presented in Table 4-24 considered only two discharge scenarios: (1) continued discharge to the Estuary and (2) an ocean outfall discharge location. The recently adopted NPDES permit Order No. R4-2008-0011, presents a third discharge alternative where the effluent discharge to the Estuary is capped at 9.0 MGD. In addition to the further studies described above, as a condition of this new permit, the City must conduct the following three studies:

- Estuary Subwatershed Study: This study requires an Estuary water balance and continued monitoring of the Estuary with the goal of determining what effluent discharge volume will prevent negative impacts to the Estuary and simultaneously protect the beneficial uses (including those related to sensitive, endangered, and threatened species) within the Estuary system.

- Recycled Water Market Study: The purpose of this study is to identify, research, and evaluate the feasibility of alternatives for increasing effluent reuse throughout the City and nearby areas.
- Treatment Wetlands Feasibility Study: This study will result in the preliminary design of treatment wetlands to provide further treatment of the VWRF effluent and to enhance wildlife use of the wetlands.

Upon completion of these studies, the CRWQCB will reopen the Permit to consider permit revisions. Varying discharge volumes to the Estuary, which is a possible recommendation of the above studies, may lead to increased recycled water use. The effluent quality required for recycled water use will be dependent upon the recycled water uses (i.e., landscape irrigation, agricultural irrigation, industrial use, application to spreading grounds, etc). Therefore, the improvements to the VWRF recommended in Table 4-24 must be reevaluated in conjunction with an overall recycled water master plan, which builds from the Recycled Water Market Study.

Section 5: Sewer Collection System Evaluation and Improvement Plan

The City wastewater collection system consists of 4- to 42-inch gravity sewers, several lift stations, and forcemains. As previously described, the system is generally divided into four drainage areas: Eastside, Midtown, Downtown, and Westside. The flows from these four sewer regions flow to the Ventura Wastewater Reclamation Facility (WRF) for treatment.

This section presents the evaluation of the City's existing collection system and the recommended improvements to the system. Specifically, this section addresses the following:

- Collection system hydraulic model development and calibration.
- Hydraulic deficiencies within the collection system for existing, near-term, and ultimate development conditions.
- Collection system capital improvement recommendations and associated costs for identified projects for existing, near-term, and ultimate development conditions.

5.1 Existing Collection System

The City's wastewater collection system, shown in Figure 5-1, is comprised of approximately 285 miles of gravity sewers ranging in size from 4 to 42 inches. These sewers serve approximately 98 percent of City residences. There are approximately 6,050 pipe segments in the collection system and approximately 5,900 manholes.

The City's wastewater collection system includes 11 operating lift stations (plus one at the WRF headworks). Table 5-1 summarizes the lift stations and their firm capacities (capacity with one pump out of service). Figure 5-1 displays the locations of the lift stations. The City has a total of approximately 27,700 ft (5.25 miles) of active forcemains ranging in size from 6 to 21 inches.

**TABLE 5-1
LIFT STATION SUMMARY**

Lift Station	No. Pumps	Pump HP	Head (ft)	Firm Capacity (gpm) ^(a)	Forcemain Size (in)
Harper	2	5	32	160	6
Topaz	2	10	37	271	6
North Bank	3	40	85	2,083 ^(b)	15
Spinnaker	2		36	450	12
Marina	2	5	20	275	12
Beachmont	2	3	31	100	8
Seaview	2	3	19	200	8
Seaside Transfer	2	200	110	4,200	21 ^(c)
Pierpoint	2	60	68	2,400	12
State Beach	2	7.5	-	260-385	6

Lift Station	No. Pumps	Pump HP	Head (ft)	Firm Capacity (gpm) ^(a)	Forcemain Size (in)
Headworks	3	~125	28.5	25,000 ^(d)	24
Parking Structure	2	7.5	-	-	4

Notes:

- (a) Firm capacity, 1 unit out of service. HP and head specified PER individual pump in station.
- (b) The Preliminary Design Report for the North Bank Lift Station (Brown and Caldwell, 2001) in Appendix I provided the lift station capacity with two pumps operating. The lift station is expandable to 3,035 gpm with the addition of a fourth pump.
- (c) Seaside Transfer Station has two parallel 21-inch forcemains.
- (d) Individual pump capacity is 18 MGD (12,500 gpm). The lifting distance is short (approximately 30 ft) and, therefore, minor head losses will not be considerable. Lift station capacity with two pumps operating in parallel was determined neglecting minor losses.

5.1.1 Collection System Facility Identification

The wastewater collection system has been divided into 24 sewersheds, as shown in Figure 5-2. Each sewershed is identified with a letter designation. In addition, the City utilizes an alphanumeric grid system to identify and locate water distribution and wastewater collection system facilities through its atlas maps. These sewershed designations and alphanumeric grid locations were incorporated into the identification system used for this Master Plan, as follows:

Sewershed_Grid_Facility ID

The facility ID refers to gravity sewers, forcemains, manholes, pumps, and wetwells in the collection system. Gravity sewers and forcemains were designated “P,” with manholes designated as “MH.” In instances where the facility was not shown in the original data and added for connectivity, the Facility ID was designated “PC” or “MHC.” For example, a collection system gravity sewer may have the following identification:

X_H28_P-597

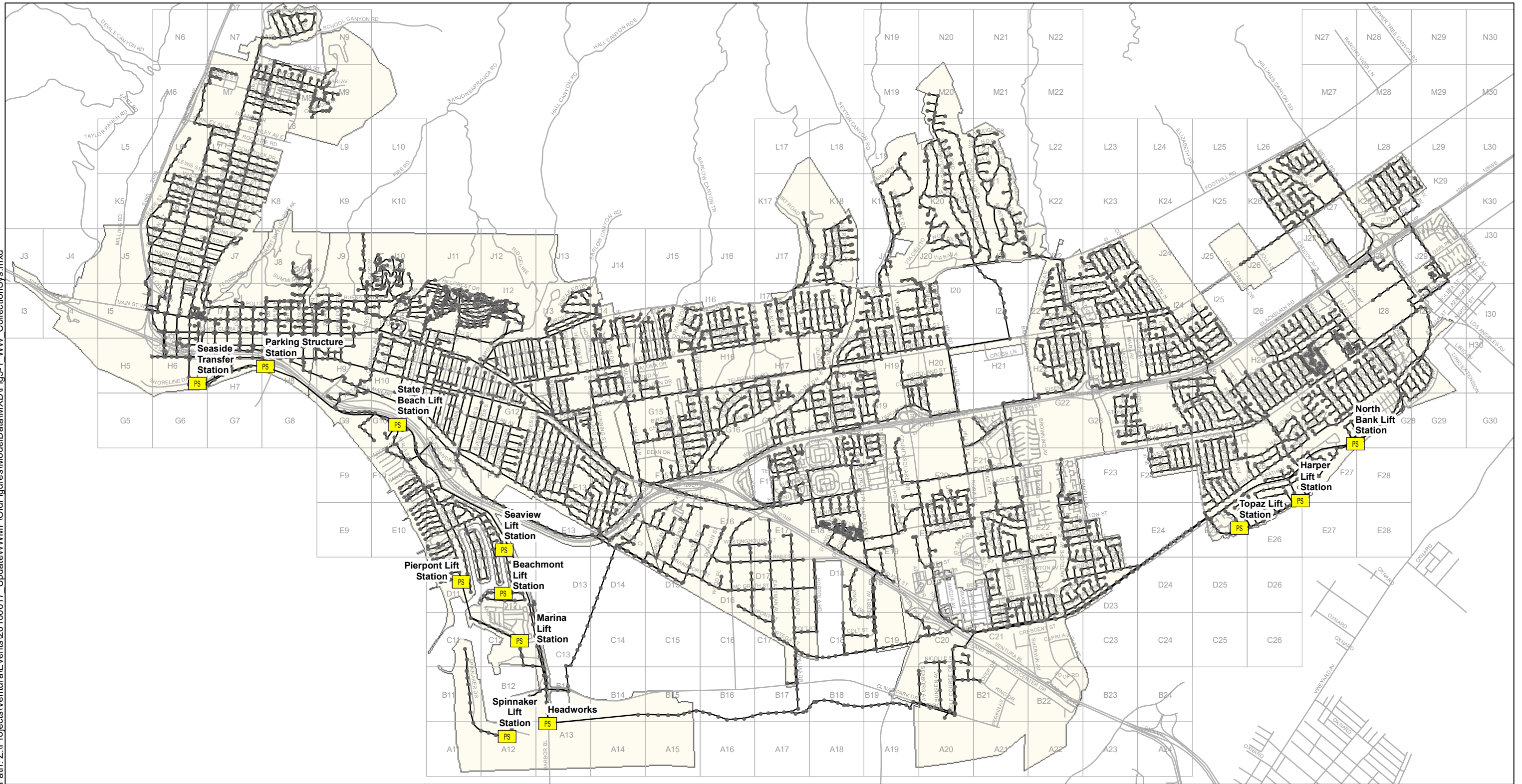
Pumps and wetwells have Facility IDs referring to their respective lift stations.

5.1.2 Existing Collection System Maintenance

The City routinely cleans and inspects its collection system and notes problem areas. These existing problem areas are presented by region in Figures 5-3a to 5-3e and for the City as a whole in Exhibit 1. These figures locate the areas where roots are found in the sewers, areas with grease concerns, and other priority areas. These priority areas often require routine cleaning due to grease build up. Appendix K also presents these priority areas and includes details related to the noted problems. It is recommended that the City continue to update this table and also make note of dates as part of its Sewer System Management Plan (SSMP) reporting program.

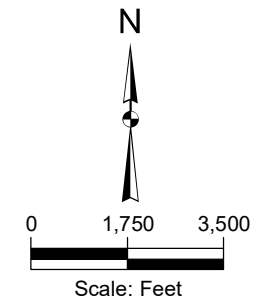
In addition to providing a maintenance tool, the existing problem areas were considered in the prioritization of capital improvement needs, as discussed further in this section.

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\Oid\Figures\ModelData\MXD\Fig5-1_WW_CollectionSys.mxd



Legend

- Lift Stations
- Manholes
- Gravity Sewers
- Streets
- Atlas Sheet
- City Limits



Kennedy/Jenks Consultants

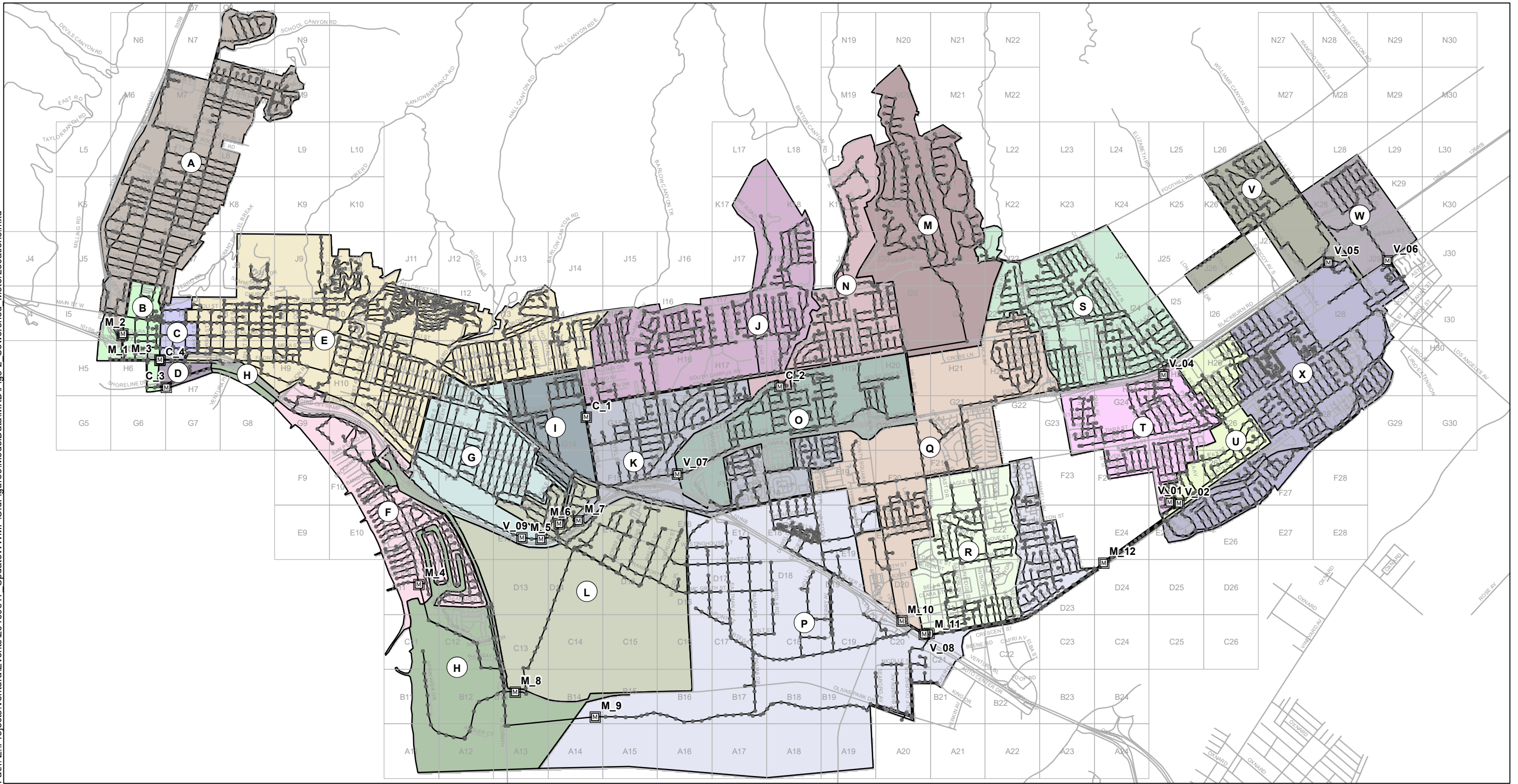
City of San Buenaventura
San Buenaventura, California

**City's Wastewater
Collection System**

K/J 1089015*00
August 2010

Figure 5-1

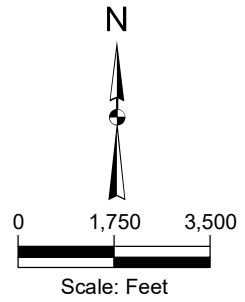
Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\Oid\Figures\ModelData\MXD\Fig-2 Sewershed MeterLocations.mxd



Legend

- A Sewershed
- Meters
- Manholes
- Streets
- Atlas Sheet

M_1 to M_6, M_8, and M_10 to M_12	MGD Technologies, Inc.	August-September 2003
M_7 and M_9	MGD Technologies, Inc.	March 2004
V_01 to V_09	Downstream Services, Inc.	November 2005
C_1 to C-4	MRC Technologies, Inc.	December 2007



Kennedy/Jenks Consultants

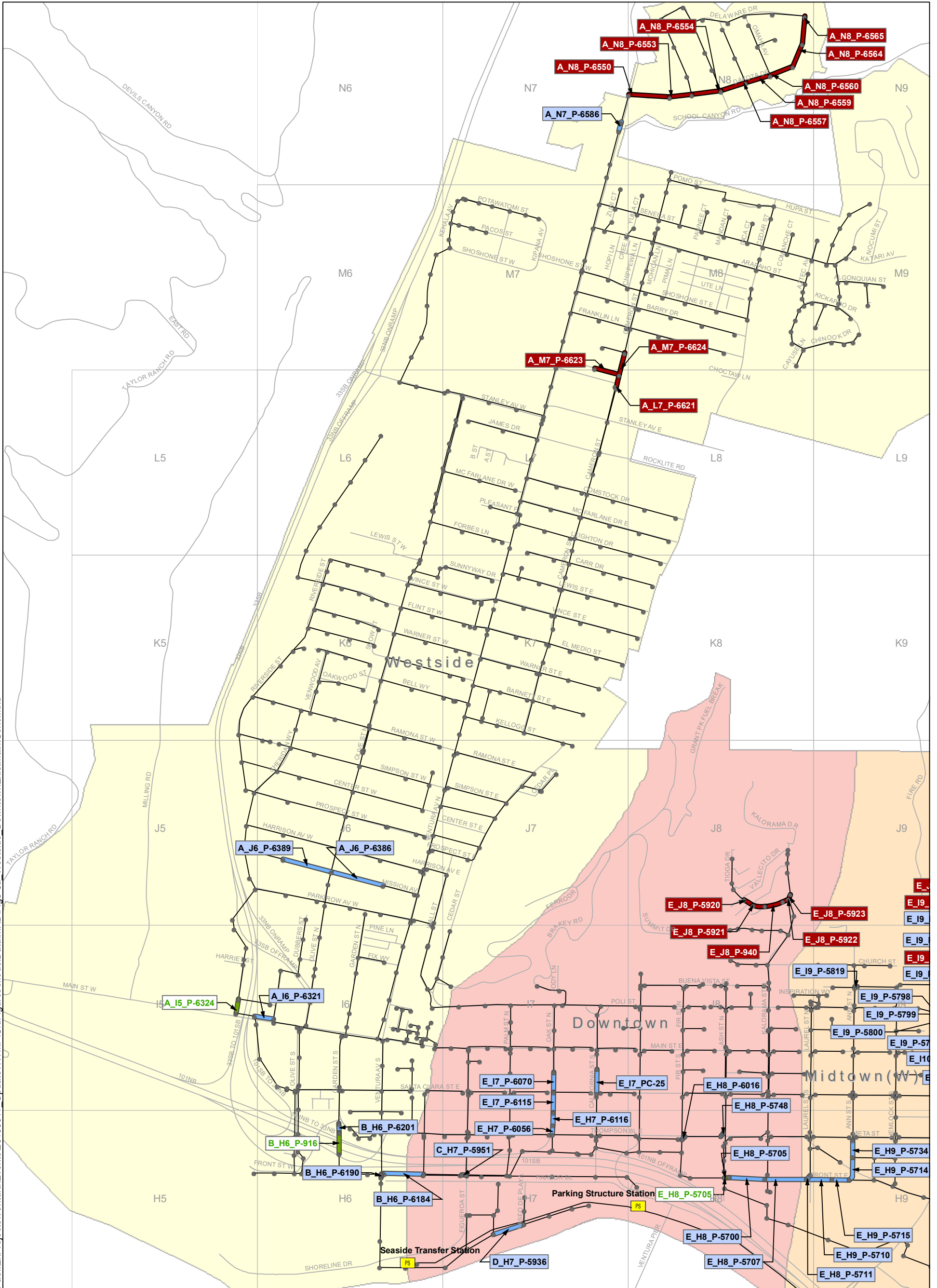
City of San Buenaventura
San Buenaventura, California

**Meter Locations
and Sewersheds**

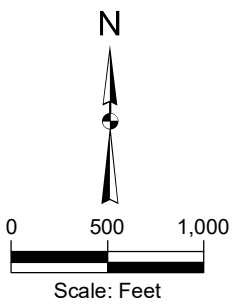
K/J 1089015*00
August 2010

Figure 5-2

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MXD\Fig5-3a_Westside_DowntownExistMaintConc.mxd



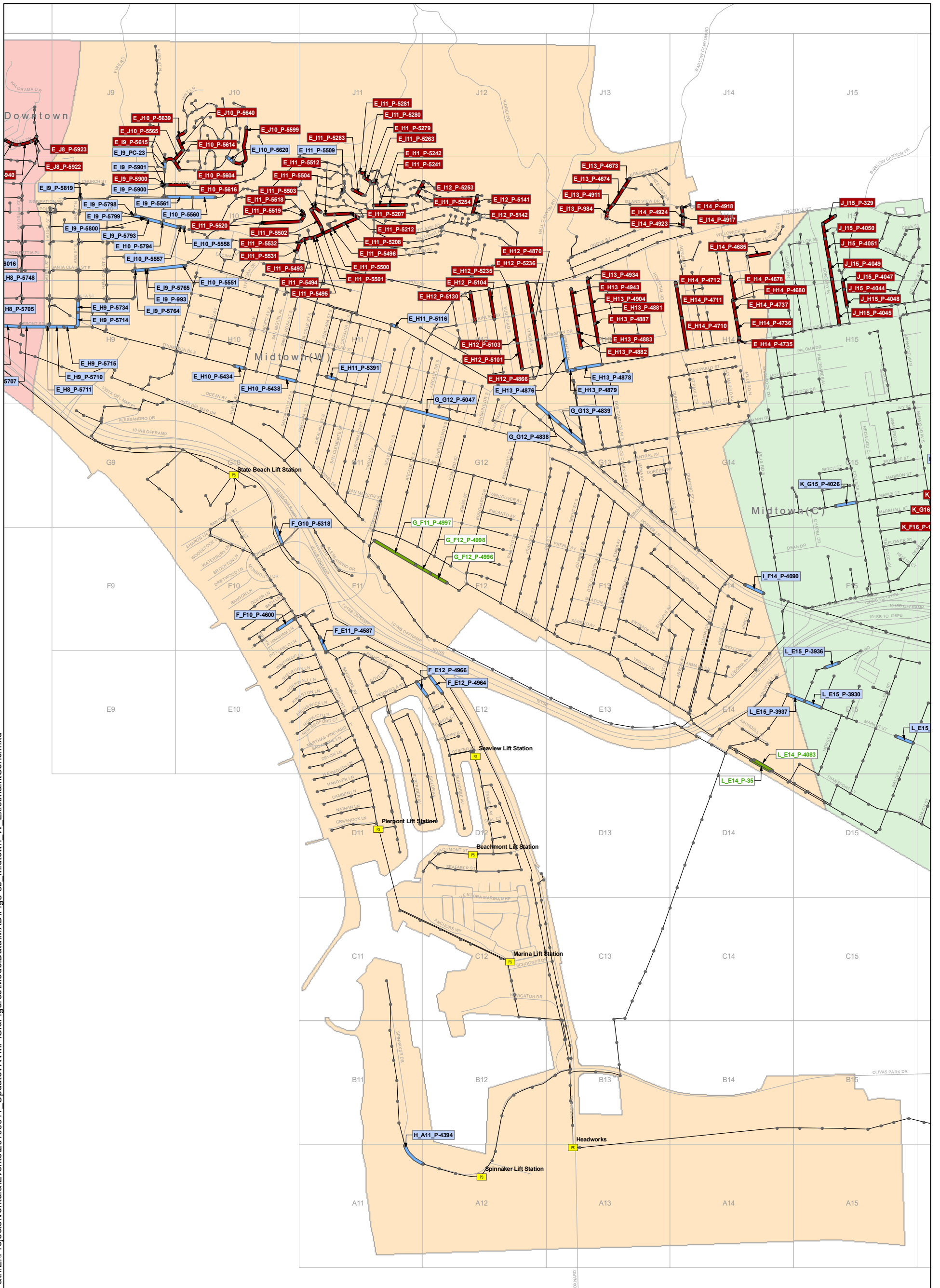
Legend	
●	Manholes
■	Lift Station
—	Street
□	Atlas Sheet
—	Gravity Sewer
—	Priority Areas
—	Root Problems
—	Grease



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

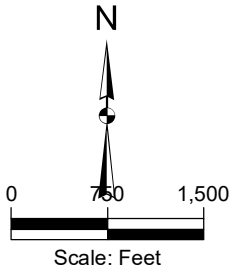
**Existing Maintenance Concerns
 Westside/Downtown**

K/J 1089015*00
 August 2010
Figure 5-3a



Legend

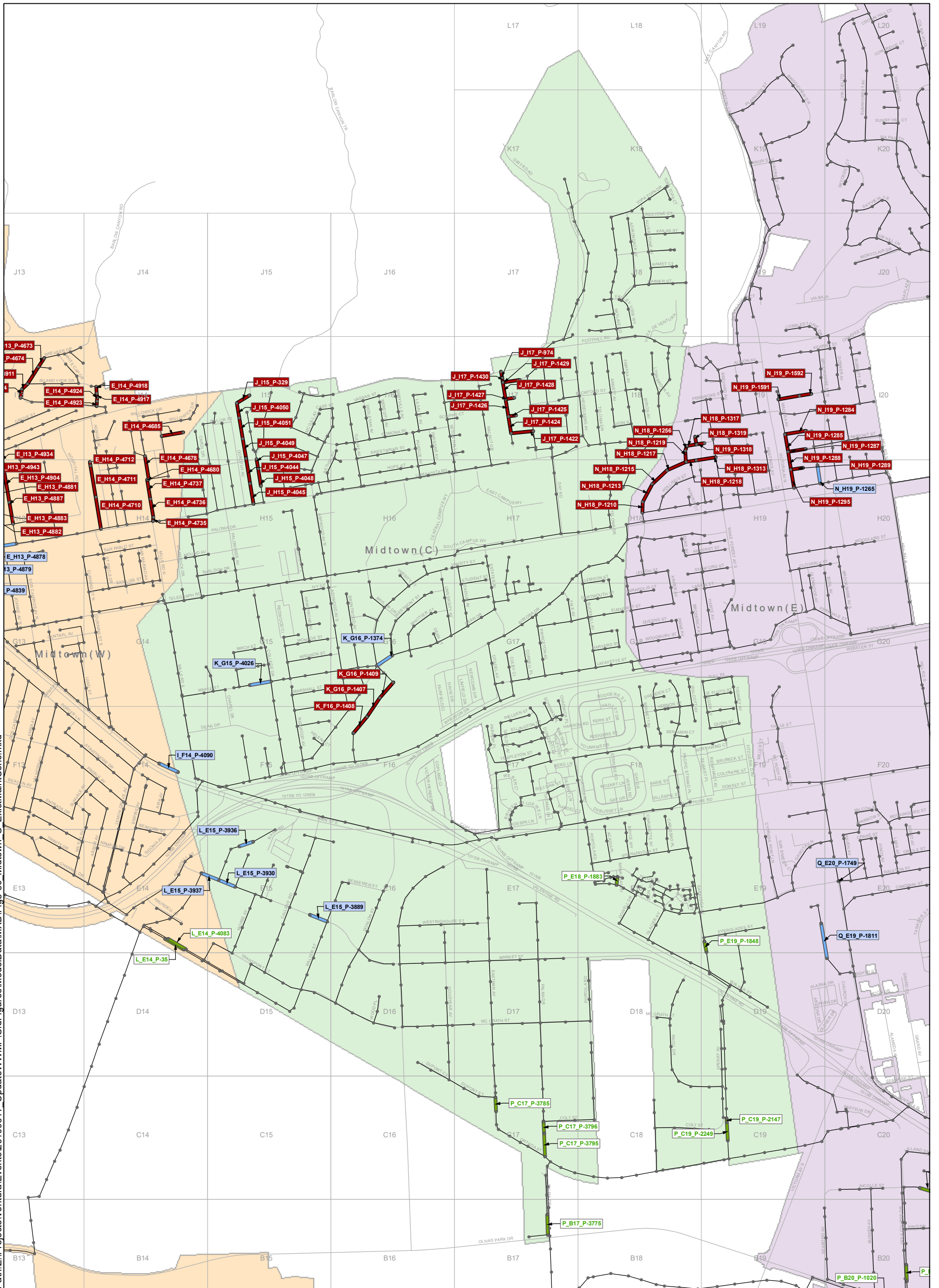
- Manholes
- PS Lift Station
- Street
- Atlas Sheet
- Gravity Sewer
- Priority Areas
- Root Problems
- Grease



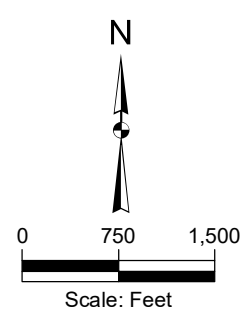
Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Existing Maintenance Concerns
 Midtown (West)**

K/J 1089015*00
 August 2010
Figure 5-3b



Legend	
●	Manholes
—	Gravity Sewer
—	Street
—	Priority Areas
□	Atlas Sheet
—	Root Problems
—	Grease

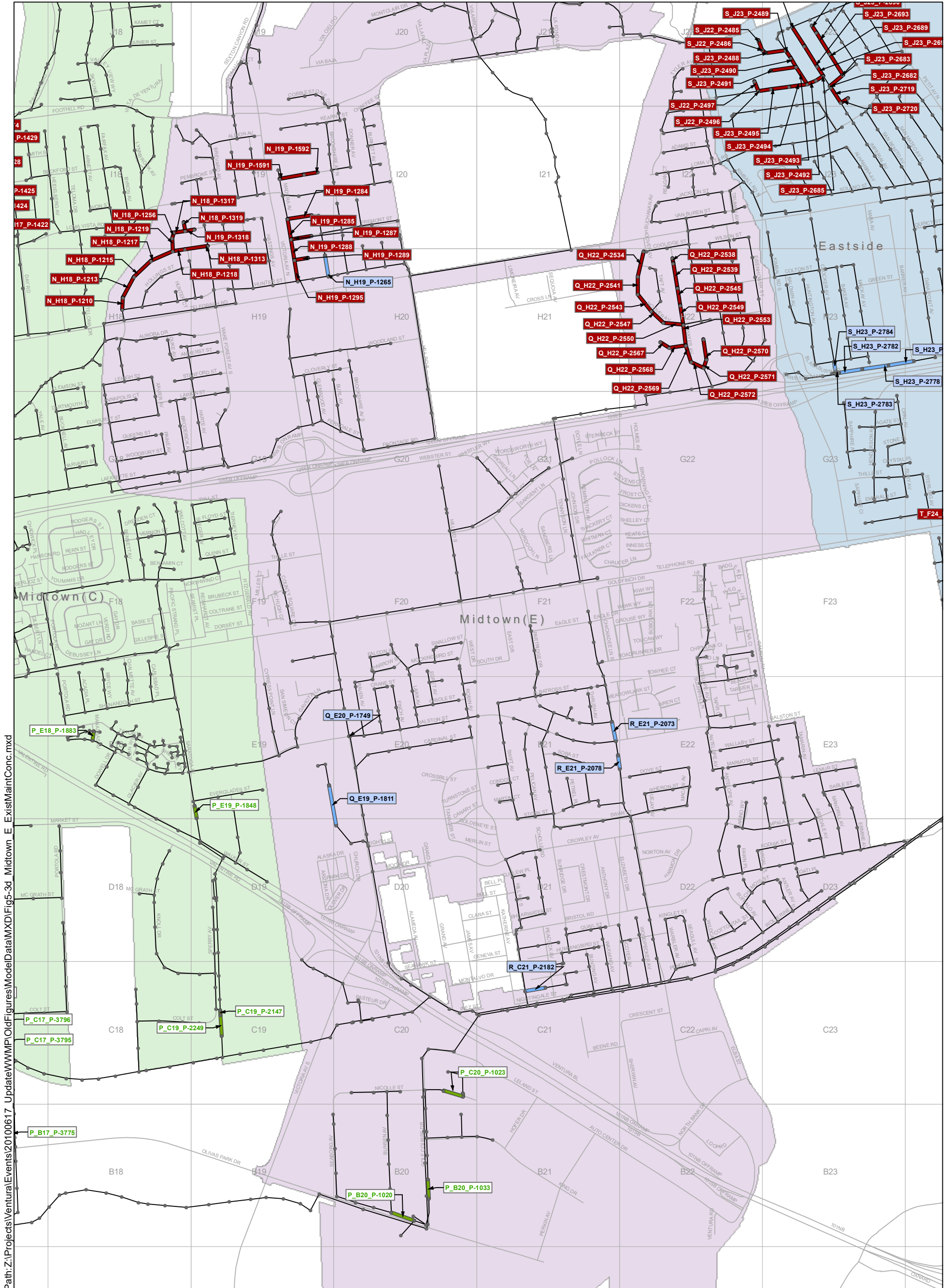


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Existing Maintenance Concerns
 Midtown (Center)**

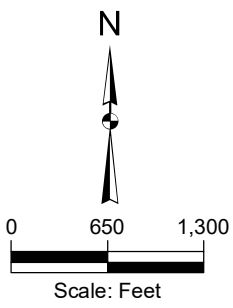
K/J 1089015*00
 August 2010

Figure 5-3c

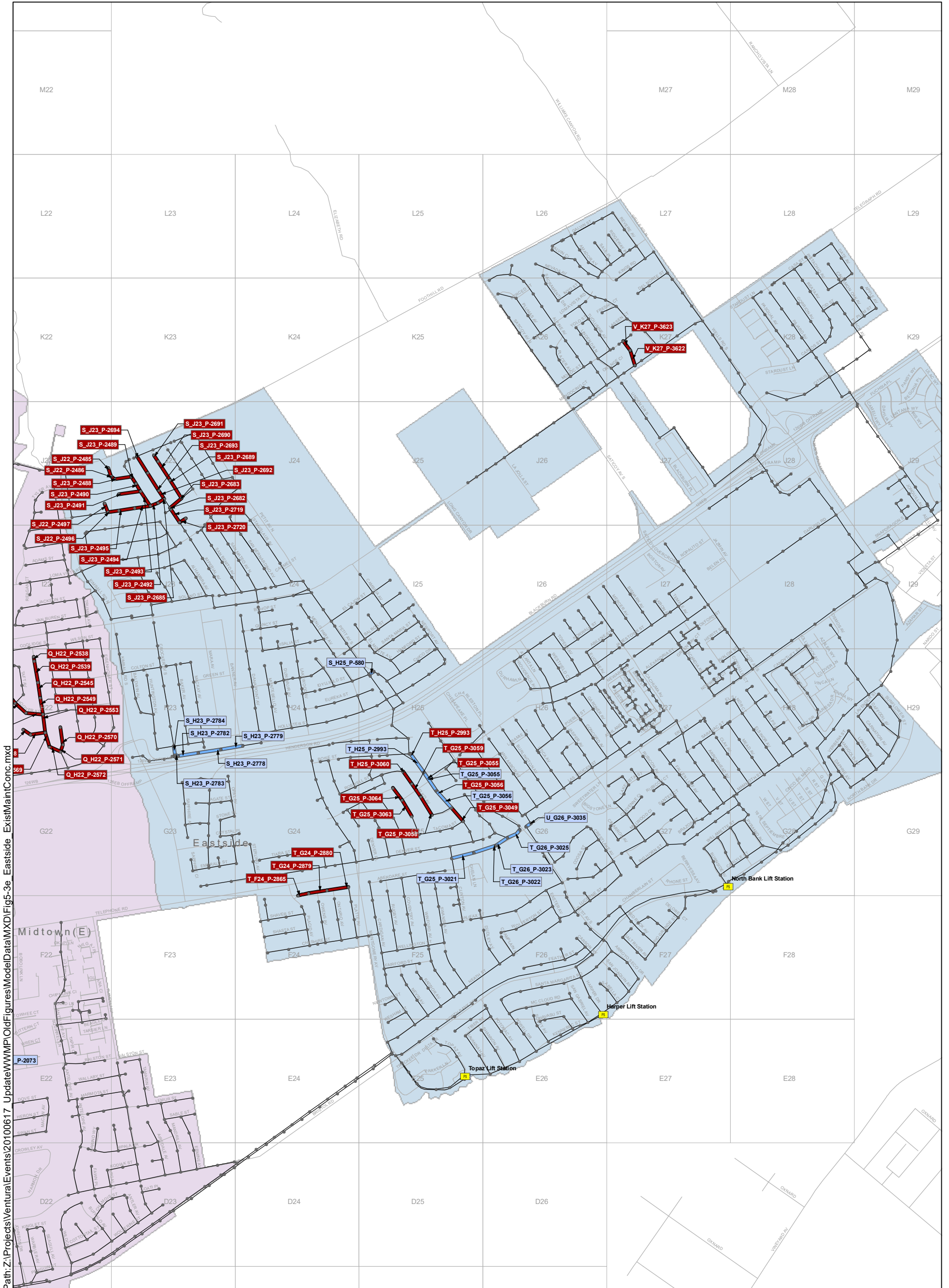


Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\XDI\Fig5-3d_Midtown_E_ExistMantConc.mxd

Legend	
●	Manholes
—	Gravity Sewer
—	Street
□	Atlas Sheet
—	Priority Areas
—	Root Problems
—	Grease



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California
Existing Maintenance Concerns
Midtown (East)
 K/J 1089015*00
 August 2010
Figure 5-3d



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MXD\Fig5-3e_Eastside_ExistMainConc.mxd

Legend

●	Manholes	—	Gravity Sewer
PS	Lift Stations	—	Priority Areas
—	Street	—	Root Problems
□	Atlas Sheet		

N

Scale: Feet

Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

Existing Maintenance Concerns Eastside

K/J 1089015*00
 August 2010

Figure 5-3e

5.2 Collection System Model Development

The City's sewer system facilities were evaluated through the development and use of a hydraulic model. H2OMAP Sewer version 8.0, a product of MWH Soft, Inc., was selected for use on this project.

The H2OMAP Sewer hydraulic model was used to evaluate the City's collection system service areas, identify any deficiencies, and determine any corrective measures needed in keeping with the City's collection system design criteria. This model evaluation was performed for the following development increments:

- Time of flow metering (Year 2003-2005), used for calibration.
- Existing (Year 2007), to determine existing deficiencies.
- Near-term (2007-2012), to likely determine deficiencies based on anticipated near-term developments.
- Ultimate (buildout), to determine likely deficiencies based on future development and allowing for 10 percent redevelopment within the City.

Three (3) different scenarios: (1) ADWF, (2) PDWF, and (3) PWWF (defined below), were developed to model the City's wastewater collection facilities for the existing system, while two (2) scenarios: (1) ADWF and (2) PWWF scenarios were developed to model the near-term and ultimate development conditions.

1. Average Dry Weather Flow (ADWF) – A steady-state scenario where the wastewater flows in each pipe were not peaked.
2. Peak Dry Weather Flow (PDWF) – A steady-state scenario where the wastewater flows in each gravity sewer were peaked according to the PDWF curve presented in Section 2.3.
3. Peak Wet Weather Flow (PWWF) – A steady-state scenario where the wastewater flows in each gravity sewer were peaked according to the PWWF curve presented in Section 2.3.

The PDWF scenario was modeled for the existing system to aid in prioritizing the capital improvement needs for the existing system. Likewise, the ADWF was modeled for the near-term and ultimate development conditions to aid in prioritizing the capital improvement needs for these development conditions.

The hydraulic model was set up utilizing manhole invert elevations, pipe lengths, materials, and diameters provided through the City's sewer atlas maps for all sewers in the study area. This information was supplemented with additional clarifications and additions provided by the City throughout the course of the project.

As discussed in Section 2 flow data was entered into the hydraulic model based on wastewater flow estimates for each parcel in the wastewater service area, and for each of the three (3)

development increments. These data were loaded at the parcel level, and assigned to the nearest upstream sewer manhole utilizing GIS algorithms.

5.2.1 Model Calibration

The hydraulic model was calibrated using flow monitoring data collected from the four (4) flow monitoring efforts between 2003 and 2007. The flow monitoring data was provided by MGD Technologies, Downstream, and MRC Technologies (all working under separate authorizations from the City). MGD provided metering data from their August 22, 2003 and March 11, 2004 flow monitoring efforts. Downstream Services provided metering data from their November 17, 2005 flow monitoring efforts. MRC provided metering data from their December 2007 flow monitoring efforts. The flow monitoring included 25 metering devices at 23 different locations within the City's service area. Figure 5-2 displays the meter locations used to calibrate the model and also shows the sewershed upstream of each meter.

The present-day wastewater collection system utilizes the North Bank Lift Station in lieu of the Wells Road Lift Station, which was replaced in 2006. To account for the changes in flow conditions caused by this capital improvement project, as well as other developments in the City's collection system, the hydraulic model was calibrated against the system flows using the collection system configurations that existed at the time of the flow monitoring.

Of the 25 flow meters installed as part of the City's 2003 to 2007 flow monitoring efforts, 21 of the meters were used for calibration purposes. The data from four (4) meter devices were not used for the following reasons:

- The metering location was intentionally duplicated.
 - Meter data from M_11 was used over data from Meter V_08 as these meters were placed in the same location. The two meters were within 10 percent of each other, and M_11 corresponded with the model data slightly better than Meter V_08.
 - Meter data from M_5 was used instead of data from Meter V_09. While the flow monitoring records suggest that the meters were installed in the same location, their recorded flows suggest that Meter V_09 was installed in another location. Secondly, the pipe size reported for Meter V_09 was questionable. For these reasons, the flow data from Meter V_09 was not used in the calibration process.
- The Meter V_03 appears to have been placed in the wrong location. Data from this meter was not used for model calibration.
- The accuracy of Meter V_02 is questionable because the flow through the meter (0.379 MGD) appears too high for the relatively small area upstream of the meter. Data from Meter V_02 was not used for calibration.

In addition to the temporary flow meters installed for the purposes of this study, pump station flow data from the Seaside Transfer Station and the Influent Pump Station added two (2) points of calibration.

Model calibration accuracy represents the difference between the flows measured through the flow meters and the flows represented in the hydraulic model. The calibration goal for the wastewater collection system hydraulic model was plus or minus 10 percent. Where the measured flows and the modeled flows varied by more than 10 percent, the modeled flows were adjusted by adjusting the manhole loadings in order to provide a better correlation.

5.2.2 Model Calibration Results

By adjusting the return-to-sewer ratios and wastewater flow loadings in the hydraulic model, 22 of the 23 meter locations calibrated to within 10 percent, and 8 locations calibrated within 5 percent of the metering data. The one meter location (M-2) with modeled flows not within 10 percent of the meter data was within 10.2 percent. The calibration results are summarized in Table 5-2.

**TABLE 5-2
WASTEWATER COLLECTION SYSTEM CALIBRATION RESULTS**

Meter Station	Measured Flow (MGD)	Calibrated Flow (MGD)	Difference	Percent Difference
Seaside Transfer Station	2.6	2.339	0.261	10.0%
Influent Pump Station	9.342	8.964	0.378	4.0%
V_01	1.218 ^(a)	1.298	0.08025	6.6%
V_04	0.562 ^(a)	0.577	0.01531	2.7%
V_05	0.143 ^(a)	0.144	0.00103	0.7%
V_06	0.165 ^(a)	0.16	0.0045	2.7%
V_07	0.408 ^(a)	0.437	0.0291	7.1%
M_1	0.55 ^(b)	0.496	0.054	9.8%
M_2	0.51 ^(b)	0.562	0.052	10.2%
M_3	0.97 ^(b)	1.055	0.085	8.8%
M_4	0.47 ^(b)	0.476	0.006	1.3%
M_5	0.54 ^(b)	0.524	0.016	3.0%
M_6	0.45 ^(b)	0.407	0.043	9.6%
M_7	1.57 ^(c)	1.465	0.105	6.7%
M_8	2.36 ^(b)	2.541	0.181	7.7%
M_9	3.26 ^(c)	3.479	0.219	6.7%
M_10	0.83 ^(b)	0.87	0.04	4.8%
M_11	0.38 ^(b)	0.358	0.022	5.8%
M_12	1.3 ^(b)	1.409	0.109	8.4%
C_1 (mills road)	0.207 ^(d)	0.217	0.01	4.8%
C_2 (aurora drive)	0.162 ^(d)	0.174	0.012	7.4%
C_3 (surfers point)	0.055 ^(d)	0.06	0.005	9.1%
C_4 (train station)	0.047 ^(d)	0.051	0.004	8.5%

Notes:

- (a) From Downstream Services, Inc. November 2005 Flow Monitoring. Meters V_02, V_03, V_08 and V_09 were not used.
- (b) From MGD Technologies, Inc. August 22, 2003 – September 4, 2003 Flow Monitoring.
- (c) From MGD Technologies, Inc. March 2004 Flow Monitoring.
- (d) From MGD Technologies, Inc. December 2007 Flow Monitoring.

The model calibration process resulted in a hydraulic model representing the City's wastewater collection system with sufficient accuracy to evaluate the hydraulic capacities of the collection system's gravity sewers, forcemains, and lift stations. By considering future wastewater loads representing near-term and ultimate development levels, the collection system model can also be used to identify future infrastructure needs to meet these development levels.

5.3 Gravity Sewer Collection System Evaluation

The ADWF, PDWF, and PWWF scenarios were analyzed based on the design criteria outlined in Section 2.4. For the basis of evaluating system deficiencies, the flow depth to pipe diameter (d/D) ratios defining a deficient pipe were as follows:

- For pipes 15 inches and smaller, the allowable d/D was 66 percent for existing system flows and 50 percent when receiving additional flows from near-term and ultimate developments.
- For pipes greater than 15 inches, the allowable d/D was 75 percent.
- For pipes passing under a freeway the allowable d/D was 50 percent.

In some instances data related to the pipe size or pipe invert elevations were not known. Any assumptions made were based on available information, including data from adjacent sewers. An effort was made to identify locations where invert elevations were unknown or slopes were questioned in the presentation of the capital improvement projects later in this section.

5.3.1 Existing System Hydraulic Evaluation

5.3.1.1 Capacity Evaluation

The existing system included some modifications and additions to the sewer system that were not present during the time of the 2003 to 2005 flow monitoring. These modifications and additions included:

- North Bank Lift Station was active and the Wells Road Lift Station and forcemain were abandoned.
- Saticoy development was contributing flow.
- A connection near Petit Avenue was in place.

Tables 5-3, 5-4, and 5-5 provide a summary of the sewer pipe deficiencies noted in the existing system based on the d/D ratios observed in the hydraulic model for ADWF, PDWF and PWWF scenarios, respectively. As presented later, these sewer deficiencies in the existing system were grouped based on proximity and assigned project numbers. Project numbers were included in these tables for reference.

The existing system deficiencies are graphically presented in Figures 5-4a to 5-4e (Exhibit 2 presents the existing deficiencies for the entire collection system). A total of 339 pipe segments totaling approximately 86,500 ft were identified as deficient under existing conditions.

**TABLE 5-3
EXISTING AVERAGE DRY WEATHER DEFICIENT PIPELINES**

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
H_C13_P-100	E7	324.0	6	100.0%	100.0%	100.0%	100.0%	100.0%
X_G27_P-147	E10	177.8	8	100.0%	100.0%	100.0%	100.0%	100.0%
S_I22_P-186	U211	340.8	8	100.0%	100.0%	100.0%	100.0%	100.0%
X_F25_P-525	E3	348.9	18	100.0%	100.0%	100.0%	100.0%	100.0%
X_J29_P-703	N107	333.1	15	100.0%	100.0%	100.0%	100.0%	100.0%
R_D22_P-166	E13	369.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
R_D22_P-167	E13	303.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
H_B13_P-98	E7	199.6	15	100.0%	100.0%	100.0%	100.0%	100.0%
A_J6_P-123	E12	14.3	21	100.0%	100.0%	100.0%	100.0%	100.0%
I_G13_P-979	E8	35.5	10	100.0%	100.0%	100.0%	100.0%	100.0%
J_I18_P-1510	E33	107.0	8	100.0%	100.0%	100.0%	100.0%	100.0%
S_I23_P-2716	E6	352.4	8	72.1%	100.0%	100.0%	100.0%	100.0%
Q_G22_P-2577	E23	347.7	8	77.1%	100.0%	100.0%	100.0%	100.0%
S_J23_P-2682	E6	29.4	8	100.0%	100.0%	100.0%	100.0%	100.0%
T_F25_P-2910	E11	259.2	15	69.9%	100.0%	100.0%	100.0%	100.0%
T_F25_P-3110	E11	67.8	8	100.0%	100.0%	100.0%	100.0%	100.0%
X_G28_P-3400	E10	51.5	8	100.0%	100.0%	100.0%	100.0%	100.0%
P_B17_P-3777	E9	337.5	8	100.0%	100.0%	100.0%	100.0%	100.0%
K_F15_P-3971	U216	51.9	6	100.0%	100.0%	100.0%	100.0%	100.0%
I_H13_P-4867	E8	230.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
H_A12_P-4397	U201	412.6	6	100.0%	100.0%	100.0%	100.0%	100.0%
H_B13_P-4387	E7	44.3	15	100.0%	100.0%	100.0%	100.0%	100.0%
I_H13_P-4868	E8	208.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
G_F11_P-4990	E14	357.0	8	100.0%	100.0%	100.0%	100.0%	100.0%
E_H8_P-5707	E5	455.3	6	100.0%	100.0%	100.0%	100.0%	100.0%
E_H8_P-5699	E5	114.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
E_H9_P-5710	E5	271.0	6	100.0%	100.0%	100.0%	100.0%	100.0%
E_H9_P-5683	E14	209.5	6	100.0%	100.0%	100.0%	100.0%	100.0%
A_M7_P-6497	E4	105.0	12	100.0%	100.0%	100.0%	100.0%	100.0%
Q_E20_P-1806_2	E27	77.5	12	77.4%	100.0%	100.0%	100.0%	100.0%
X_G27_PC-81	E10	24.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
X_G27_PC-82	E10	78.1	8	100.0%	100.0%	100.0%	100.0%	100.0%
E_H8_P-5699	E5	114.6	8	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL: 33 pipes		6,754.8						

**TABLE 5-4
EXISTING PEAK DRY WEATHER DEFICIENT PIPELINES**

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
P_B20_P-296	E18	64.1	10	56.4%	100.0%	100.0%	100.0%	100.0%
I_F14_P-45	E8	144.2	15	61.2%	100.0%	100.0%	100.0%	100.0%
H_B13_P-111	E7	200.4	36	53.9%	100.0%	100.0%	100.0%	100.0%
X_J29_P-711	N107	137.4	8	40.8%	67.6%	100.0%	100.0%	100.0%
Q_F19_P-967	U218	206.9	8	42.0%	68.5%	100.0%	100.0%	100.0%
K_G16_P-1380	E24	268.9	8	44.7%	76.8%	100.0%	100.0%	100.0%
K_G16_P-1411	E24	267.2	8	52.3%	100.0%	100.0%	100.0%	100.0%
Q_E20_P-1749	E27	14.6	8	50.4%	70.7%	100.0%	100.0%	100.0%
Q_E20_P-1809	E27	449.5	15	52.3%	75.7%	100.0%	100.0%	100.0%
Q_E20_P-1794	E27	402.0	12	51.2%	72.3%	100.0%	100.0%	100.0%
P_E19_P-1793	E20	289.1	8	28.4%	76.5%	100.0%	100.0%	100.0%
Q_F19_P-1800	E27	245.3	12	48.0%	76.7%	100.0%	100.0%	100.0%
R_D22_P-2154	E13	341.7	8	44.1%	69.9%	100.0%	100.0%	100.0%
R_D22_P-2164	E13	276.8	8	44.0%	69.7%	100.0%	100.0%	100.0%
T_G25_P-3113	E11	129.7	18	56.8%	100.0%	100.0%	100.0%	100.0%
U_G26_P-3150	E22	344.9	8	57.0%	100.0%	100.0%	100.0%	100.0%
X_H28_P-3395	U209	140.2	12	63.4%	100.0%	100.0%	100.0%	100.0%
K_F16_P-3906	E16	376.6	12	49.5%	100.0%	100.0%	100.0%	100.0%
K_F15_P-3909	E16	235.3	12	44.2%	69.2%	100.0%	100.0%	100.0%
L_E14_P-4075	E25	267.5	27	61.9%	100.0%	100.0%	100.0%	100.0%
I_F14_P-4138	E8	226.9	10	48.8%	80.6%	100.0%	100.0%	100.0%
I_G13_P-4226	E8	231.4	10	42.7%	66.6%	100.0%	100.0%	100.0%
H_B13_P-4386	E7	252.1	36	74.2%	100.0%	100.0%	100.0%	100.0%
K_E17_P-4442 (a)	E16	394.3	10	35.1%	52.6%	100.0%	100.0%	100.0%
I_G13_P-4808	E8	418.5	8	49.9%	100.0%	100.0%	100.0%	100.0%
I_G13_P-4818	E8	180.2	8	49.5%	100.0%	100.0%	100.0%	100.0%
I_G13_P-4822	E8	240.7	8	49.6%	100.0%	100.0%	100.0%	100.0%
E_H13_P-4877	E17	268.8	10	45.9%	74.5%	100.0%	100.0%	100.0%
F_E11_P-4479	E2	345.2	15	43.7%	68.1%	100.0%	100.0%	100.0%
F_E11_P-4480	E2	351.7	15	44.7%	70.2%	100.0%	100.0%	100.0%
E_H10_P-5347	E19	380.8	6	53.7%	100.0%	100.0%	100.0%	100.0%
E_G10_P-5353	E19	366.4	6	44.7%	74.4%	100.0%	100.0%	100.0%
E_H10_P-5406	E15	483.6	6	60.2%	100.0%	100.0%	100.0%	100.0%
E_H9_P-5714	E5	256.6	6	62.5%	100.0%	100.0%	100.0%	100.0%
E_H9_P-5717	E5	241.5	6	45.6%	100.0%	100.0%	100.0%	100.0%
A_L7_P-6727	E12	349.0	8	40.5%	67.0%	100.0%	100.0%	100.0%
A_M8_P-6510	E4	136.8	6	55.8%	100.0%	100.0%	100.0%	100.0%
F_E11_PC-18	E2	306.9	15	43.3%	67.2%	100.0%	100.0%	100.0%
C_I7_PC-49	N102	31.3	10	41.4%	68.1%	100.0%	100.0%	100.0%
TOTAL: 39 pipes		10,264.9						

**TABLE 5-5
EXISTING PEAK WET WEATHER DEFICIENT PIPELINES**

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
S_H25_P-2965 (a)	U203	266.1	15	24.7%	35.4%	51.4%	51.4%	53.2%
L_E14_P-4128 (a)	E25	278.8	27	28.9%	41.1%	53.3%	54.7%	58.5%
B_I6_P-6256 (a)	U215	488.6	18	27.0%	37.9%	56.5%	56.6%	63.8%
Q_E20_P-1812	E27	275.1	10	35.5%	47.9%	66.1%	67.6%	71.7%
G_F12_P-4976	E14	353.2	15	29.9%	43.5%	66.4%	66.5%	69.7%
N_H18_P-1191	E36	323.4	8	26.7%	39.3%	66.4%	66.4%	74.2%
E_H12_P-5092	E17	641.0	12	26.8%	39.4%	66.4%	66.6%	68.7%
F_E11_P-4956	U204	188.4	10	25.4%	37.7%	66.4%	66.4%	71.6%
F_F10_P-5330	E38	189.4	10	23.2%	34.7%	66.5%	67.3%	76.7%
H_C12_P-4412	E7	178.4	8	26.5%	39.6%	75.9%	75.9%	81.9%
A_K7_P-6722	E39	142.9	8	24.8%	36.9%	67.1%	67.1%	73.0%
K_F18_P-847	E37	85.1	8	25.2%	37.3%	67.1%	100.0%	100.0%
G_F12_P-4639	E40	288.7	15	27.9%	41.0%	67.1%	67.3%	68.9%
Q_F19_P-1801	E27	299.8	8	24.1%	36.0%	67.4%	67.4%	73.8%
S_I25_P-2941	U203	283.8	8	23.4%	35.0%	67.6%	67.6%	72.0%
K_E17_P-4444	E37	202.7	10	27.9%	41.0%	67.8%	76.9%	100.0%
O_G18_P-1061	U217	20.0	8	27.4%	40.3%	68.0%	68.0%	73.7%
A_M8_P-6487	N101	241.6	8	25.1%	37.3%	68.0%	100.0%	100.0%
Q_D20_P-1818	E27	42.3	10	36.2%	49.1%	68.0%	70.4%	74.8%
K_F18_P-2053	E37	367.8	8	26.8%	39.6%	68.3%	100.0%	100.0%
R_D21_P-2083	E21	313.3	8	26.5%	39.2%	68.4%	68.4%	80.6%
E_H12_P-4946	E26	148.7	6	24.5%	36.5%	68.5%	68.5%	100.0%
A_K7_P-6724	E39	192.2	8	25.3%	37.6%	68.5%	68.5%	74.6%
Q_H22_P-554	E23	352.0	8	25.2%	37.5%	68.9%	68.9%	69.3%
A_M8_P-6488	N101	245.9	8	25.4%	37.8%	69.2%	100.0%	100.0%
A_K7_P-6724_2	E39	129.9	8	25.5%	37.9%	69.3%	69.3%	75.4%
R_E21_P-2090	E21	270.7	8	25.9%	38.5%	69.3%	69.3%	100.0%
L_E14_P-4110	E25	106.6	10	30.0%	44.0%	69.4%	69.6%	71.0%
S_I24_P-2697	E6	298.2	10	28.5%	42.0%	69.4%	69.4%	73.5%
Q_E20_P-1790	E27	192.4	8	26.1%	38.7%	69.5%	69.5%	74.2%
S_I24_P-2698	E6	285.5	10	28.6%	42.1%	69.8%	69.8%	73.9%
I_G13_P-4845	E42	202.3	6	23.6%	35.4%	69.8%	69.8%	71.0%
K_F18_P-2054	E37	364.5	8	27.2%	40.2%	69.9%	100.0%	100.0%
O_G17_P-1069	E36	270.7	12	29.9%	43.9%	70.1%	70.1%	76.9%
E_H11_P-5382	E15	486.2	6	25.1%	37.5%	70.6%	70.7%	75.7%
R_D21_P-2082	E21	291.9	8	27.2%	40.3%	70.8%	70.8%	100.0%
R_E21_P-2089	E21	251.1	8	26.4%	39.2%	70.8%	70.8%	100.0%
E_I9_P-5772	E5	409.2	6	26.7%	39.6%	70.9%	70.9%	100.0%
O_G17_P-1145	E36	276.7	8	13.3%	19.9%	71.0%	71.0%	100.0%
E_I9_P-5773	E5	77.3	6	26.7%	39.7%	71.0%	71.0%	100.0%
O_G17_P-1149	E36	188.5	8	31.4%	46.8%	71.1%	71.1%	74.2%
P_D16_P-3872	N116	242.8	8	23.5%	35.3%	71.3%	72.9%	81.7%
I_H13_PC-16	E42	210.1	8	22.9%	34.5%	71.3%	71.3%	72.8%
G_F12_P-4995	E40	237.5	15	29.9%	43.9%	71.4%	71.6%	74.4%
A_K7_P-6720	E39	31.9	8	26.2%	39.0%	71.4%	71.4%	77.8%
X_H27_P-11	U202	40.3	8	28.6%	40.8%	71.9%	71.9%	100.0%
X_H27_P-12	U202	319.4	8	28.6%	40.8%	71.9%	71.9%	100.0%
X_G27_P-146	E10	20.8	8	30.0%	43.6%	72.1%	72.1%	100.0%
K_G18_P-821	E37	169.8	8	18.7%	28.9%	72.2%	72.2%	72.2%
K_F18_P-2055	E37	383.8	8	27.8%	41.2%	72.2%	100.0%	100.0%

(a) Pipeline passes under freeway and the d/D criterium is 50%.

Existing Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
F_F10_P-5311	E38	202.3	10	24.8%	37.1%	72.3%	73.2%	100.0%
S_I24_P-650	E6	191.0	8	24.1%	36.2%	72.4%	72.4%	72.6%
E_G11_P-5349	N118	197.3	8	25.3%	37.9%	72.4%	73.2%	76.4%
E_H11_P-5439	E15	309.9	6	31.5%	45.8%	72.5%	73.0%	77.2%
K_F15_P-3911 (a)	E16	403.5	12	30.8%	45.2%	72.5%	100.0%	100.0%
K_E16_P-4441	E16	202.8	10	30.6%	45.0%	72.7%	100.0%	100.0%
F_E11_P-4515	E2	255.9	15	30.8%	45.3%	72.7%	72.9%	79.9%
Q_E20_PC-9	E27	264.0	12	40.7%	54.4%	72.9%	73.0%	77.6%
S_H23_P-2782	E41	329.4	8	26.4%	39.4%	73.2%	73.2%	75.0%
T_G25_P-3016	U203	172.3	15	32.6%	47.7%	73.5%	73.5%	77.2%
A_L7_P-6615	E39	258.4	6	25.9%	38.7%	73.6%	73.6%	78.4%
F_F10_P-5329	E38	188.5	10	24.6%	37.0%	74.1%	75.3%	100.0%
U_F26_P-3094	N112	46.7	8	26.3%	40.3%	74.3%	74.8%	100.0%
A_J6_P-6428	E12	335.7	8	30.7%	43.9%	74.3%	74.4%	100.0%
O_H19_P-1102	U217	260.8	8	25.4%	38.0%	74.6%	74.6%	100.0%
K_F18_P-852	E37	163.1	8	28.0%	41.6%	74.8%	100.0%	100.0%
R_D21_P-2084	E21	84.2	8	28.0%	41.6%	74.8%	74.8%	100.0%
S_H23_P-2778	E41	367.8	8	26.8%	40.0%	74.8%	74.8%	76.8%
G_F12_P-4996	E40	312.0	15	30.9%	45.6%	75.4%	75.6%	79.1%
K_G14_P-4039	N113	337.5	10	29.9%	44.2%	75.5%	76.5%	100.0%
I_F14_P-4175	E8	47.5	12	32.5%	47.7%	75.5%	75.8%	77.0%
G_F12_P-4998	E40	270.1	15	30.9%	45.6%	75.5%	75.7%	79.2%
G_F11_P-4997	E40	778.5	15	31.0%	45.7%	75.5%	75.7%	79.2%
K_G15_P-4019	E24	204.4	8	27.6%	41.1%	75.6%	75.6%	100.0%
H_B11_P-4404	U201	350.3	8	25.2%	37.8%	75.7%	75.7%	75.7%
L_E14_P-4127	E25	284.6	27	37.8%	55.0%	75.8%	78.8%	100.0%
A_K7_P-6147	U214	34.8	6	17.7%	27.7%	76.0%	76.0%	100.0%
F_F10_P-5310	E38	181.5	10	25.7%	38.6%	76.2%	77.2%	100.0%
Q_F20_P-1747	E34	366.4	12	33.4%	49.0%	76.3%	76.5%	100.0%
R_F21_P-1988	E13	307.3	4	24.7%	37.3%	76.4%	76.4%	100.0%
S_H23_P-2779	E41	362.5	8	27.1%	40.6%	76.5%	76.5%	78.6%
J_H14_P-4754	N113	156.4	6	24.5%	37.0%	76.7%	76.7%	100.0%
S_H25_P-574	U203	178.8	8	33.1%	48.4%	76.8%	76.8%	80.7%
G_G12_P-5022	N103	804.6	6	25.7%	38.6%	77.1%	77.3%	100.0%
E_H13_PC-17	E26	269.5	6	26.3%	39.4%	77.4%	77.4%	100.0%
A_K7_P-6718	E39	316.3	8	27.6%	41.3%	77.6%	77.6%	100.0%
K_F15_P-3912 (a)	E16	156.1	12	32.1%	47.4%	77.8%	100.0%	100.0%
R_E21_P-2087	E21	258.6	8	28.3%	42.2%	78.3%	78.3%	100.0%
K_E17_P-4446	E37	275.9	10	30.5%	45.3%	78.5%	100.0%	100.0%
H_C12_P-4411	E7	539.5	8	29.4%	44.4%	100.0%	100.0%	100.0%
K_E17_P-4443 (a)	E16	206.8	10	31.8%	47.0%	78.8%	100.0%	100.0%
A_M7_P-6577	E4	232.2	8	30.6%	45.4%	78.8%	100.0%	100.0%
Q_F20_P-1748	E34	394.5	12	34.0%	50.0%	78.9%	79.2%	100.0%
K_F15_P-3962	E24	385.4	8	29.2%	43.5%	79.1%	79.1%	100.0%
Q_F20_P-1745	E34	390.3	12	34.1%	50.2%	79.4%	79.7%	100.0%
E_H12_P-5091	E17	741.7	8	30.1%	44.7%	79.5%	79.9%	100.0%
A_M8_P-6630	E4	351.6	8	23.6%	35.9%	80.3%	80.3%	100.0%
E_H11_P-5118	E17	581.0	6	32.3%	47.7%	80.6%	80.8%	100.0%
A_K7_P-6719	E39	312.2	8	28.1%	42.1%	80.6%	80.6%	100.0%
Q_F20_P-1799	E27	373.8	12	35.1%	51.7%	81.1%	81.4%	100.0%
O_G17_P-1387	E36	286.5	12	32.6%	48.3%	81.2%	81.2%	100.0%
Q_F20_P-1746	E34	419.6	12	34.6%	51.0%	81.5%	81.8%	100.0%
X_G27_P-3399	E10	207.4	8	30.8%	44.5%	81.6%	81.6%	100.0%

(a) Pipeline passes under freeway and the d/D criterium is 50%.

Existing Peak Wet Weather Deficient Pipelines

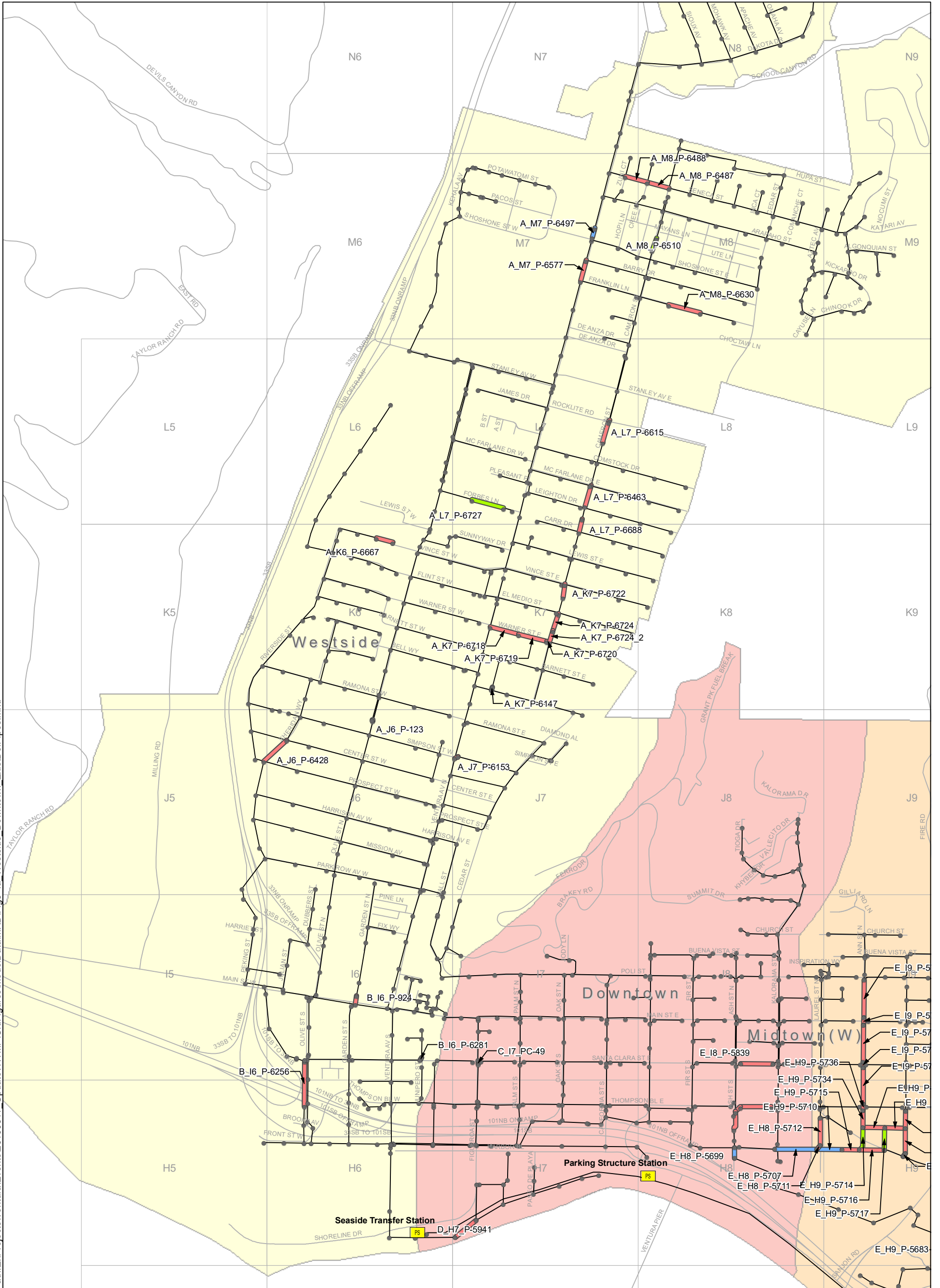
Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
I_G13_P-4841	E8	339.8	8	30.1%	44.8%	81.8%	81.8%	81.8%
K_E17_P-4445	E37	84.7	10	31.2%	46.4%	81.9%	100.0%	100.0%
I_F14_P-47	E8	259.8	12	40.8%	62.0%	100.0%	100.0%	100.0%
W_K28_P-160	E32	231.1	8	32.9%	52.5%	100.0%	100.0%	100.0%
S_I24_P-178	E6	352.8	8	32.5%	48.9%	100.0%	100.0%	100.0%
S_I23_P-179	E6	353.4	8	38.0%	58.6%	100.0%	100.0%	100.0%
S_I23_P-180	E6	197.5	8	33.0%	49.8%	100.0%	100.0%	100.0%
S_I23_P-181	E6	106.7	8	31.2%	46.9%	100.0%	100.0%	100.0%
S_I23_P-198	E6	336.4	8	29.8%	44.7%	100.0%	100.0%	100.0%
S_I23_P-199	E6	286.6	8	31.7%	47.7%	100.0%	100.0%	100.0%
S_I23_P-200	E6	274.7	8	29.7%	44.4%	100.0%	100.0%	100.0%
P_C21_P-284	E31	402.0	36	46.5%	71.4%	100.0%	100.0%	100.0%
P_C17_P-337	E9	193.3	24	38.3%	56.5%	100.0%	100.0%	100.0%
U_H26_P-586	E30	334.8	8	34.1%	53.0%	100.0%	100.0%	100.0%
R_D22_P-168	E13	355.6	8	41.9%	65.4%	100.0%	100.0%	100.0%
R_D22_P-169	E13	373.9	8	41.9%	65.3%	100.0%	100.0%	100.0%
H_B13_P-99	E7	307.5	36	44.7%	66.8%	100.0%	100.0%	100.0%
I_G13_P-801	E8	17.0	8	30.7%	45.8%	100.0%	100.0%	100.0%
I_G13_P-800	E8	175.6	10	35.0%	52.6%	100.0%	100.0%	100.0%
Q_G19_P-964	U218	184.3	8	25.4%	38.9%	100.0%	100.0%	100.0%
Q_F19_P-965	U218	145.9	8	34.0%	53.4%	100.0%	100.0%	100.0%
Q_F19_P-966	U218	225.0	8	35.0%	55.0%	100.0%	100.0%	100.0%
K_F18_P-853	E37	296.5	8	30.1%	45.1%	100.0%	100.0%	100.0%
P_B20_P-1018	E18	282.0	6	30.1%	45.8%	100.0%	100.0%	100.0%
O_G17_P-1068	E36	272.8	8	36.4%	55.3%	100.0%	100.0%	100.0%
O_G20_P-1087	E27	136.1	10	28.7%	43.2%	100.0%	100.0%	100.0%
O_G17_P-1143	E36	271.6	8	39.7%	61.3%	100.0%	100.0%	100.0%
O_H17_P-1154	E36	86.9	8	37.2%	56.9%	100.0%	100.0%	100.0%
O_H18_P-1155	E36	90.2	8	35.8%	54.3%	100.0%	100.0%	100.0%
O_H18_P-1195	E36	318.2	8	31.9%	47.7%	100.0%	100.0%	100.0%
O_H18_P-1196	E36	158.6	8	33.6%	50.6%	100.0%	100.0%	100.0%
P_E19_P-791	E20	615.9	8	24.9%	56.8%	100.0%	100.0%	100.0%
B_I6_P-924	E28	94.0	6	24.7%	37.5%	100.0%	100.0%	100.0%
P_E18_P-1885	U206	58.6	6	24.8%	39.2%	100.0%	100.0%	100.0%
Q_F21_P-1719	E34	16.6	8	34.2%	51.9%	100.0%	100.0%	100.0%
Q_F21_P-1720	E34	253.4	8	34.7%	52.6%	100.0%	100.0%	100.0%
Q_F21_P-1721	E34	276.0	10	32.1%	47.7%	100.0%	100.0%	100.0%
Q_F21_P-1722	E34	332.7	10	33.9%	50.6%	100.0%	100.0%	100.0%
Q_F21_P-1723	E34	184.9	10	34.6%	51.7%	100.0%	100.0%	100.0%
Q_F21_P-1724	E34	332.3	10	35.6%	53.4%	100.0%	100.0%	100.0%
Q_F21_P-1737	E34	405.0	10	34.8%	52.1%	100.0%	100.0%	100.0%
Q_F19_P-1744	E27	205.4	12	38.3%	57.3%	100.0%	100.0%	100.0%
P_E19_P-1791	E20	283.9	8	19.5%	46.3%	100.0%	100.0%	100.0%
P_E19_P-1792	E20	125.3	8	19.5%	46.4%	100.0%	100.0%	100.0%
P_E19_P-1795	E20	389.4	8	17.6%	41.3%	100.0%	100.0%	100.0%
P_E19_P-1796	E20	190.1	8	18.2%	44.0%	100.0%	100.0%	100.0%
Q_D20_P-1814	E27	121.8	10	43.1%	59.6%	100.0%	100.0%	100.0%
Q_D20_P-1821	E27	363.5	10	41.4%	57.2%	100.0%	100.0%	100.0%
P_E19_P-1924	E20	329.8	8	17.5%	37.3%	77.6%	77.6%	100.0%
P_E19_P-1923	E20	341.5	8	17.3%	36.9%	75.9%	75.9%	100.0%
R_F21_P-1989	E13	284.3	4	27.9%	42.5%	100.0%	100.0%	100.0%
R_E21_P-1959	U226	228.0	8	30.4%	46.0%	100.0%	100.0%	100.0%
K_F18_P-2044	E37	392.4	8	31.4%	46.8%	100.0%	100.0%	100.0%

Existing Peak Wet Weather Deficient Pipelines

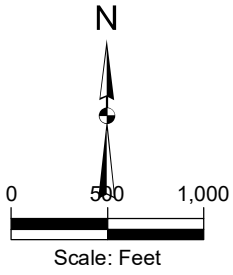
Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
P_C18_P-2239	E9	242.9	24	43.4%	65.8%	100.0%	100.0%	100.0%
R_E21_P-2070	E13	298.2	8	30.7%	48.1%	100.0%	100.0%	100.0%
R_E21_P-2085	E21	176.2	8	30.7%	46.0%	100.0%	100.0%	100.0%
R_C21_P-2210	E31	72.6	18	33.2%	49.5%	100.0%	100.0%	100.0%
Q_H22_P-2575	E23	293.5	8	32.6%	49.1%	100.0%	100.0%	100.0%
Q_H22_P-2576	E23	296.5	8	41.7%	65.6%	100.0%	100.0%	100.0%
Q_G22_P-2578	E23	116.8	8	31.9%	47.8%	100.0%	100.0%	100.0%
S_J23_P-2685	E6	118.0	8	29.5%	44.8%	100.0%	100.0%	100.0%
T_F25_P-2899	E11	258.1	18	39.7%	59.5%	100.0%	100.0%	100.0%
U_E24_P-2912	U219	351.9	18	45.7%	71.2%	100.0%	100.0%	100.0%
U_G26_P-3099	E22	283.8	8	26.8%	43.2%	100.0%	100.0%	100.0%
T_F25_P-3083	E11	260.1	18	36.8%	54.4%	100.0%	100.0%	100.0%
X_G28_P-3310	E10	144.7	8	38.3%	57.1%	100.0%	100.0%	100.0%
U_H26_P-3577	E30	264.4	8	36.6%	57.3%	100.0%	100.0%	100.0%
X_H26_P-3563	E30	284.3	8	32.0%	44.8%	100.0%	100.0%	100.0%
P_C17_P-3794	E9	119.1	8	29.3%	44.0%	100.0%	100.0%	100.0%
P_D17_P-3829	E29	345.8	8	27.1%	41.6%	100.0%	100.0%	100.0%
L_D16_P-3865	E29	309.6	8	25.4%	38.8%	100.0%	100.0%	100.0%
L_E16_P-3884	E29	102.6	8	26.7%	41.8%	100.0%	100.0%	100.0%
L_D15_P-3896	E29	339.0	8	19.7%	38.3%	100.0%	100.0%	100.0%
K_F15_P-3907	E16	376.4	12	35.9%	53.7%	100.0%	100.0%	100.0%
K_G15_P-3964	E24	316.9	8	30.5%	45.5%	100.0%	100.0%	100.0%
K_F15_P-3963	E24	317.4	8	29.8%	44.5%	100.0%	100.0%	100.0%
K_F15_P-3974	E24	101.8	6	30.9%	46.7%	100.0%	100.0%	100.0%
K_F15_P-3961	U216	311.9	18	38.2%	57.4%	100.0%	100.0%	100.0%
K_F15_P-3983	E16	100.5	15	36.2%	53.4%	100.0%	100.0%	100.0%
K_F14_P-3985	E35	338.0	10	33.7%	50.3%	100.0%	100.0%	100.0%
K_G15_P-3965	E24	317.2	8	30.3%	45.3%	100.0%	100.0%	100.0%
K_E14_P-4096	E35	354.3	18	38.6%	57.0%	100.0%	100.0%	100.0%
K_E14_P-4094	E35	354.6	18	41.7%	62.6%	100.0%	100.0%	100.0%
I_F14_P-4137	E8	212.2	10	36.1%	54.2%	100.0%	100.0%	100.0%
K_E16_P-3904	E16	422.9	10	40.2%	61.5%	100.0%	100.0%	100.0%
I_G13_P-4227	E8	255.6	10	38.9%	59.3%	100.0%	100.0%	100.0%
K_F17_P-4448	E37	537.8	10	31.2%	46.4%	100.0%	100.0%	100.0%
H_A12_P-4393	U201	8.9	6	28.7%	43.2%	100.0%	100.0%	100.0%
K_E16_P-4440	E16	288.8	10	35.0%	52.3%	100.0%	100.0%	100.0%
K_E16_P-4439	E16	322.9	10	36.5%	54.8%	100.0%	100.0%	100.0%
K_E17_P-4449	E37	122.6	8	29.2%	43.7%	100.0%	100.0%	100.0%
F_D11_P-4476	E2	241.1	15	34.8%	51.9%	100.0%	100.0%	100.0%
F_D11_P-4512	E2	241.5	15	34.7%	51.7%	100.0%	100.0%	100.0%
F_D11_P-4477	E2	268.9	15	34.3%	50.9%	100.0%	100.0%	100.0%
G_F12_P-4659	E40	164.5	15	35.2%	52.7%	100.0%	100.0%	100.0%
I_G13_P-4816	E8	161.2	10	35.1%	52.6%	100.0%	100.0%	100.0%
I_G14_P-4828	U220	62.2	8	30.0%	44.7%	100.0%	100.0%	100.0%
I_G13_P-4795	E8	226.1	8	38.6%	58.9%	100.0%	100.0%	100.0%
I_G13_P-4840	E8	224.1	8	35.3%	53.6%	100.0%	100.0%	100.0%
E_H13_P-4878	E17	454.4	10	31.0%	46.3%	100.0%	100.0%	100.0%
E_H13_P-4879	E17	123.3	10	31.2%	46.7%	100.0%	100.0%	100.0%
G_F12_P-5008	N103	311.5	8	27.1%	40.8%	100.0%	100.0%	100.0%
G_G12_P-5035	N103	135.4	6	41.3%	65.5%	100.0%	100.0%	100.0%
E_H12_P-5097	E26	238.2	6	31.2%	47.2%	100.0%	100.0%	100.0%
E_H12_P-5099	E26	431.7	6	33.5%	51.2%	100.0%	100.0%	100.0%
E_H12_P-5096	E26	501.4	6	29.6%	44.6%	100.0%	100.0%	100.0%

Existing Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
E_H12_P-5065	E26	449.1	6	30.4%	45.9%	100.0%	100.0%	100.0%
E_H12_P-5090	E17	545.1	8	29.6%	44.3%	100.0%	100.0%	100.0%
E_H11_P-5391	E15	156.0	6	29.7%	44.9%	100.0%	100.0%	100.0%
E_H12_P-5110	E26	173.1	6	31.5%	47.7%	100.0%	100.0%	100.0%
E_H11_P-5113	E17	451.3	8	39.8%	61.4%	100.0%	100.0%	100.0%
E_H12_P-5130	E26	490.4	6	32.7%	50.0%	100.0%	100.0%	100.0%
F_F10_P-5314	E38	91.5	8	29.7%	45.1%	100.0%	100.0%	100.0%
E_G10_P-5351	E19	293.7	8	29.8%	45.4%	100.0%	100.0%	100.0%
E_H10_P-5404	E15	209.1	6	38.0%	61.1%	100.0%	100.0%	100.0%
E_H10_P-5405	E15	464.7	6	38.3%	61.6%	100.0%	100.0%	100.0%
E_H10_P-5398	E15	307.1	6	31.2%	47.0%	100.0%	100.0%	100.0%
E_H10_P-5407	E15	187.9	6	31.2%	47.0%	100.0%	100.0%	100.0%
E_H10_P-5412	E15	268.3	15	34.6%	51.2%	100.0%	100.0%	100.0%
E_H10_P-5438	E15	306.7	8	34.4%	51.0%	100.0%	100.0%	100.0%
E_I11_P-5463	E15	429.8	6	31.7%	48.1%	100.0%	100.0%	100.0%
E_H8_P-5711	E5	56.4	6	28.2%	42.9%	100.0%	100.0%	100.0%
E_H8_P-5712	E5	291.1	6	27.5%	41.8%	100.0%	100.0%	100.0%
E_H9_P-5715	E5	189.4	6	33.1%	49.6%	100.0%	100.0%	100.0%
E_H9_P-5716	E5	266.6	6	27.6%	49.2%	100.0%	100.0%	100.0%
E_H9_P-5728	E5	224.1	4	38.0%	58.3%	100.0%	100.0%	100.0%
E_H9_P-5719	E5	274.6	6	25.4%	38.8%	100.0%	100.0%	100.0%
E_H9_P-5720	E5	38.3	6	25.6%	40.1%	100.0%	100.0%	100.0%
E_H9_P-5729	E5	186.0	6	29.0%	43.4%	100.0%	100.0%	100.0%
E_H9_P-5733	E5	234.6	4	0.0%	47.5%	100.0%	100.0%	100.0%
E_H9_P-5734	E5	184.4	6	31.4%	47.2%	100.0%	100.0%	100.0%
E_H9_P-5736	E5	72.7	6	31.1%	46.8%	100.0%	100.0%	100.0%
E_I9_P-5777	E5	389.3	6	30.8%	46.2%	100.0%	100.0%	100.0%
E_I9_P-5785	E5	61.7	6	30.2%	45.3%	100.0%	100.0%	100.0%
E_I8_P-5839	E5	343.9	6	26.7%	40.7%	100.0%	100.0%	100.0%
E_I9_P-5774	E5	397.0	6	32.4%	48.9%	100.0%	100.0%	100.0%
B_I6_P-6281	N102	30.8	6	24.3%	37.3%	100.0%	100.0%	100.0%
D_H7_P-5941	E28	288.1	8	29.0%	43.9%	100.0%	100.0%	100.0%
A_J7_P-6153	U214	42.7	12	38.3%	61.2%	100.0%	100.0%	100.0%
A_K6_P-6667	E12	182.2	6	41.0%	65.7%	100.0%	100.0%	100.0%
A_L7_P-6688	E39	144.0	8	31.1%	47.1%	100.0%	100.0%	100.0%
A_L7_P-6463	E39	238.5	8	32.1%	49.0%	100.0%	100.0%	100.0%
E_H10_PC-21	E15	273.2	15	42.4%	65.2%	100.0%	100.0%	100.0%
E_I9_PC-23	E5	124.4	6	26.6%	40.7%	100.0%	100.0%	100.0%
Q_F21_PC-36	E34	150.4	10	34.1%	50.8%	100.0%	100.0%	100.0%
H_C12_PC-55	E7	361.3	8	31.2%	48.3%	100.0%	100.0%	100.0%
E_H8_P-5476_3	E5	74.7	6	24.5%	36.8%	73.4%	73.6%	100.0%
E_H8_P-5476_2	E5	330.2	6	21.2%	31.6%	59.8%	59.9%	100.0%
E_H12_P-5112	E17	87.8	8	39.3%	60.5%	100.0%	100.0%	100.0%
TOTAL: 252 pipes		65,239.6						



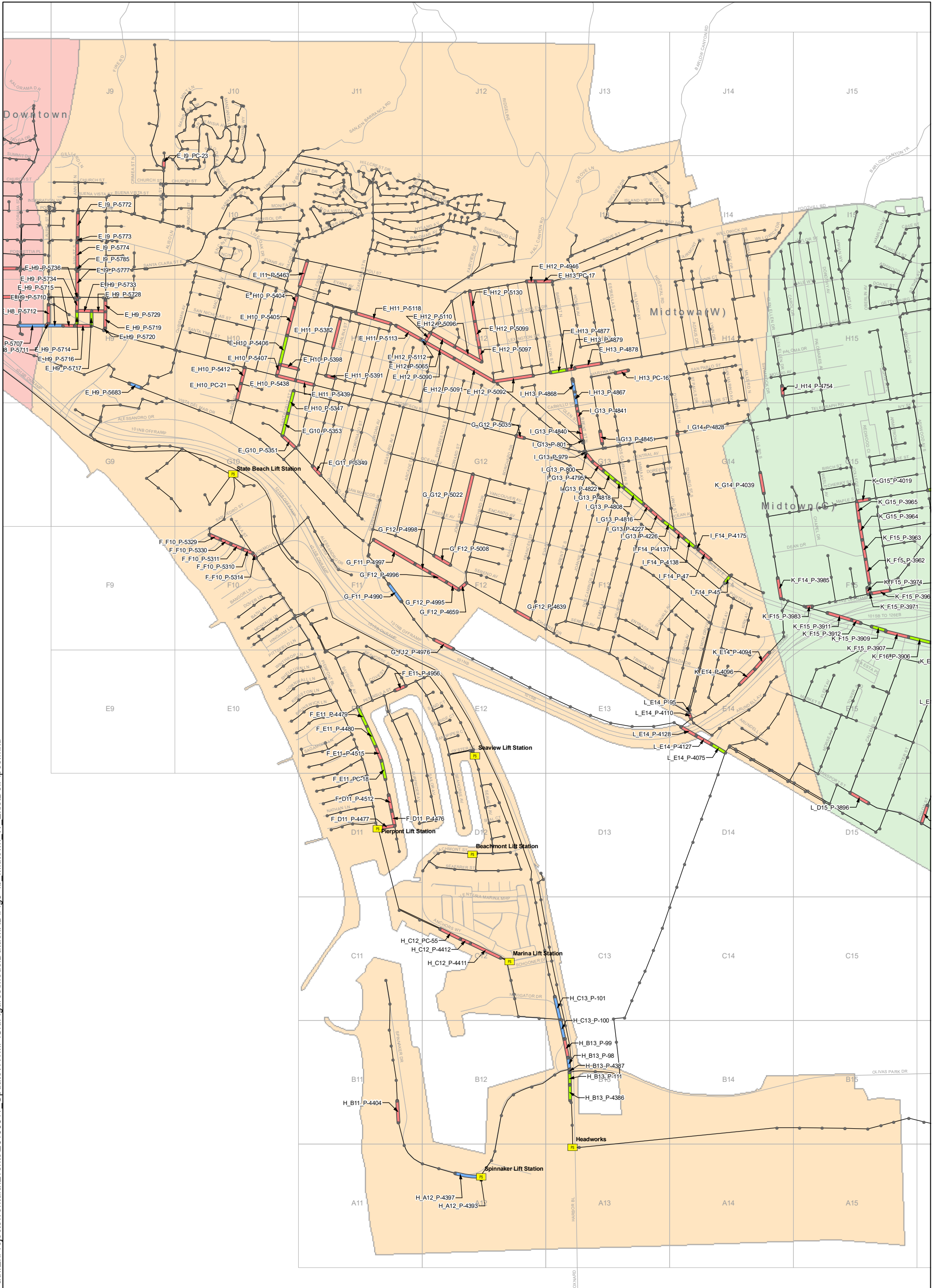
Legend	
●	Manhole
—	Gravity Sewer
PS	Lift Station
—	Street
□	Atlas Sheet
— (Red)	Existing Average Dry System Deficiencies
— (Green)	Existing Peak Dry System Deficiencies
— (Blue)	Existing Peak Wet System Deficiencies



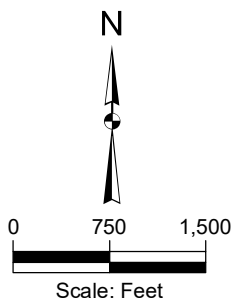
Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Existing System Deficient Pipelines
 Westside/Downtown**

K/J 1089015*00
 August 2010
Figure 5-4a

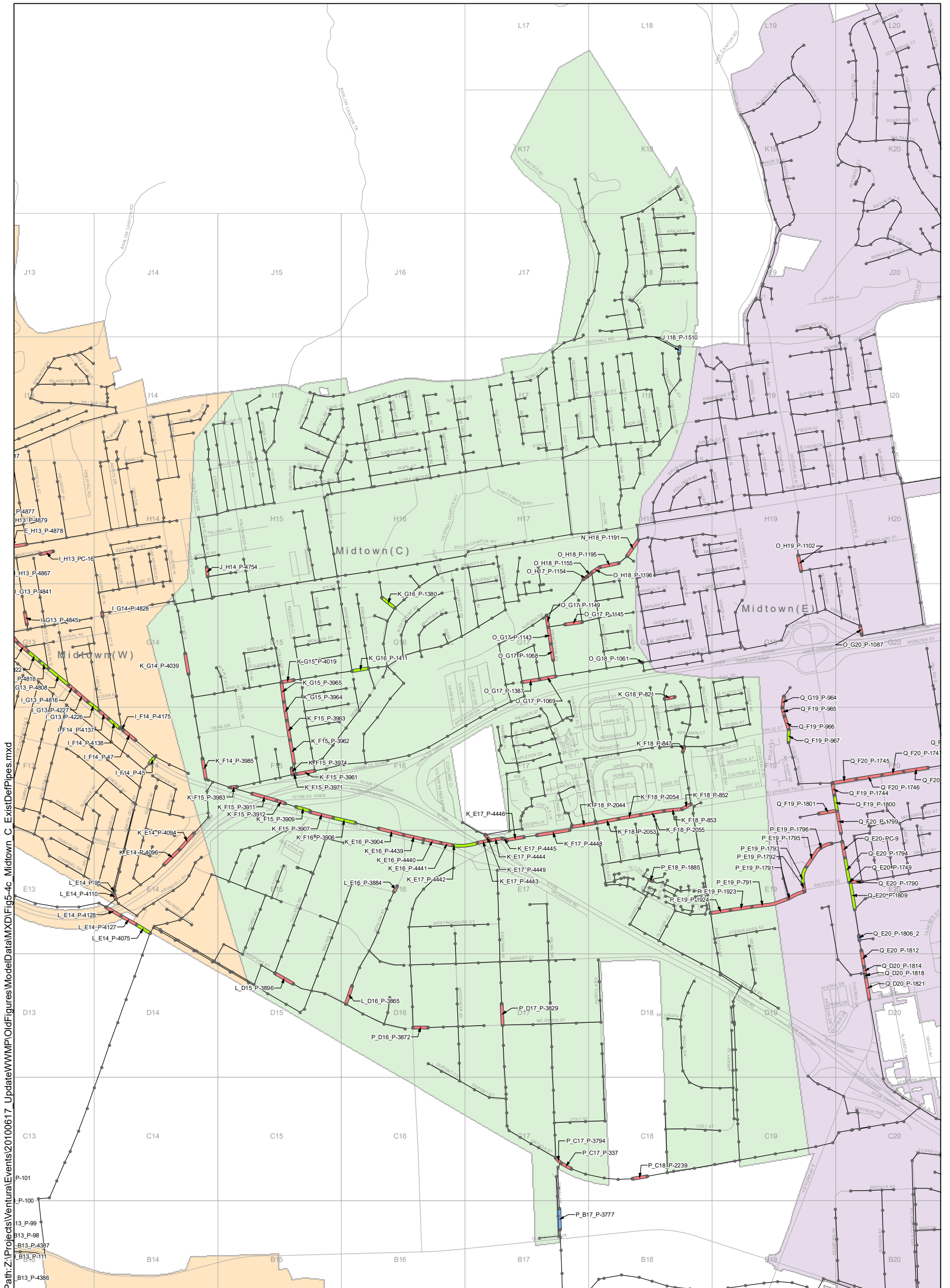


Legend	
●	Manhole
—	Gravity Sewer
■ PS	Lift Station
—	Street
□	Atlas Sheet
— (Red)	Existing Average Dry System Deficiencies
— (Green)	Existing Peak Dry System Deficiencies
— (Blue)	Existing Peak Wet System Deficiencies



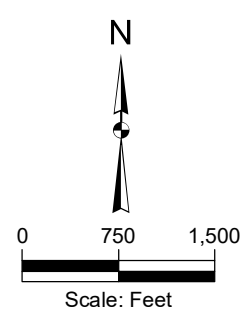
Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California
**Existing System Deficient Pipelines
 Midtown (West)**

K/J 1089015*00
 August 2010
Figure 5-4b



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\XDFig5-4c_Midtown_C_ExistDefPipes.mxd

Legend	
●	Manholes
—	Street
□	Atlas Sheet
—	Gravity Sewer
—	Existing Average Dry System Deficiencies
—	Existing Peak Dry System Deficiencies
—	Existing Peak Wet System Deficiencies

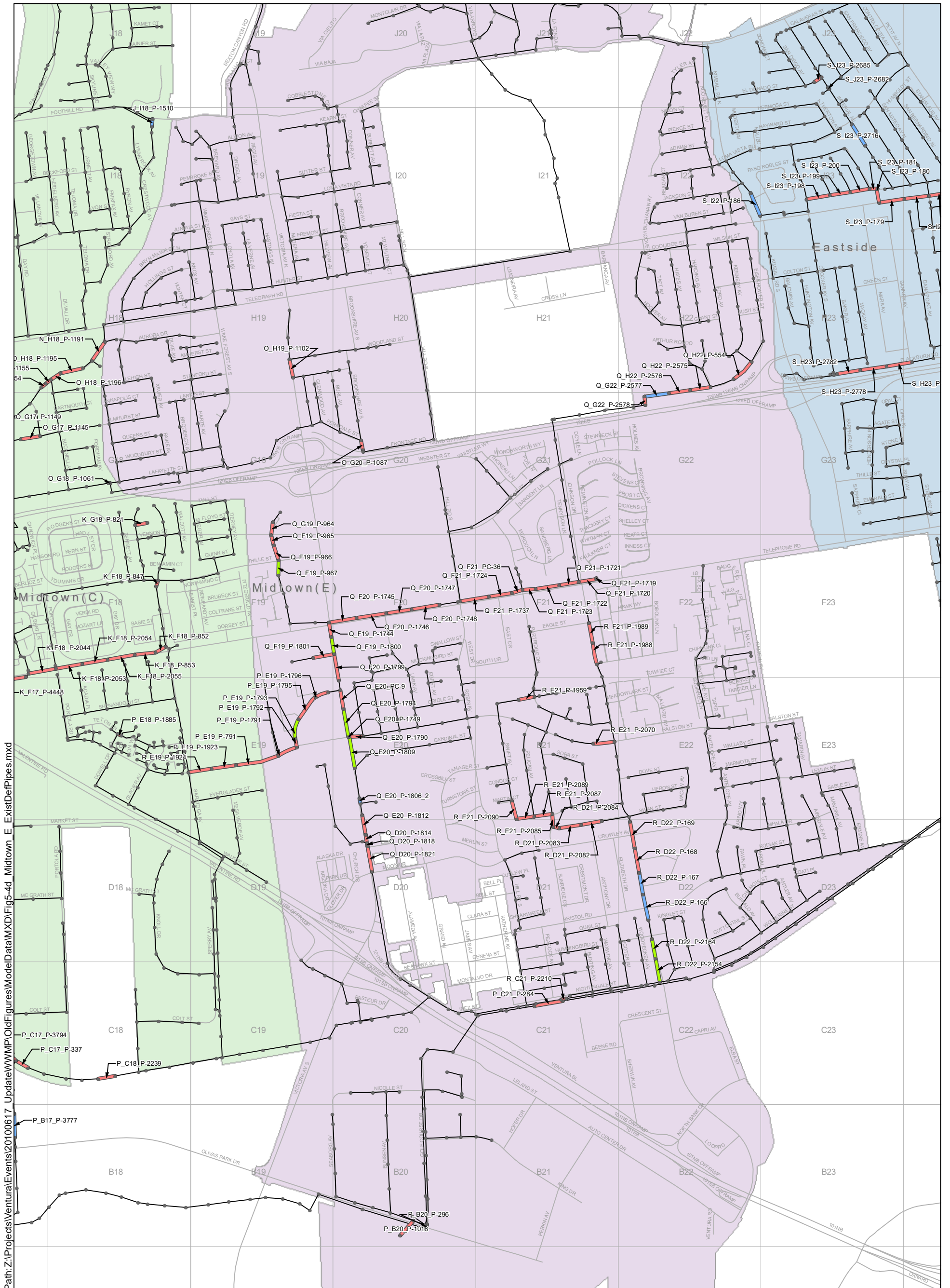


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Existing System Deficient Pipelines
 Midtown (Center)**

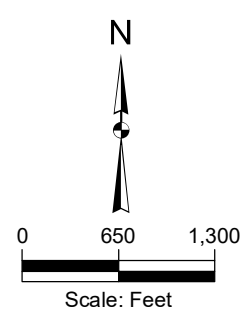
K/J 1089015*00
 August 2010

Figure 5-4c



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\XDI\Fig5-4d_Midtown_E_ExistDefPipes.mxd

Legend	
●	Manhole
—	Gravity Sewer
—	Street
□	Atlas Sheet
— (Red)	Existing Average Dry System Deficiencies
— (Green)	Existing Peak Dry System Deficiencies
— (Blue)	Existing Peak Wet System Deficiencies



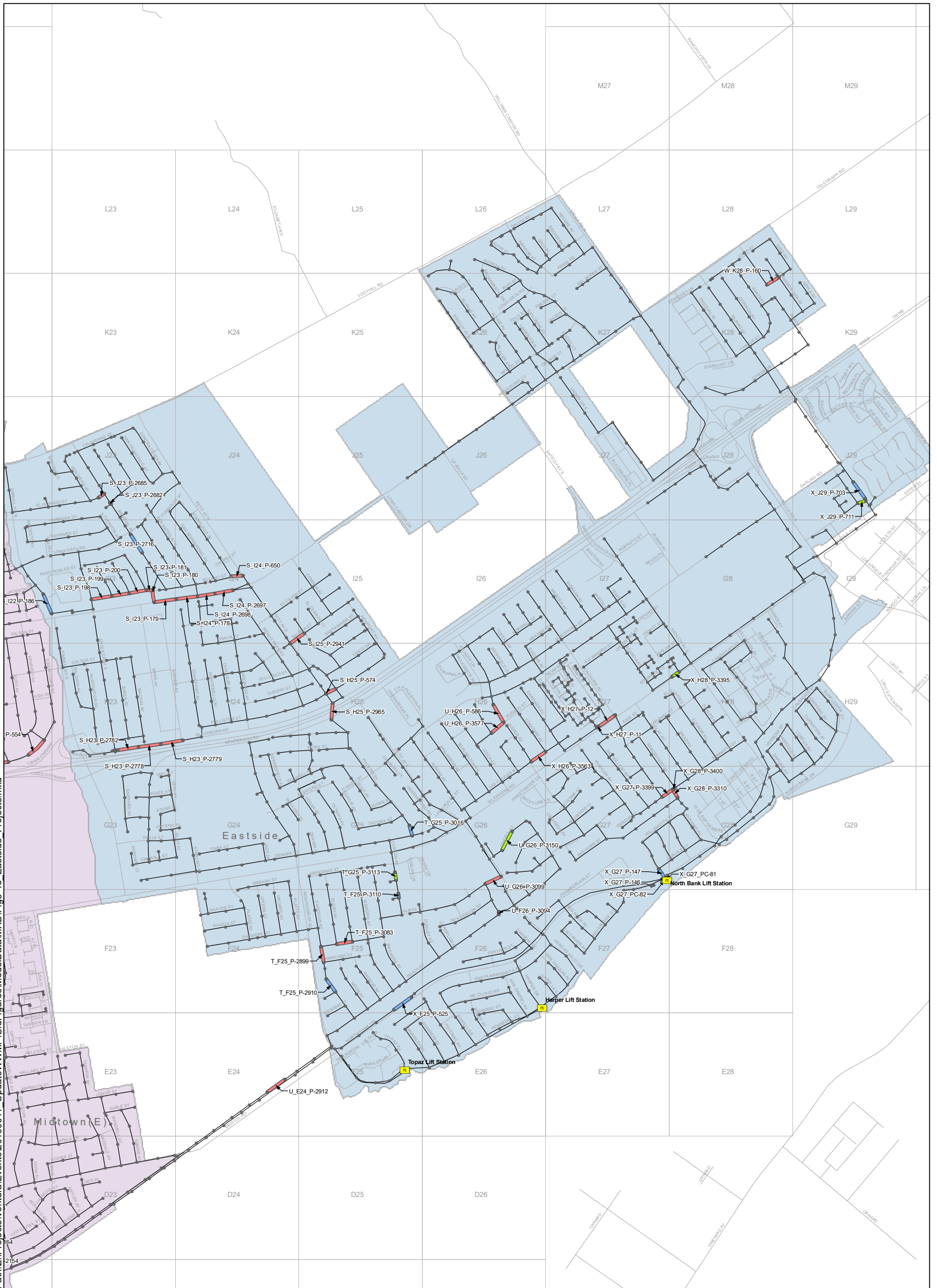
Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Existing System Deficient Pipelines
 Midtown (East)**

K/J 1089015*00
 August 2010

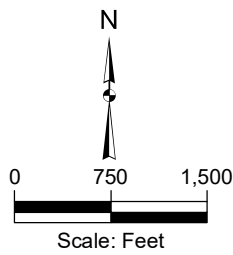
Figure 5-4d

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\XMD\Fig5-4e_Eastside_Projects.mxd



Legend

- Manhole
- Gravity Sewer
- PS Lift Stations
- Street
- Atlas Sheet
- Existing Average Dry System Deficiencies
- Existing Peak Dry System Deficiencies
- Existing Peak Wet System Deficiencies



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California
**Existing System Deficient Pipelines
 Eastside**

K/J 1089015*00
 August 2010
Figure 5-4e

Often areas requiring regular maintenance are associated with pipes having inadequate velocities. Velocities too high and too low have the potential to cause problems within a gravity collection system. Low velocities allow build-up of grease and sediments. Low velocities during average flow conditions may not be problematic if peak flow velocities scour the build-up. However, pipes with velocities that regularly exceed design criteria can cause scour and damage the pipes. The City's design criteria for gravity sewers, as presented in Section 2.4, includes a minimum design velocity of 2 fps and a maximum design velocity of 10 fps.

5.3.1.2 Identification of Potential Future Maintenance Concerns

Figure 5-5 identifies the pipes with insufficient velocities, based on the design criteria above. Pipes with velocities less than 2 fps under peak wet weather conditions were highlighted. For these pipes, the peak flow velocities were not significant enough to occasionally clean the pipes of sediment and grease. Also highlighted were pipes in which the velocities exceed 10 fps under average dry weather conditions. These pipes may warrant early replacement due to scour. It is recommended that these pipes be included in the internal video inspection schedule for the City's collection system.

5.3.2 Near-Term System Hydraulic Evaluation

The near-term development condition reflects the change in wastewater flows resulting from the proposed Near-Term Development projects presented in Section 2.1.2.

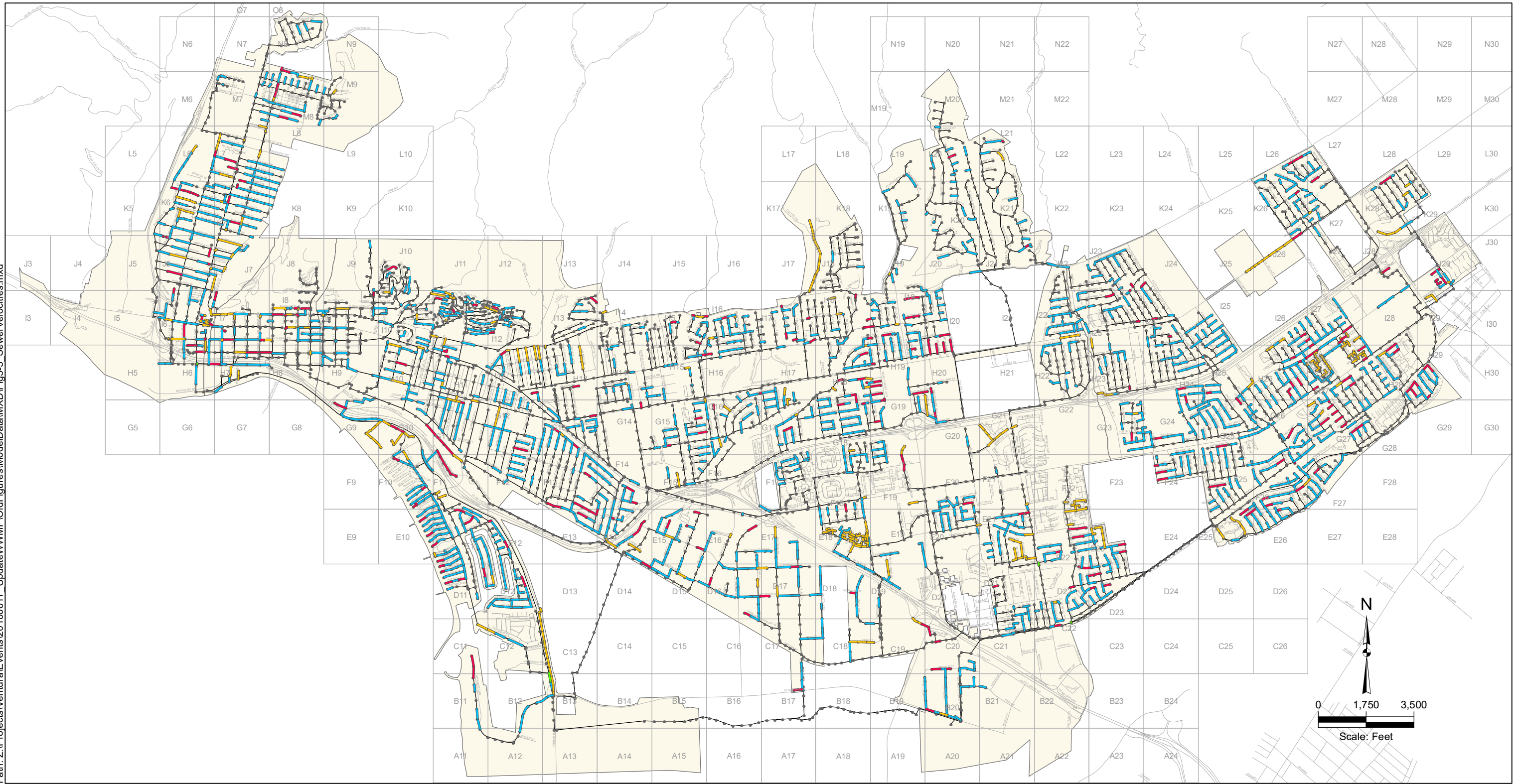
Table 5-6 summarizes the sewer deficiencies noted for the near-term development condition. These deficiencies were identified based on the d/D ratios resulting from the hydraulic model for PWWF conditions. A total of 233 pipe segments totaling approximately 61,760 ft were identified as deficient in the near-term condition. These deficiencies noted in Table 5-6 are shown by region in Figures 5-6a to 5-6e and are grouped into capital improvement projects later in this section. Exhibit 3 presents the near-term deficiencies for the entire collections system.

5.3.3 Ultimate System Hydraulic Evaluation

The ultimate development condition accounts for all vacant parcels within the tributary area developing into land uses designated by the *City of San Buenaventura's Comprehensive Plan* and consistent with the City's *Downtown Specific Plan*. The approach used to determine ultimate system loads was described in Section 2.1.3.

Table 5-7 summarizes the sewer deficiencies noted for the ultimate development increment. These deficiencies were identified based on the d/D ratios resulting from the hydraulic model for PWWF conditions. A total of 318 pipe segments totaling 81,800 ft were identified as deficient in the ultimate condition. These deficiencies noted in Table 5-7 are shown in Figures 5-7a to 5-7e (also in Exhibit 4) and are grouped into capital improvement projects later in this section. Table 5-7 also includes the d/D ratio for each sewer under the existing and near-term conditions.

Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OId\Figures\ModelData\MXD\Fig5-5_SewerVelocities.mxd



Legend

• Manholes	— Gravity Sewer
Existing Dry Conditions	— Street
> 10 fps	Atlas Sheet
Existing Peak Wet Conditions	City Limits
0 - 0.5 fps	
0.5 - 1 fps	
1 - 2 fps	

Kennedy/Jenks Consultants
City of San Buenaventura
San Buenaventura, California

Pipelines with Insufficient Velocities

K/J 1089015*00
August 2010

Figure 5-5

TABLE 5-6
NEAR TERM PEAK WET WEATHER DEFICIENT PIPELINES

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADFW d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
P_F22_P-2593	N111	272.5	8	4.6%	6.8%	13.0%	50.1%	51.3%
P_F22_P-2580	N111	203.4	8	5.1%	7.6%	14.6%	57.9%	57.9%
P_F22_P-2594	N111	448.5	8	7.8%	11.5%	21.0%	60.6%	64.7%
T_G24_P-2842	N120	355.0	8	7.2%	10.7%	21.0%	51.8%	52.2%
P_F22_P-2595	N111	177.7	8	7.9%	11.6%	21.3%	61.8%	67.8%
B_H6_P-6273	N102	336.5	6	6.5%	9.8%	21.9%	57.5%	57.5%
P_F22_P-2596	N111	251.0	8	8.4%	12.4%	22.7%	67.7%	75.9%
T_G24_P-2841	N120	160.9	8	8.1%	12.1%	23.3%	53.4%	53.9%
P_E22_P-2645	N111	138.4	8	10.5%	15.4%	27.0%	61.5%	79.2%
P_B20_P-294	N227	369.3	8	10.3%	15.1%	27.3%	52.0%	53.7%
K_E17_P-4450	N228	154.5	8	10.0%	14.8%	28.0%	52.9%	52.9%
P_E22_P-175	N111	84.0	8	11.1%	16.2%	28.6%	67.6%	100.0%
C_H6_P-6170 (a)	N102	403.0	8	10.1%	15.0%	29.5%	64.8%	65.7%
K_F16_P-4451	N228	262.2	8	10.6%	15.7%	29.6%	56.6%	56.6%
P_E22_P-2642	N111	255.0	8	11.6%	16.9%	29.8%	70.3%	100.0%
P_E22_P-2615	N111	268.1	8	11.6%	17.0%	30.0%	70.4%	100.0%
P_D22_P-2612	N111	395.2	8	11.8%	17.3%	30.5%	71.4%	100.0%
P_E22_P-2607	N111	227.8	8	11.9%	17.4%	30.9%	77.5%	100.0%
P_E22_P-2608	N111	152.9	8	11.9%	17.4%	30.9%	77.5%	100.0%
P_E22_P-2646	N111	253.3	8	12.3%	18.1%	32.1%	81.3%	100.0%
P_D22_P-2611	N111	367.9	8	12.6%	18.4%	32.5%	77.7%	100.0%
P_F22_P-2600	N111	353.9	8	12.5%	18.3%	32.6%	100.0%	100.0%
P_B20_P-278	U227	25.4	10	13.7%	19.9%	33.0%	57.0%	59.3%
P_D22_P-2640	N111	264.2	10	12.9%	18.9%	33.3%	80.4%	100.0%
P_E22_P-61	N111	127.9	8	13.5%	19.9%	35.5%	100.0%	100.0%
P_D22_P-2639	N111	268.3	10	14.0%	20.6%	36.4%	100.0%	100.0%
P_E22_P-2601	N111	256.2	8	14.0%	20.6%	37.0%	100.0%	100.0%
V_J26_P-3662	N109	335.5	12	12.1%	18.2%	37.2%	100.0%	100.0%
P_E22_P-2647	N111	135.9	8	14.1%	20.8%	37.3%	100.0%	100.0%
V_J26_P-3661	N109	314.3	12	12.2%	18.3%	37.3%	100.0%	100.0%
P_D23_P-2634	N111	221.4	10	14.6%	21.4%	37.8%	100.0%	100.0%
R_D21_P-2110	N121	111.7	8	14.3%	21.2%	38.8%	51.4%	52.2%
P_B20_P-1031	U227	236.5	8	14.7%	21.8%	40.5%	50.1%	54.2%
P_E22_P-174	N111	273.1	8	15.5%	22.8%	41.3%	100.0%	100.0%
K_F19_P-839	E37	304.2	8	16.1%	23.7%	41.7%	55.1%	57.9%
P_B20_P-1019	U227	171.3	10	16.6%	24.3%	42.4%	73.4%	77.9%
P_D22_P-2638	N111	261.3	10	16.3%	24.0%	42.9%	100.0%	100.0%
T_G25_P-3005	N120	262.6	8	17.6%	25.7%	43.5%	56.0%	58.3%
P_D23_P-2633	N111	418.1	10	17.1%	25.0%	43.6%	100.0%	100.0%
W_K28_P-154	N107	265.0	10	16.6%	24.5%	43.8%	54.6%	54.9%
R_D21_P-2218	N121	219.9	8	16.2%	24.0%	44.3%	58.7%	59.7%
X_J28_P-3332	N119	91.3	15	19.1%	27.7%	44.8%	62.2%	61.1%
P_D23_P-2618	N111	258.4	10	17.7%	26.0%	45.1%	100.0%	100.0%
C_I7_P-6071_2	N102	226.3	6	15.5%	23.1%	45.3%	52.1%	53.1%
V_J26_P-3665	N109	317.9	12	16.0%	23.8%	45.5%	67.6%	67.9%
V_K26_PC-31	N109	74.3	12	16.2%	24.1%	46.2%	68.9%	69.2%
X_J29_P-708	N107	37.6	15	19.8%	28.8%	46.2%	52.2%	53.8%
B_I6_P-6259	N102	230.6	10	18.1%	26.6%	46.2%	50.3%	54.3%
W_K28_P-3280	N107	382.3	12	19.4%	28.4%	46.9%	51.2%	53.0%
X_I29_P-3266	N107	383.4	15	20.4%	29.6%	46.9%	52.7%	55.9%
T_G25_P-3009	N120	253.0	10	19.3%	28.2%	46.9%	57.7%	60.1%

(a) Pipeline passes under freeway and the d/D criterion is 50%.

Near Term Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
B_H6_P-6274	N102	228.5	10	18.5%	27.2%	47.3%	59.3%	63.0%
T_G25_P-3010	N120	249.0	10	19.4%	28.4%	47.3%	58.6%	61.1%
X_J29_P-710	N107	91.8	15	20.4%	29.5%	47.4%	53.9%	56.8%
P_D23_P-2621	N111	272.5	10	18.7%	27.5%	47.5%	100.0%	100.0%
X_I29_P-77	N107	248.3	15	20.3%	29.5%	47.6%	65.3%	66.9%
X_I29_P-3268	N107	347.3	15	20.7%	30.0%	47.7%	53.7%	57.0%
E_I9_P-5765	N105	13.3	6	17.7%	26.2%	47.7%	50.6%	54.1%
E_I9_P-993	N105	24.6	6	17.8%	26.3%	47.9%	50.8%	54.2%
X_I29_P-3265	N107	392.7	15	20.9%	30.3%	48.1%	54.2%	57.3%
E_I9_P-5764	N105	202.7	6	17.9%	26.5%	48.3%	51.2%	54.6%
T_F25_P-2911	E11	174.0	15	24.3%	34.7%	48.6%	50.2%	52.3%
A_M7_P-6489	N101	177.3	8	19.4%	28.5%	48.7%	57.5%	68.9%
V_J26_P-3661_2	N109	169.1	10	15.3%	23.2%	48.8%	100.0%	100.0%
K_F15_P-3982	E16	29.9	15	25.1%	35.7%	48.8%	51.3%	55.5%
V_J26_P-3660	N109	183.9	10	15.4%	23.2%	48.9%	100.0%	100.0%
W_K29_P-155	N107	249.6	8	18.4%	27.2%	49.1%	62.2%	62.5%
T_G25_P-3007	N120	264.4	8	20.0%	29.2%	49.2%	61.4%	64.1%
L_D14_P-4084	N116	339.0	12	16.3%	25.6%	49.8%	50.3%	60.4%
K_G14_P-4038	N113	349.1	10	21.7%	31.5%	49.8%	50.3%	56.0%
G_G13_P-4823	N103	417.5	10	19.9%	29.2%	50.0%	50.2%	51.4%
A_M7_P-6496	E4	29.2	12	21.7%	31.5%	50.1%	56.2%	64.3%
X_J29_P-946	N107	183.7	15	21.6%	31.4%	50.2%	56.6%	60.0%
X_J29_P-3264	N107	386.0	15	21.6%	31.4%	50.2%	56.6%	60.0%
G_F13_P-4241	N117	224.5	15	21.7%	31.5%	50.3%	50.4%	51.2%
G_F13_P-4281	N117	150.2	15	22.0%	32.0%	50.4%	50.5%	51.3%
X_I29_P-3349	N107	224.9	15	21.8%	31.6%	50.6%	57.1%	60.7%
H_B12_P-4392	U201	424.1	12	19.9%	29.2%	50.7%	50.8%	62.1%
G_G12_P-4861	N103	337.7	8	20.0%	29.4%	50.7%	50.9%	52.1%
G_F13_P-4280	N117	162.6	15	22.2%	32.2%	50.7%	50.8%	51.7%
G_F13_P-4224	N117	275.1	15	22.1%	32.1%	50.8%	50.9%	51.8%
K_F15_P-3981	E16	277.7	15	26.0%	37.1%	50.9%	53.5%	58.0%
J_H17_P-1242	U232	331.9	10	20.7%	30.3%	50.9%	51.6%	59.9%
U_G26_P-3138	E22	343.1	8	17.6%	27.6%	51.1%	51.6%	76.3%
K_F15_P-3976	E16	359.2	15	23.7%	34.2%	51.4%	56.2%	60.0%
U_F25_P-3220	N112	257.0	12	20.7%	31.0%	51.4%	51.7%	62.4%
E_H10_P-5403	E15	179.6	8	20.9%	30.2%	51.5%	51.6%	54.0%
F_F10_P-5293	N104	94.1	15	21.5%	31.3%	51.6%	51.8%	56.3%
E_H11_P-5390	E15	191.4	15	22.1%	32.3%	51.8%	52.1%	55.1%
K_F18_P-850	E37	263.2	8	21.4%	31.2%	51.9%	61.6%	63.4%
V_J28_P-3312	N119	727.4	12	21.3%	31.2%	52.0%	68.9%	66.6%
G_G13_P-4859	N103	450.7	10	20.7%	30.4%	52.2%	52.3%	54.1%
F_F10_P-5296	N104	117.3	15	21.4%	31.4%	52.2%	52.4%	57.2%
F_F11_P-4597	N104	168.1	15	22.2%	32.3%	52.3%	52.6%	58.3%
F_F11_P-4607	N104	32.6	15	22.2%	32.3%	52.3%	52.5%	58.3%
P_C20_P-2237	E27	314.0	12	29.3%	39.2%	52.3%	54.3%	56.7%
K_F15_P-3910	E16	184.1	12	24.1%	34.8%	52.4%	57.5%	61.4%
G_F14_P-4186	N117	257.2	15	22.4%	32.6%	52.5%	52.7%	53.5%
G_F14_P-4187	N117	258.3	15	22.4%	32.6%	52.5%	52.7%	53.5%
W_J29_P-3278	N107	289.8	12	22.4%	32.7%	53.5%	53.5%	60.1%
G_F13_P-4185	N117	250.8	15	22.4%	32.6%	52.6%	52.7%	53.6%
J_H15_P-4746	N113	304.5	10	22.3%	32.5%	52.6%	53.1%	60.1%
E_I10_P-5551	N105	613.2	6	18.8%	27.9%	52.6%	57.0%	61.2%
G_G13_P-4858	N103	289.6	10	20.9%	30.7%	52.7%	52.8%	54.7%

Near Term Peak Wet Weather Deficient Pipelines

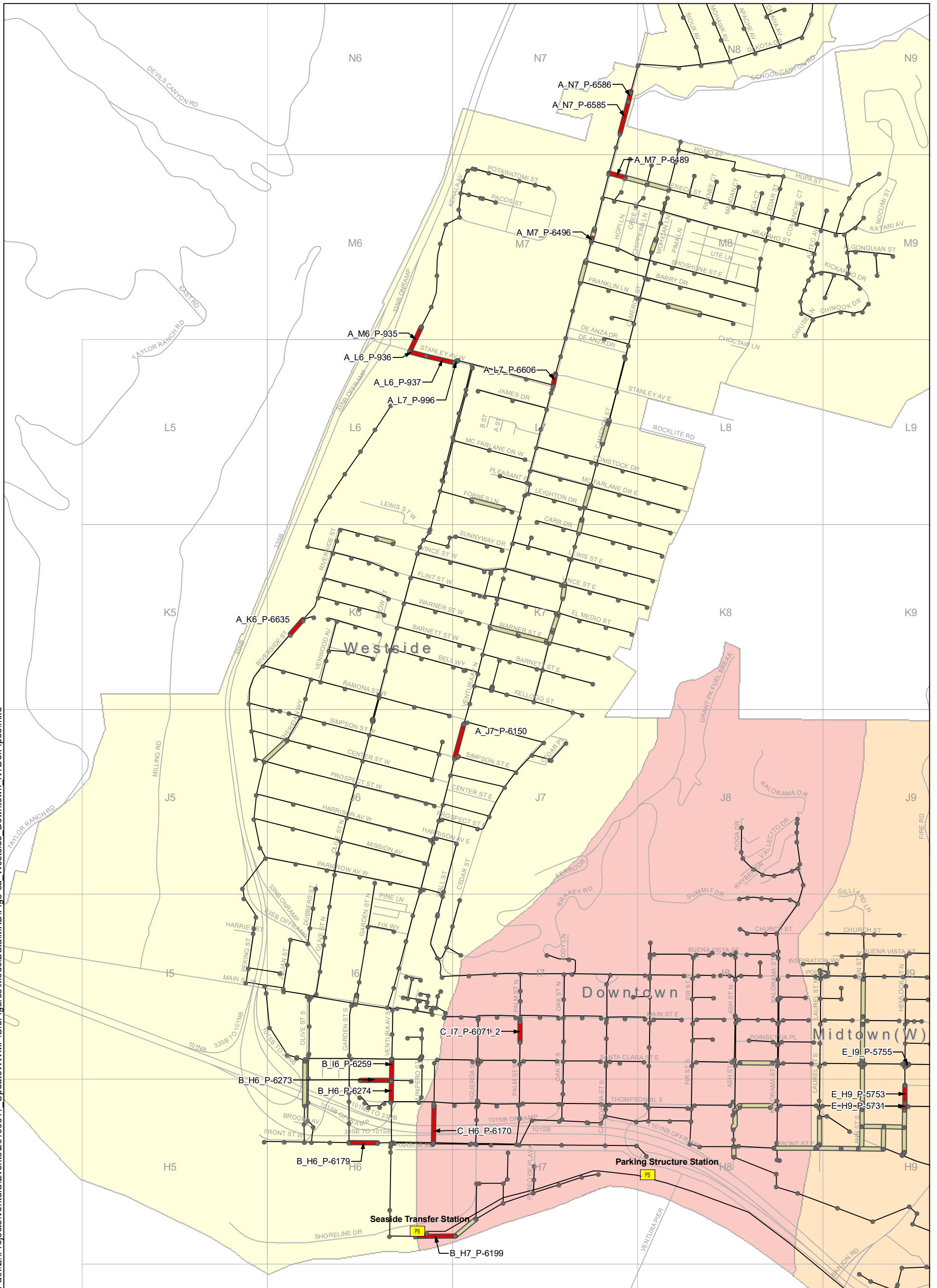
Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
U_F25_P-3210	N112	123.6	12	20.9%	31.3%	52.8%	53.0%	65.3%
Q_E20_P-1807	E27	166.1	12	29.7%	39.6%	53.0%	54.0%	56.6%
U_G26_P-3098	N112	283.1	8	18.6%	29.0%	53.0%	53.5%	77.3%
R_C21_P-2216	N121	301.7	8	20.4%	30.1%	53.0%	61.1%	62.3%
J_G14_P-4744	N113	306.4	10	22.9%	33.4%	53.2%	53.7%	60.0%
J_H18_P-1248	U232	288.5	10	20.8%	30.6%	53.2%	53.9%	61.1%
W_J29_P-3260	N107	311.8	12	22.3%	32.5%	53.1%	53.1%	60.3%
E_H10_P-5432	N108	426.5	6	17.8%	26.7%	53.6%	61.4%	62.6%
W_J29_P-3254	N107	307.0	12	22.5%	32.8%	53.6%	59.4%	61.0%
P_D23_P-2620	N111	345.4	10	20.8%	30.6%	53.8%	100.0%	100.0%
P_B20_P-1045	U227	258.5	10	15.4%	23.6%	54.1%	54.0%	100.0%
T_G24_P-2829	N120	327.8	8	20.6%	30.4%	54.2%	54.8%	58.9%
E_H10_P-5374	E15	370.6	15	24.7%	35.6%	54.2%	54.6%	57.3%
F_E11_P-4581	N104	263.2	15	23.3%	33.9%	54.4%	54.6%	60.0%
G_G12_P-4651	N103	248.3	8	21.2%	31.2%	54.5%	54.6%	57.0%
T_F25_P-3223	E11	274.8	15	26.8%	38.5%	54.5%	56.5%	58.9%
F_E11_P-4585	N104	196.4	15	23.3%	34.0%	54.6%	54.8%	60.3%
T_G24_P-2808	N120	149.0	8	21.0%	31.0%	54.7%	56.8%	60.5%
T_G24_P-2828	N120	53.0	8	20.7%	30.7%	54.8%	55.5%	59.6%
E_H11_P-5116	E17	90.7	8	23.4%	34.1%	55.0%	55.2%	58.7%
J_H15_P-4759	N113	105.8	10	23.0%	33.6%	55.1%	55.7%	63.0%
G_H12_P-5063	N103	548.0	8	21.5%	31.6%	55.3%	55.5%	56.9%
T_G24_P-2832	N120	384.7	8	21.0%	31.1%	55.4%	57.8%	62.0%
G_H12_P-5093	N103	67.3	8	23.4%	34.2%	55.5%	55.7%	57.2%
V_J26_P-3664	N109	389.8	12	18.8%	28.2%	55.6%	100.0%	100.0%
F_F11_P-4592	N104	250.3	15	23.7%	34.5%	55.7%	55.9%	61.6%
T_G24_P-2831	N120	373.3	8	21.1%	31.2%	55.8%	56.5%	60.7%
A_N7_P-6585	N101	360.4	8	21.4%	31.6%	55.9%	64.9%	68.5%
F_F11_P-4588	N104	253.2	15	23.8%	34.7%	56.0%	56.2%	61.9%
Q_E20_P-1798	E27	137.2	12	27.3%	39.3%	56.4%	56.5%	60.9%
J_I18_P-1226	N115	232.5	8	21.0%	31.2%	56.5%	57.6%	66.9%
U_F26_P-3091	N112	353.5	12	21.9%	33.1%	56.9%	57.2%	72.6%
U_F26_P-3092	N112	287.2	12	21.9%	33.1%	57.0%	57.4%	73.2%
J_H15_P-4760	N113	267.3	10	23.7%	34.7%	57.2%	57.9%	65.9%
P_D16_P-3873	N116	339.8	8	20.1%	30.0%	57.3%	58.3%	63.2%
F_E11_P-4580	N104	300.2	15	24.4%	35.6%	57.5%	57.7%	63.5%
X_I27_P-687	U209	57.8	8	16.5%	25.2%	57.5%	100.0%	100.0%
J_I18_P-1224	N115	101.1	8	21.1%	31.3%	57.5%	58.8%	69.0%
U_F26_P-3093	N112	289.0	12	22.0%	33.3%	57.5%	57.9%	74.3%
S_I23_P-182	E6	163.7	8	21.5%	31.9%	57.8%	57.8%	63.2%
E_H11_P-5117	E17	330.0	6	23.2%	34.1%	58.0%	58.6%	62.4%
F_F10_P-5291	N104	163.7	15	23.4%	34.3%	58.0%	58.2%	64.1%
G_G12_P-5002	N103	711.6	6	21.3%	31.5%	58.1%	58.2%	61.3%
A_K6_P-6635	E12	208.1	8	21.9%	32.4%	58.1%	58.3%	62.4%
G_F13_P-4233	N117	245.9	15	24.3%	35.5%	58.1%	58.3%	59.3%
A_L7_P-996	N114	42.7	8	21.7%	32.2%	58.1%	60.8%	68.7%
A_N7_P-6586	N101	98.9	8	22.1%	32.7%	58.2%	67.9%	71.9%
P_C19_P-2147	U236	70.1	15	17.9%	32.6%	58.2%	59.0%	78.6%
U_F25_P-3209	N112	131.2	12	22.6%	34.1%	58.3%	58.6%	73.9%
Q_F20_P-1739	E34	36.0	12	26.4%	38.3%	58.4%	58.5%	62.4%
E_G11_P-5338	N118	375.2	8	21.4%	31.8%	58.6%	59.2%	61.3%
B_H7_P-6199	E28	430.6	8	22.0%	32.6%	58.7%	60.2%	67.1%
U_F26_P-3206	N112	659.5	12	22.8%	34.4%	59.1%	59.4%	75.3%

Near Term Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
U_F25_P-3212	N112	259.9	12	23.0%	34.6%	59.2%	59.5%	74.8%
E_H10_P-5414	N108	314.7	6	21.2%	31.6%	59.4%	61.5%	65.5%
J_G14_PC-59	N113	288.6	10	25.1%	36.6%	59.4%	60.0%	67.8%
U_F26_P-3205	N112	263.8	12	22.8%	34.4%	59.5%	59.8%	76.7%
G_F12_P-4638	N117	288.0	15	25.4%	37.1%	59.5%	59.6%	60.8%
I_F14_P-4176	E8	32.4	12	26.1%	38.0%	59.5%	59.8%	60.7%
F_D11_PC-19	E2	24.7	15	26.9%	39.1%	60.0%	60.1%	64.2%
A_L6_P-936	N114	184.3	8	22.3%	33.1%	60.1%	62.8%	71.3%
U_F25_P-3219	N112	255.2	12	23.4%	35.2%	60.1%	60.4%	75.9%
E_H11_P-5115	E17	118.2	8	24.3%	35.8%	60.4%	60.6%	65.7%
J_H15_P-4745	N113	286.3	10	24.9%	36.6%	60.6%	61.2%	70.5%
K_F18_P-849	E37	268.5	8	23.4%	34.5%	60.6%	74.4%	78.4%
J_I18_P-1229	N115	244.3	8	22.3%	33.1%	60.7%	61.9%	72.8%
Q_E20_P-1808	E27	428.1	12	33.2%	44.5%	60.7%	60.8%	64.0%
K_F18_P-848	E37	325.2	8	23.4%	34.6%	60.7%	74.6%	78.6%
F_F10_P-4608	N104	111.4	8	24.7%	36.3%	60.8%	61.0%	67.3%
F_D11_P-4513	E2	258.0	15	27.2%	39.6%	61.0%	61.1%	65.4%
K_F17_P-2043	E37	61.6	10	25.6%	37.5%	61.0%	68.6%	72.5%
G_F12_P-4637	E40	282.2	15	26.2%	38.2%	61.1%	61.2%	62.9%
K_F16_P-3905	E16	382.4	12	27.2%	39.6%	61.2%	68.1%	73.9%
A_L6_P-937	N114	314.2	8	22.6%	33.6%	61.3%	64.2%	73.1%
P_D23_P-2619	N111	261.9	8	22.8%	33.8%	61.3%	100.0%	100.0%
F_F10_P-5297	N104	200.8	15	24.4%	35.9%	61.4%	61.6%	68.2%
F_F10_P-5295	N104	207.8	15	24.3%	35.9%	61.5%	61.7%	68.4%
P_C20_P-2238	E27	162.8	12	33.5%	45.2%	61.5%	64.1%	67.3%
K_G14_P-3988	N113	304.1	10	26.3%	38.4%	61.5%	62.1%	70.3%
A_M6_P-935	N114	297.6	8	22.6%	33.6%	61.7%	64.7%	73.6%
F_E11_P-4579	N104	302.0	15	25.8%	37.8%	61.7%	62.0%	68.6%
G_F13_P-4282	N117	153.1	12	26.0%	38.1%	61.8%	61.9%	63.2%
E_I9_P-5755	N105	48.6	6	22.2%	33.0%	61.8%	65.5%	70.6%
E_G11_P-5350	N118	403.1	8	22.8%	33.9%	61.9%	62.4%	64.7%
Q_D20_P-361	E27	1297.2	12	34.0%	45.9%	62.6%	65.3%	68.7%
E_H13_P-4873	E17	286.2	12	25.4%	37.4%	62.7%	62.9%	64.7%
K_F14_P-3987	N113	352.8	10	26.9%	39.3%	62.9%	63.5%	71.5%
E_H11_P-5114	E17	161.9	8	24.2%	35.9%	63.4%	63.5%	69.0%
V_J26_P-3663	N109	330.0	12	20.8%	31.4%	63.5%	100.0%	100.0%
Q_F20_P-1740	E34	258.9	12	28.2%	41.2%	63.8%	64.0%	68.6%
G_F12_P-4977	E14	129.1	15	29.0%	42.2%	63.8%	63.9%	66.4%
A_L7_P-6606	N101	120.8	12	27.0%	39.5%	63.9%	71.8%	100.0%
I_F14_P-44	E8	413.1	12	29.0%	42.2%	64.0%	64.1%	65.2%
J_G15_P-4751	N113	287.0	10	26.2%	38.5%	64.1%	64.8%	74.8%
E_G11_P-5012	N118	316.4	6	22.1%	33.1%	64.2%	65.3%	67.1%
G_G12_P-4650	N103	416.6	8	24.2%	35.8%	64.6%	64.7%	68.0%
K_F14_P-3986	N113	348.5	10	27.5%	40.3%	64.9%	65.4%	74.0%
J_G15_P-4752	N113	291.8	10	26.4%	38.9%	64.9%	65.6%	76.0%
G_F11_P-4978	E14	340.5	15	29.4%	42.7%	65.0%	65.1%	67.6%
P_B17_P-3756	U208	287.3	33	35.2%	50.5%	65.1%	75.9%	100.0%
G_F11_P-4992	E14	350.0	15	29.4%	42.8%	65.3%	65.4%	68.0%
G_F12_P-4619	E40	628.2	15	27.6%	40.5%	65.4%	65.5%	67.4%
E_H11_P-5392	E15	467.6	6	23.9%	35.6%	65.5%	65.6%	69.6%
E_G11_P-5048	N118	522.8	6	21.7%	32.6%	65.6%	67.2%	68.8%
Q_C20_P-359	E27	299.4	12	35.2%	47.8%	65.7%	68.6%	72.5%
E_H9_P-5753	N105	187.5	6	24.1%	35.8%	65.8%	68.5%	72.7%

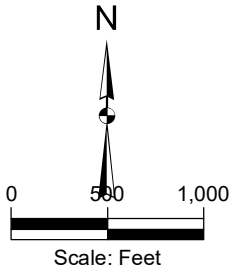
Near Term Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
E_H9_P-5731	N105	77.4	6	24.1%	35.8%	65.8%	68.5%	72.7%
P_D23_P-2672	N110	320.1	18	32.7%	47.7%	69.3%	79.8%	100.0%
P_D24_P-2672_2	N110	322.3	18	32.8%	47.8%	69.4%	80.0%	100.0%
P_D22_P-2678	N110	240.9	18	32.9%	47.9%	69.6%	80.1%	100.0%
P_D23_P-2673	N110	346.9	18	33.4%	48.8%	71.4%	100.0%	100.0%
P_D23_P-2674	N110	347.2	18	33.7%	49.3%	72.1%	100.0%	100.0%
P_D23_P-2675	N110	347.4	18	33.7%	49.3%	72.2%	100.0%	100.0%
P_D23_P-2676	N110	348.7	18	33.7%	49.3%	72.3%	100.0%	100.0%
P_D23_P-2677	N110	278.5	18	33.7%	49.3%	72.3%	100.0%	100.0%
P_D23_P-2676_2	N110	349.0	18	33.7%	49.3%	72.3%	100.0%	100.0%
T_F25_P-3106	E11	342.9	18	33.0%	48.3%	72.6%	76.4%	81.8%
B_H6_P-6179	N102	308.1	24	35.0%	50.4%	73.5%	77.0%	100.0%
E_H8_PC-186	E5	199.3	6	18.8%	27.7%	48.9%	48.9%	71.5%
TOTAL: 223 pipes		59,109.9						



Legend

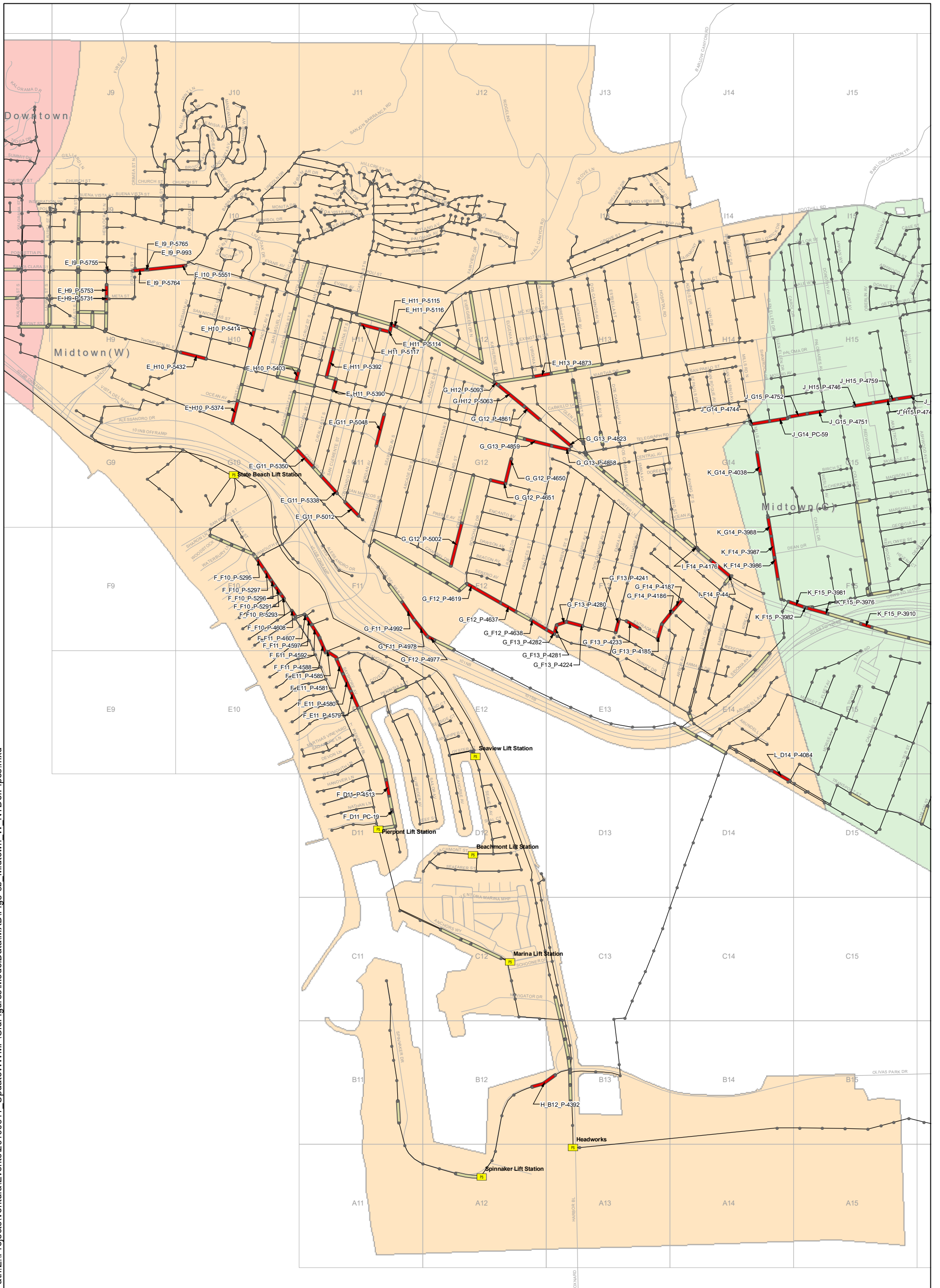
- Manhole
- ☐ PS Lift Station
- Street
- Atlas Sheet
- Gravity Sewer
- Near Term Deficiencies
- Existing Deficiencies



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Near-Term System Deficient Pipelines
 Westside/Downtown**

K/J 1089015*00
 August 2010
Figure 5-6a



Legend

● Manhole	— Gravity Sewer
PS Lift Station	— Near Term Deficiencies
— Street	— Existing Deficiencies
□ Atlas Sheet	

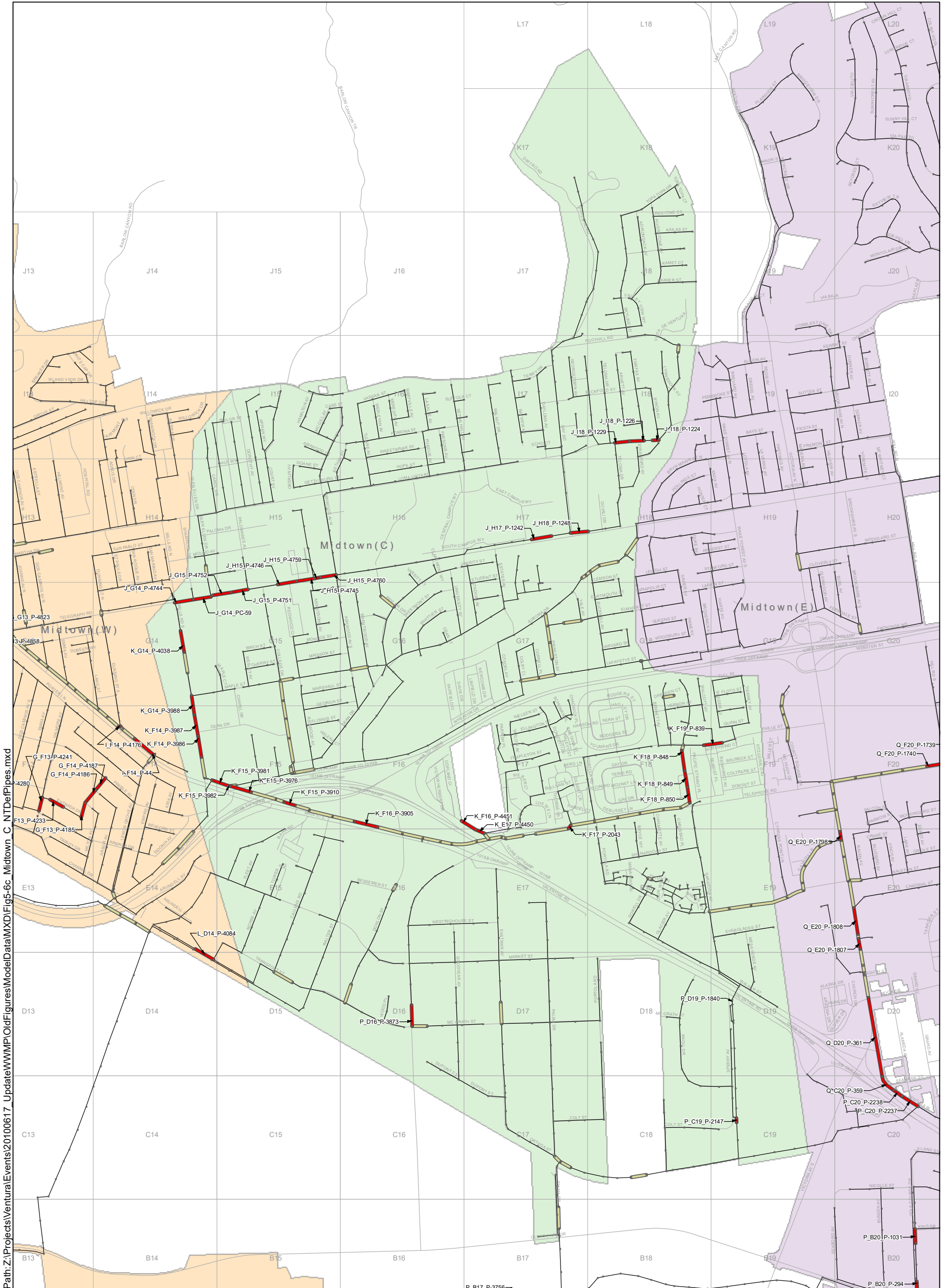
N

0 750 1,500
Scale: Feet

Kennedy/Jenks Consultants
City of San Buenaventura
San Buenaventura, California

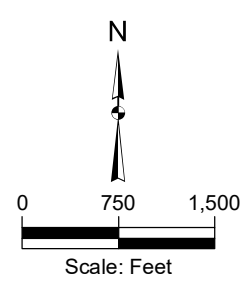
**Near-Term System Deficient Pipelines
Midtown (West)**

K/J 1089015*00
August 2010
Figure 5-6b



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MXD\Fig5-6c_Midtown_C_NTDePipes.mxd

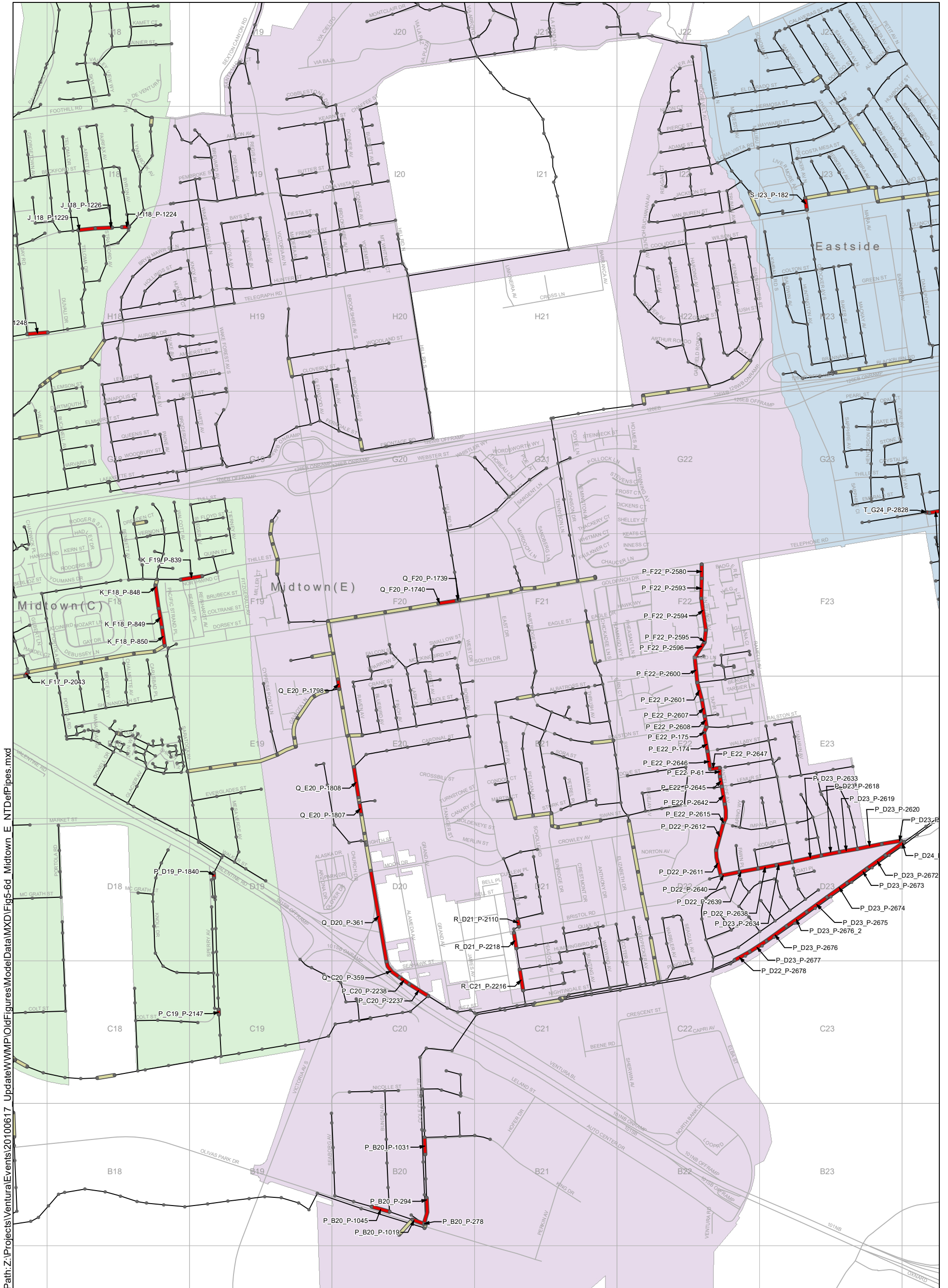
Legend	
●	Manhole
—	Gravity Sewer
—	Street
—	Near Term Deficiencies
□	Atlas Sheet
—	Existing Deficiencies



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

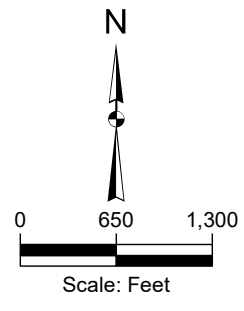
**Near-Term System Deficient Pipelines
 Midtown (Center)**

K/J 1089015*00
 August 2010
 Figure 5-6c



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFiguresModelData\MXD\Fig5-6d_Midtown_E_NTDefPipes.mxd

Legend	
●	Manhole
—	Gravity Sewer
—	Street
—	Near Term Deficiencies
□	Atlas Sheet
—	Existing Deficiencies



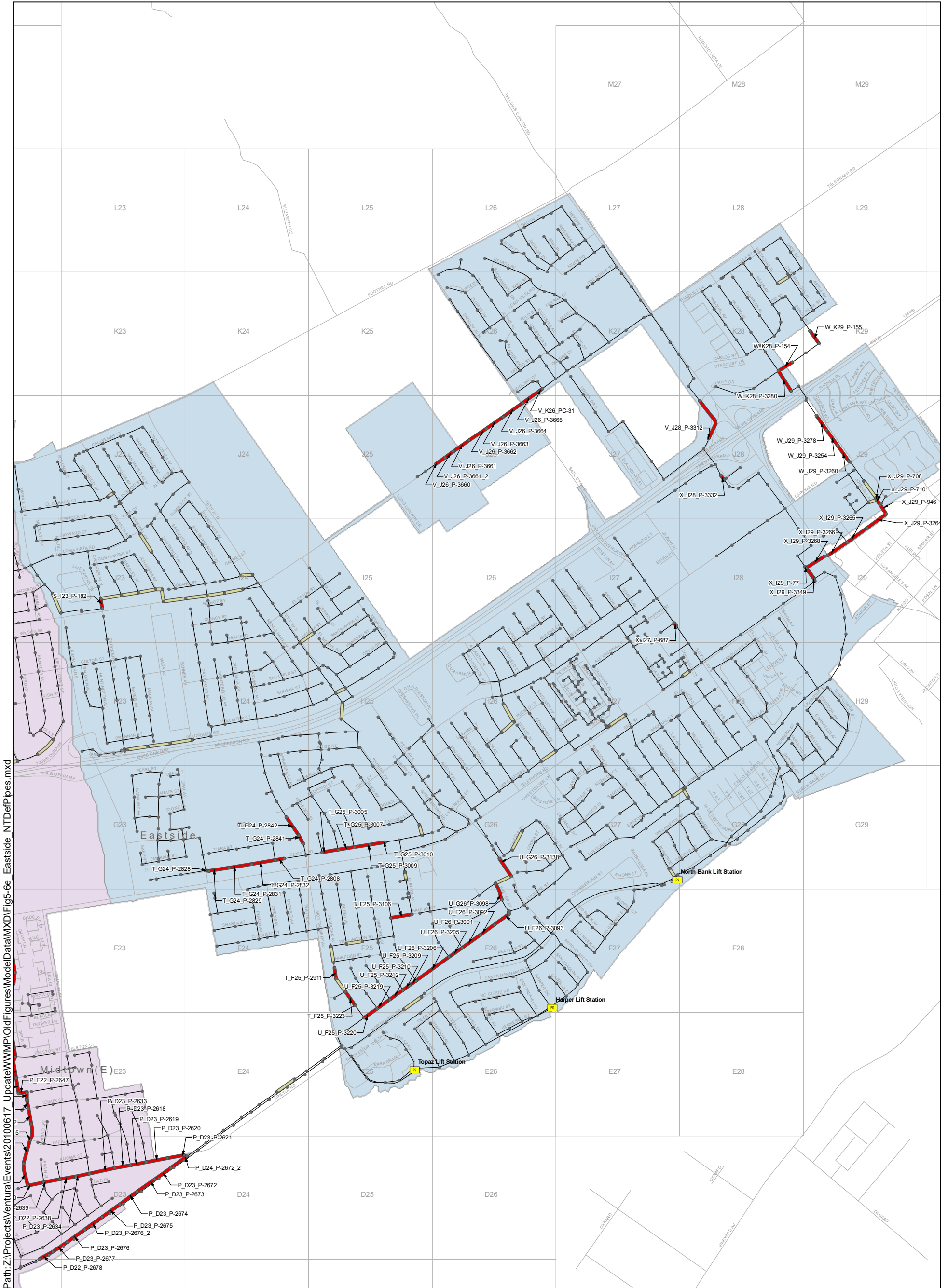
Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

**Near-Term System Deficient Pipelines
Midtown (East)**

K/J 1089015*00
December 2010

Figure 5-6d



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MXD\Fig5-6e_Eastside_NTDefPipes.mxd

Legend

●	Manhole	—	Gravity Sewer
PS	Lift Stations	—	Near Term Deficiencies
—	Street	—	Existing Deficiencies
□	Atlas Sheet		

N

Scale: Feet

Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Near-Term System Deficient Pipelines
 Eastside**

K/J 1089015*00
 August 2010
Figure 5-6e

TABLE 5-7
ULTIMATE PEAK WET WEATHER DEFICIENT PIPELINES

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF Ratio	Existing d/D	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
P_F18_P-492	U213	125.0	8	0.0%	0.0%	0.0%	0.0%	0.0%	57.6%
P_E18_P-1896	U206	66.6	4	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_E18_P-1907	U206	155.9	4	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_E18_P-1902	U206	182.3	4	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_F22_P-2588	N111	168.4	8	0.0%	0.0%	0.0%	0.0%	0.0%	55.6%
P_E18_PC-10	U206	62.1	8	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_E18_PC-11	U206	84.6	8	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_E18_PC-12	U206	55.7	4	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
P_E18_PC-13	U206	53.3	8	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
E_I8_P-5870	U231	226.9	6	11.6%	17.0%	30.4%	30.4%	30.4%	50.3%
E_I8_P-5827	U231	232.6	6	11.7%	17.3%	32.3%	32.3%	32.3%	50.2%
E_I8_P-5825	U231	256.0	6	11.8%	17.5%	32.9%	32.9%	32.9%	52.7%
E_I8_P-5871	U231	71.7	6	12.5%	18.5%	33.5%	33.5%	33.5%	57.9%
E_I8_P-5838	E5	57.1	6	12.4%	18.3%	33.7%	33.8%	33.8%	50.6%
P_D18_P-1832	U213	340.6	15	12.5%	18.2%	31.2%	31.2%	31.2%	50.4%
X_G29_P-618	U210	245.5	8	13.4%	19.7%	36.4%	36.4%	36.4%	51.5%
F_G10_P-5360	U205	292.6	10	12.5%	18.7%	36.9%	38.3%	38.3%	50.3%
Q_G19_P-963	U218	175.2	8	11.2%	17.0%	37.3%	37.2%	37.2%	63.6%
X_G28_P-617	U210	204.0	8	13.8%	20.4%	37.3%	37.3%	37.3%	51.0%
P_E18_P-1834	U213	345.0	12	13.5%	19.7%	34.1%	34.1%	34.1%	55.5%
P_E18_P-1835	U213	91.9	12	16.3%	19.8%	34.3%	34.3%	34.3%	55.4%
E_I8_P-6050	U231	196.6	6	13.9%	20.6%	38.8%	38.8%	38.8%	50.6%
K_G15_P-4012	E24	261.8	8	13.7%	20.3%	39.0%	39.0%	39.0%	70.7%
E_H8_P-6016	N106	49.0	8	15.9%	23.3%	39.9%	40.0%	40.0%	54.9%
P_E18_P-1833	U213	344.2	12	14.7%	21.5%	37.4%	37.4%	37.4%	62.5%
A_I6_P-6339	U214	478.4	6	14.4%	21.5%	41.6%	41.6%	41.6%	50.5%
H_B12_P-4400	U201	323.1	12	16.8%	24.5%	41.7%	41.8%	41.8%	50.1%
Q_F19_P-1741	U218	349.8	8	16.1%	23.6%	41.7%	41.7%	41.7%	55.3%
Q_F19_P-1742	U218	196.8	8	16.1%	23.7%	41.8%	41.8%	41.8%	56.0%
X_H27_P-3394	U209	377.0	10	16.5%	24.1%	41.9%	42.6%	42.6%	54.3%
P_C22_PC-119	N110	21.4	12	21.9%	31.0%	42.2%	46.2%	46.2%	50.3%
X_I28_P-3389	U209	463.7	10	17.2%	25.2%	42.3%	44.4%	44.4%	54.4%
E_I9_P-5796	U207	47.8	6	16.1%	23.7%	42.3%	42.3%	42.3%	63.3%
K_F17_P-778	U228	202.5	8	17.2%	25.2%	42.8%	42.8%	42.8%	51.1%
E_I9_P-5889	U207	217.2	6	16.1%	23.8%	43.4%	43.4%	43.4%	77.3%
K_F17_P-780	U228	79.3	8	17.4%	25.5%	43.4%	43.4%	43.4%	51.5%
K_F17_P-781	U228	54.2	8	17.5%	25.5%	43.6%	43.6%	43.6%	51.8%
X_J29_P-704	N107	366.2	15	18.8%	27.3%	43.6%	49.1%	49.1%	50.2%
A_N7_P-6583	N101	303.3	12	17.6%	25.7%	43.6%	49.1%	49.1%	51.3%
X_G28_P-140	U210	308.9	15	20.0%	28.4%	43.7%	43.7%	43.7%	53.1%
E_I8_P-5831	U231	164.0	6	15.5%	23.1%	43.7%	43.7%	43.7%	70.0%
U_F26_P-3095	N112	223.2	8	16.1%	24.8%	43.8%	44.1%	44.1%	59.1%
A_J7_P-6154	U214	648.2	6	15.6%	23.2%	44.0%	44.0%	44.0%	54.4%
K_F17_P-779	U228	138.6	8	17.6%	25.8%	44.0%	44.0%	44.0%	52.3%
H_A12_P-4402	U201	594.8	12	17.6%	25.8%	44.1%	44.1%	44.1%	53.1%
H_B12_P-4401	U201	395.5	12	17.6%	25.8%	44.1%	44.2%	44.2%	53.2%
A_N8_P-6554	U229	315.5	8	16.6%	24.5%	44.1%	49.3%	49.3%	52.7%
P_E18_P-1874	U213	312.8	8	12.6%	18.7%	35.0%	35.0%	35.0%	55.9%
J_H17_P-1241	U232	308.6	10	18.3%	26.7%	44.3%	44.9%	44.9%	51.9%
K_E17_P-4447	E37	214.6	10	19.8%	28.6%	44.4%	48.6%	48.6%	50.6%
X_H28_P-3391	U209	392.2	10	17.5%	25.7%	44.5%	47.6%	47.6%	62.1%

Ultimate Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
K_G14_P-4041	N113	29.3	10	20.1%	29.1%	44.9%	45.2%	50.1%
A_M8_P-6512	U229	295.2	8	16.7%	24.7%	45.0%	45.0%	52.8%
H_A12_P-4395	U201	280.8	10	17.9%	26.2%	45.4%	45.4%	51.8%
B_I6_P-6166 (a)	U215	261.4	24	22.2%	31.7%	45.6%	47.8%	52.9%
Q_G21_P-1686	U230	180.3	8	13.8%	20.9%	45.6%	45.6%	55.7%
H_A12_P-4396	U201	273.0	10	18.0%	26.4%	45.7%	45.7%	52.1%
E_I9_P-5804	U207	260.2	6	18.2%	26.6%	45.7%	45.7%	61.4%
K_F15_P-3968	U216	396.0	8	17.6%	25.9%	45.7%	45.7%	51.6%
A_M8_P-6513	U229	300.9	8	16.9%	25.0%	45.7%	45.7%	51.6%
A_J6_P-6373	U214	202.1	6	16.3%	24.3%	45.8%	45.8%	53.6%
X_H27_P-3555	U202	36.9	6	15.7%	23.4%	45.9%	45.9%	58.9%
J_G15_P-4747	N113	484.6	10	20.0%	28.9%	46.0%	46.4%	51.9%
J_H16_P-4743	N113	389.9	10	19.1%	27.8%	46.2%	47.0%	54.0%
B_H6_P-6207 (a)	U215	199.4	24	22.6%	32.2%	46.4%	48.6%	53.9%
A_M8_P-6508	U229	288.7	8	17.2%	25.5%	46.5%	46.5%	54.5%
D_H7_P-5936	E28	345.6	8	17.6%	25.9%	46.5%	46.5%	53.4%
J_H18_P-1249	U232	283.4	10	18.5%	27.2%	46.6%	47.2%	53.2%
R_E21_P-2073	U212	276.8	8	17.5%	25.9%	46.7%	46.7%	56.9%
E_I13_P-4921	U222	337.9	6	16.9%	25.0%	46.7%	46.7%	57.3%
F_G10_P-5363	U205	345.7	10	15.4%	23.1%	46.8%	48.7%	66.2%
X_H27_P-3554	U202	75.0	6	16.0%	23.9%	46.9%	46.9%	58.8%
J_H16_P-4761	N113	129.4	10	19.4%	28.3%	47.0%	47.7%	54.8%
E_H11_P-5074	U235	471.1	8	17.6%	26.2%	47.1%	47.7%	50.7%
S_I23_P-183	U211	339.5	8	18.2%	26.8%	47.2%	47.2%	51.0%
F_E12_P-4492	U204	342.5	10	18.3%	26.9%	47.2%	47.2%	50.0%
O_G18_P-1057	U217	257.9	12	20.2%	29.4%	47.3%	47.3%	50.1%
X_G28_P-138	U210	257.8	15	21.5%	30.6%	47.3%	47.3%	57.7%
B_H6_P-6212 (a)	U215	169.5	24	23.0%	32.8%	47.3%	49.7%	55.1%
X_H29_P-618_3	U210	154.4	8	16.2%	24.2%	47.6%	47.6%	79.3%
A_M6_P-906	N114	217.2	8	17.8%	26.3%	47.8%	47.8%	51.2%
K_G14_P-4040	N113	353.7	10	21.2%	30.7%	47.8%	48.2%	53.7%
S_H25_P-582	U203	266.9	12	21.7%	31.4%	48.0%	48.0%	50.0%
A_M7_P-6498	U229	244.1	8	17.8%	26.3%	48.0%	48.0%	57.6%
A_K7_P-6148	U214	190.7	6	17.2%	25.6%	48.1%	48.1%	66.2%
E_G11_P-5032	N118	571.8	6	17.4%	25.8%	48.1%	48.8%	50.0%
F_G10_P-5357	U205	34.5	6	17.4%	25.8%	48.1%	48.8%	55.5%
Q_E20_P-1787	U226	258.9	8	19.1%	28.0%	48.1%	48.1%	50.6%
G_F12_P-5009	N103	307.5	8	18.5%	27.2%	48.2%	48.2%	50.7%
E_H11_P-5077	U235	165.7	8	18.0%	26.8%	48.2%	48.7%	51.8%
O_G17_P-1383	U216	233.8	12	22.4%	32.2%	48.3%	48.3%	51.5%
E_H10_P-5437	E15	354.7	15	22.1%	31.6%	48.3%	48.5%	50.6%
P_D16_P-3874	N116	338.7	8	17.5%	26.0%	48.4%	49.2%	52.9%
O_G19_P-1048	U217	88.3	10	20.4%	29.7%	48.5%	48.5%	51.4%
F_E11_P-4575	U204	201.9	8	17.3%	25.8%	48.5%	48.5%	50.1%
P_D16_P-3811	N116	247.8	8	17.7%	26.3%	48.7%	49.5%	53.3%
P_D16_P-3812	N116	239.6	8	17.8%	26.4%	48.9%	49.6%	53.3%
S_I22_P-204	U211	190.4	8	18.8%	27.7%	48.9%	48.9%	50.9%
N_H19_P-1204	U232	1000.2	12	20.8%	30.3%	48.9%	48.9%	53.4%
E_H11_P-5440	E15	309.0	12	21.3%	31.0%	49.1%	49.4%	52.2%
S_I22_P-223	U211	107.2	8	18.6%	27.5%	49.1%	49.1%	50.9%
O_G19_P-1092	U217	254.0	10	20.6%	30.0%	49.1%	49.1%	51.9%
T_G25_P-3056	U203	367.4	15	23.8%	34.1%	49.2%	49.2%	50.8%
U_H26_P-3596	U202	351.2	8	18.9%	27.9%	49.2%	49.2%	51.2%

(a) Pipeline passes under freeway and the d/D criterium is 50%.

Ultimate Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
Q_F21_P-1717	E34	358.0	10	20.8%	30.3%	49.2%	49.2%	53.9%
F_E12_P-4961	U204	264.3	10	19.2%	28.2%	49.2%	49.2%	51.9%
O_G18_P-1073	U217	282.5	12	20.6%	29.8%	49.2%	49.2%	53.2%
O_G19_P-1093	U217	267.4	10	20.7%	30.1%	49.3%	49.3%	52.1%
F_E12_P-4495	204	250.2	10	19.2%	28.2%	49.3%	49.3%	52.0%
R_F21_P-1956	U226	201.4	8	19.3%	28.4%	49.3%	49.3%	50.4%
G_F11_P-5011	N103	380.2	10	19.6%	28.7%	49.3%	49.4%	51.6%
O_G17_P-1071	U217	273.3	12	20.7%	30.0%	49.4%	49.4%	53.4%
G_F13_P-4221	N117	266.3	15	21.4%	31.1%	49.4%	49.6%	50.4%
G_F13_P-4223	N117	273.8	15	21.5%	31.2%	49.5%	49.6%	50.4%
H_B13_P-4384	U201	251.3	12	19.5%	28.7%	49.5%	49.7%	61.0%
A_I5_P-6323 (a)	U215	202.5	18	24.1%	33.7%	49.6%	49.8%	55.8%
X_G26_P-3564	U202	266.2	8	22.0%	30.0%	49.7%	49.7%	52.5%
G_G12_P-4860	N103	241.1	8	19.7%	29.0%	49.7%	49.8%	51.0%
X_G28_P-142	U210	268.1	12	22.1%	31.4%	49.7%	49.7%	53.3%
G_F13_P-4188	N117	336.2	15	21.4%	31.1%	49.8%	49.9%	50.7%
X_G28_P-139	U210	265.8	15	22.4%	32.0%	49.8%	49.8%	61.2%
A_J6_P-6335	U214	28.6	6	17.6%	26.2%	50.0%	50.0%	59.1%
E_I9_P-5795	U207	187.3	6	19.6%	28.8%	50.0%	50.0%	68.7%
B_H6_P-6167 (a)	U215	200.6	18	24.4%	34.1%	50.0%	50.1%	56.0%
O_G18_P-1072	U217	274.4	12	20.9%	30.2%	50.0%	50.0%	54.1%
S_I23_P-2699	U234	256.1	8	19.8%	29.0%	50.0%	50.0%	53.2%
X_E26_P-3253	U224	319.2	8	18.5%	27.5%	50.1%	50.1%	53.3%
X_H27_P-3479	U209	199.2	8	18.9%	27.9%	50.1%	50.1%	65.8%
O_G19_P-1049	U217	294.8	10	21.0%	30.6%	50.1%	50.1%	53.2%
S_H24_P-2932	U203	294.3	12	22.8%	32.9%	50.1%	50.1%	52.7%
S_H25_P-578	U203	180.8	12	22.4%	32.4%	50.2%	50.2%	52.5%
M_J21_P-65_2	U233	152.8	8	19.2%	28.3%	50.2%	50.2%	53.0%
X_G26_P-3598	U202	165.7	8	22.4%	30.5%	50.4%	50.4%	52.9%
I_G14_P-4814	U220	331.3	8	20.2%	29.6%	50.4%	50.4%	50.7%
T_G25_P-3055	U203	356.2	15	24.3%	34.9%	50.4%	50.4%	52.1%
E_I11_P-5485	U221	630.8	6	21.1%	30.7%	50.4%	50.4%	52.9%
N_H18_P-1243	U232	288.2	12	21.5%	31.3%	50.5%	50.5%	55.0%
I_G13_P-798	E8	179.7	10	21.8%	31.7%	50.5%	50.5%	50.8%
Q_H22_P-543	E23	260.1	8	18.8%	27.8%	50.6%	50.6%	50.8%
N_H19_P-1306	U232	297.9	12	21.5%	31.3%	50.8%	50.8%	55.4%
E_I9_P-5813	U207	205.9	6	20.3%	29.8%	50.9%	50.9%	71.1%
I_G13_P-4844	E42	255.8	6	18.3%	27.3%	51.0%	51.0%	51.7%
N_H19_P-1259	U232	214.2	12	20.2%	29.7%	51.0%	51.0%	54.6%
R_E21_P-1960	U226	117.8	8	19.9%	29.3%	51.0%	51.0%	52.5%
O_F17_P-1401	U216	279.0	12	23.5%	33.9%	51.2%	51.2%	54.8%
S_H25_P-581	U203	172.8	12	22.1%	32.3%	51.2%	51.2%	53.8%
E_I10_P-5545	N105	127.5	6	18.2%	27.0%	51.3%	51.3%	57.6%
E_I9_P-5814	U207	236.4	6	20.5%	30.1%	51.4%	51.4%	71.7%
O_G19_P-1053	U217	218.8	10	21.5%	31.4%	51.5%	51.5%	54.7%
X_H28_P-3380	E10	283.3	6	18.5%	27.5%	51.5%	51.5%	52.3%
S_I24_P-58	E6	77.7	10	21.7%	31.6%	51.5%	51.5%	54.8%
X_G28_P-519	U210	337.0	8	19.3%	28.5%	51.5%	51.5%	77.3%
O_F16_P-1404	U216	351.8	12	23.7%	34.3%	51.6%	51.6%	55.0%
X_G28_P-516	U210	150.9	8	19.3%	28.6%	51.6%	51.6%	74.9%
X_G26_P-3599	U202	138.0	8	24.3%	32.8%	51.7%	51.7%	53.5%
H_B11_P-4408	U201	254.0	8	19.1%	28.3%	51.8%	51.8%	51.8%
O_G19_P-1091	U217	344.4	10	21.6%	31.5%	51.8%	51.8%	54.8%

(a) Pipeline passes under freeway and the d/D criterium is 50%.

Ultimate Peak Wet Weather Deficient Pipelines

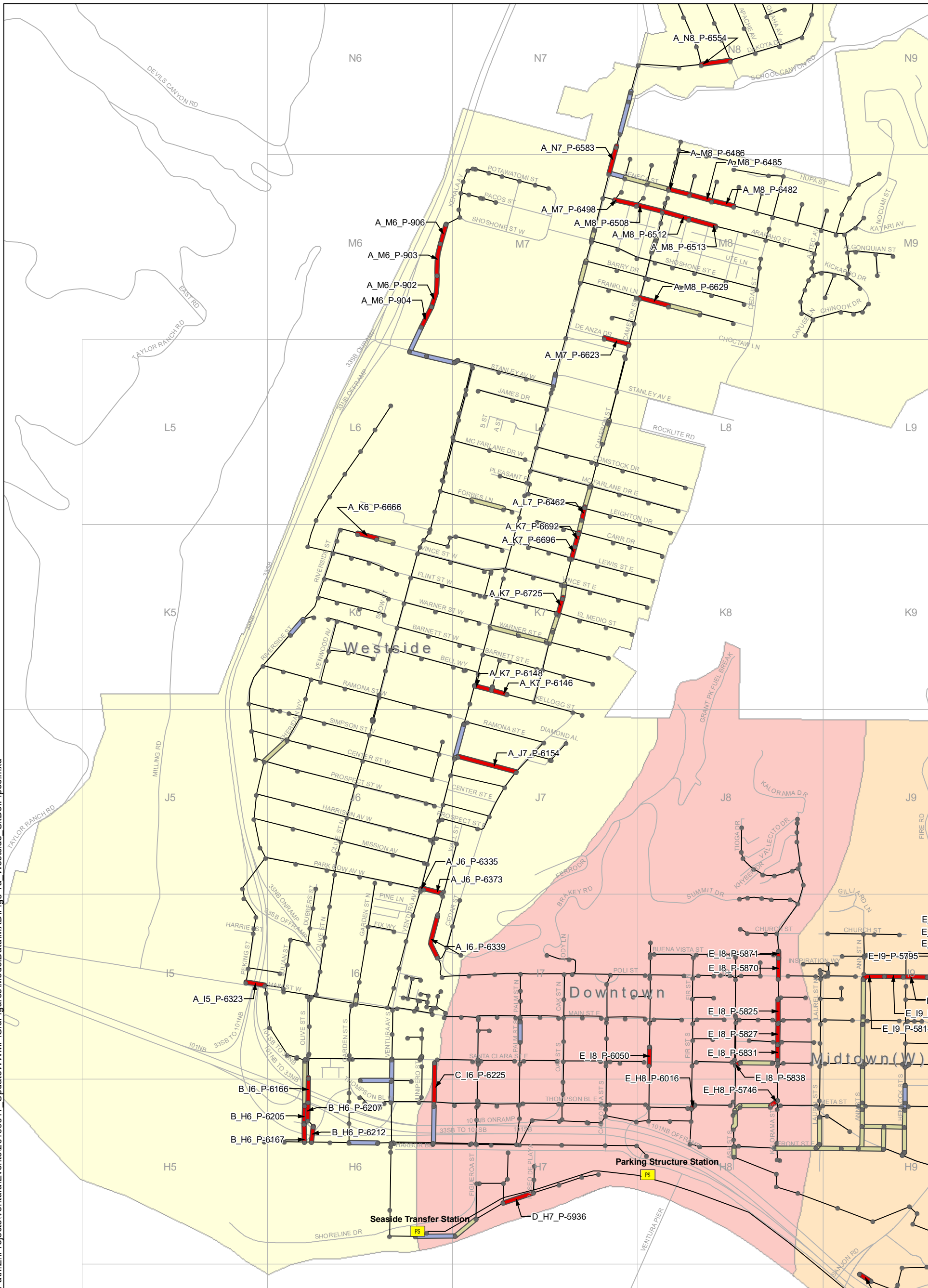
Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
S_H25_P-580	U203	89.2	12	23.6%	34.2%	51.9%	51.9%	54.4%
S_H25_P-2931	U203	33.0	12	23.6%	34.2%	51.9%	51.9%	54.4%
O_F17_P-1403	U216	351.1	12	23.9%	34.5%	51.9%	51.9%	55.4%
F_D12_P-4507	U204	268.3	8	19.3%	28.5%	51.9%	51.9%	56.0%
X_G28_P-520	U210	221.9	8	19.4%	28.7%	52.0%	52.0%	78.3%
O_G17_P-1382	U216	230.7	12	23.8%	34.4%	52.0%	52.0%	55.6%
S_H24_P-2775	U203	161.9	10	20.5%	30.2%	52.0%	52.0%	52.9%
Q_E20_P-1788	U226	256.8	8	20.5%	30.1%	52.0%	52.0%	54.9%
U_G26_P-3037	U202	221.0	8	15.3%	25.7%	52.0%	52.0%	54.8%
E_H11_P-5384	E17	160.7	6	20.9%	30.4%	52.0%	52.1%	54.4%
E_H11_P-5426	E17	308.2	6	20.9%	30.4%	52.0%	52.1%	54.4%
O_F17_P-1402	U216	258.2	12	23.9%	34.4%	52.0%	52.0%	55.8%
K_G16_P-1374	U223	307.4	8	20.9%	30.7%	52.2%	52.2%	53.0%
X_H26_P-680	U202	158.9	8	17.7%	26.5%	52.2%	52.2%	53.9%
O_F16_P-1406	U216	351.4	12	24.0%	34.6%	52.2%	52.2%	55.8%
X_G27_P-3447	U202	267.8	8	15.8%	24.0%	52.2%	52.2%	62.0%
K_F17_P-777	U228	201.2	8	18.9%	28.0%	52.3%	52.3%	63.0%
X_E26_P-3251	U224	253.6	8	19.5%	28.8%	52.4%	52.4%	56.2%
X_I27_P-3483	U202	270.4	8	18.0%	26.9%	52.8%	52.8%	55.5%
K_G16_P-1393	U223	215.5	8	20.5%	30.2%	52.8%	52.8%	54.0%
Q_F19_P-970	U218	243.2	8	19.6%	29.1%	52.9%	52.9%	70.9%
O_G19_P-1095	U217	134.9	10	22.0%	32.2%	53.1%	53.1%	56.5%
O_F16_P-1405	U216	350.4	12	24.3%	35.1%	53.1%	53.1%	56.7%
E_H14_P-4710	U222	522.2	6	20.5%	30.3%	53.1%	53.1%	53.3%
O_G19_P-1094	U217	344.3	10	22.0%	32.2%	53.2%	53.2%	56.3%
X_G28_P-521	U210	141.7	8	19.8%	29.3%	53.2%	53.2%	100.0%
S_I24_P-2706	U234	195.0	8	21.7%	31.8%	53.2%	53.2%	55.5%
O_H17_P-1153	E36	282.3	8	25.1%	36.9%	53.2%	53.2%	54.9%
R_F21_P-1971	E13	189.8	8	19.2%	28.5%	53.4%	53.4%	60.6%
E_I9_P-992	U207	11.9	6	20.1%	29.7%	53.4%	53.4%	100.0%
E_I9_P-5801	U207	38.2	6	20.1%	29.7%	53.4%	53.4%	100.0%
E_I9_P-5803	U207	134.6	6	20.1%	29.7%	53.4%	53.4%	100.0%
E_I9_P-5899	U207	29.7	6	20.1%	29.7%	53.4%	53.4%	100.0%
X_G28_P-522	U210	301.4	8	19.9%	29.4%	53.5%	53.5%	100.0%
U_G27_P-3139	N112	348.5	10	19.8%	29.4%	53.5%	53.5%	55.7%
H_B11_P-4406	U201	331.8	8	19.7%	29.2%	53.6%	53.6%	53.6%
O_G18_P-1075	U217	253.6	10	22.9%	33.3%	53.6%	53.6%	57.1%
X_G28_P-518	U210	338.0	8	19.9%	29.5%	53.7%	53.7%	79.4%
X_G28_P-3401	E10	256.4	8	19.6%	29.1%	53.7%	53.7%	54.7%
I_G14_P-4813	U220	237.4	8	20.3%	30.1%	53.8%	53.8%	54.2%
X_E26_P-3248	U224	261.4	8	20.0%	29.6%	53.9%	53.9%	57.7%
O_G18_P-1054	U217	131.4	10	22.5%	32.9%	53.9%	53.9%	57.2%
A_M8_P-6629	E4	316.8	8	18.3%	27.4%	53.9%	53.9%	59.7%
R_E21_P-1957	U226	279.1	8	21.1%	31.1%	53.9%	53.9%	55.4%
S_I22_P-224	U211	114.7	8	20.2%	29.9%	54.1%	54.1%	56.2%
S_I23_P-642	U211	311.4	8	18.1%	27.2%	54.1%	54.1%	54.3%
K_F16_P-3938	U216	363.5	12	25.0%	36.1%	54.4%	54.4%	57.9%
T_H25_P-2993	U203	369.6	15	25.9%	37.3%	54.4%	54.4%	56.3%
N_H19_P-1298	U232	282.3	12	22.0%	32.2%	54.4%	54.4%	58.2%
S_I24_P-2705	U234	236.1	8	21.4%	31.5%	54.5%	54.5%	57.8%
O_G17_P-1400	U216	282.3	12	24.8%	35.9%	54.6%	54.6%	58.6%
H_B11_P-4407	U201	231.8	8	20.0%	29.7%	54.7%	54.7%	54.7%
O_G17_P-1152	E36	273.4	8	25.8%	37.9%	54.9%	54.9%	56.7%

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
M_J21_P-65	U233	210.0	8	20.7%	30.6%	55.2%	55.2%	58.3%
E_I11_P-5531	U221	151.4	6	19.7%	29.3%	55.2%	55.2%	56.4%
K_G15_P-4016	E24	241.3	8	21.6%	31.8%	55.3%	55.3%	56.7%
O_G18_P-1076	U217	319.6	10	23.5%	34.3%	55.6%	55.6%	59.4%
A_M8_P-6486	N101	229.2	8	21.3%	31.4%	55.7%	55.7%	73.0%
F_E12_P-4506	U204	203.8	8	20.5%	30.4%	55.7%	55.7%	60.2%
R_D21_P-2081	E21	391.8	8	22.8%	33.5%	55.8%	55.8%	62.8%
E_H10_P-5434	N108	170.5	6	17.7%	26.8%	55.9%	55.9%	57.7%
X_G28_P-517	U210	316.8	8	20.8%	30.9%	56.7%	56.7%	100.0%
J_H15_P-4762	N113	362.9	8	21.3%	31.5%	56.8%	56.8%	60.9%
R_D22_P-2170	E13	270.9	8	24.3%	35.4%	56.9%	56.9%	64.8%
J_H14_P-977	N113	357.1	6	20.0%	29.9%	56.9%	56.9%	60.4%
U_H26_P-3574	U202	307.6	8	20.8%	30.9%	56.9%	56.9%	60.0%
R_E21_P-2106	U226	281.7	8	22.1%	32.6%	57.0%	57.0%	58.7%
K_F17_P-973	U228	406.5	8	22.7%	33.3%	57.1%	57.1%	70.2%
E_H14_P-4712	U222	59.6	6	21.7%	32.1%	57.1%	57.1%	57.2%
S_H24_P-2805	U203	318.6	10	23.3%	34.2%	57.2%	57.2%	58.2%
E_H14_P-4711	U222	520.1	6	21.8%	32.2%	57.2%	57.2%	57.3%
X_H27_P-3561	U202	148.8	8	24.3%	34.1%	57.3%	57.3%	60.0%
X_E26_P-3247	U224	415.7	8	21.2%	31.5%	57.6%	57.6%	62.2%
A_K7_P-6146	U214	170.8	6	19.9%	29.8%	57.9%	57.9%	80.2%
O_G17_P-1150	E36	280.4	8	27.1%	40.0%	58.4%	58.4%	60.4%
S_H24_P-2768	U203	312.7	10	23.7%	34.8%	58.5%	58.5%	59.5%
R_E22_P-2080	U212	480.7	8	22.1%	32.7%	58.6%	58.6%	68.4%
O_H19_P-1105	U217	145.7	8	21.5%	31.9%	58.6%	58.6%	63.0%
S_H25_P-2971	U203	236.8	10	24.0%	35.2%	58.7%	58.7%	59.6%
R_E21_P-1958	U226	308.9	8	22.5%	33.3%	58.8%	58.8%	60.6%
K_F15_P-3959	U216	181.7	15	27.3%	39.5%	59.2%	59.2%	63.6%
I_G14_P-4140	U220	292.5	10	24.4%	35.8%	59.2%	59.2%	59.6%
S_H25_P-2970	U203	185.9	10	24.2%	35.5%	59.3%	59.3%	60.2%
E_I11_P-5484	U221	314.6	6	22.1%	32.6%	59.3%	59.3%	62.4%
S_H24_P-2966	U203	300.9	10	24.0%	35.3%	59.3%	59.3%	60.3%
A_M8_P-6482	N101	246.8	8	22.2%	32.9%	59.3%	59.3%	81.7%
A_M6_P-902	N114	347.7	8	22.0%	32.6%	59.4%	59.4%	63.7%
K_F15_P-3978	U216	252.2	15	28.4%	41.1%	59.8%	59.8%	66.1%
Q_G22_P-2579	U230	167.9	10	24.4%	35.9%	60.2%	60.2%	62.5%
A_M6_P-903	N114	349.9	8	22.3%	33.1%	60.3%	60.3%	64.3%
E_H12_P-5237	E26	311.3	6	22.4%	33.2%	60.3%	60.3%	70.5%
E_H11_P-5122	E17	296.1	6	26.0%	37.7%	60.5%	60.5%	63.3%
A_M6_P-904	N114	242.8	8	22.3%	33.2%	60.5%	60.5%	68.9%
K_F15_P-3979	U216	284.4	15	28.9%	41.8%	60.5%	60.5%	67.5%
R_E21_P-2078	U212	193.4	8	22.4%	33.3%	60.6%	60.6%	72.6%
A_M8_P-6485	N101	248.5	8	22.6%	33.6%	60.7%	60.7%	100.0%
F_E11_P-4539	U204	206.0	8	21.3%	31.8%	60.8%	60.8%	62.5%
S_H23_P-2784	E41	141.7	8	22.9%	34.0%	60.8%	60.8%	62.2%
F_G9_P-5651	U205	139.9	4	17.0%	26.1%	60.8%	60.8%	100.0%
H_B11_P-4403	U201	387.5	8	21.8%	32.5%	60.8%	60.8%	77.9%
X_E24_P-229	U219	354.0	18	29.6%	42.4%	60.9%	68.4%	100.0%
A_L7_P-6462	E39	135.6	8	22.8%	33.8%	60.9%	60.9%	65.4%
P_B15_P-3762	U208	213.0	33	33.4%	47.7%	60.9%	70.1%	100.0%
A_K7_P-6696	E39	140.0	8	23.2%	34.3%	61.1%	61.1%	65.9%
R_E21_P-2101	U226	305.4	8	23.4%	34.6%	61.2%	61.2%	63.1%
K_F16_P-3939	U216	351.7	12	28.0%	40.6%	61.2%	61.2%	65.9%
K_F15_P-3977	U216	100.0	15	29.3%	42.3%	61.5%	61.5%	68.7%

Ultimate Peak Wet Weather Deficient Pipelines

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
W_K28_P-3281	N107	375.6	8	22.8%	33.9%	61.7%	61.7%	64.6%
E_H12_P-5238	E26	308.3	6	23.1%	34.2%	62.3%	62.3%	72.6%
A_M7_P-6623	E4	272.0	8	16.4%	25.4%	62.3%	62.3%	62.3%
N_H18_P-1194	E36	169.6	8	25.5%	37.5%	62.5%	62.5%	69.3%
K_G15_P-4030	E24	172.0	8	20.1%	30.3%	62.6%	62.6%	63.3%
I_G14_P-4776	U220	72.4	6	21.4%	32.1%	63.0%	63.0%	63.3%
A_K7_P-6692	E39	147.6	8	23.7%	35.1%	63.2%	63.2%	68.5%
O_G20_P-1086	U217	320.6	10	23.8%	35.3%	63.4%	63.4%	68.5%
P_B17_P-3755	U208	316.6	33	34.5%	49.4%	63.4%	73.6%	100.0%
F_F10_P-5315	N104	131.5	8	23.7%	35.1%	63.6%	63.6%	71.1%
A_K7_P-6725	E39	183.2	8	23.9%	35.5%	63.6%	63.6%	68.7%
E_H12_P-5234	E26	310.1	6	23.5%	34.9%	63.6%	63.6%	74.1%
Q_G21_P-1701	U230	354.8	10	25.5%	37.5%	63.6%	63.6%	68.3%
A_K6_P-6666	E12	211.6	8	22.8%	34.0%	63.6%	63.6%	64.3%
T_G25_P-3049	E1	290.0	15	29.4%	42.7%	63.6%	63.6%	66.2%
O_G17_P-1070	E36	264.6	8	27.2%	40.1%	63.7%	63.7%	68.5%
Q_G21_P-1700	U230	359.4	10	25.6%	37.7%	63.9%	63.9%	68.4%
R_E21_P-2094	U226	242.4	8	24.4%	36.1%	63.9%	63.9%	74.2%
Q_G22_P-1699	U230	407.2	10	25.7%	37.8%	64.3%	64.3%	68.2%
F_E11_P-4960	U204	194.8	10	24.9%	36.8%	64.4%	64.4%	69.0%
R_E21_P-2096	U226	266.2	8	24.5%	36.3%	64.8%	64.8%	75.8%
E_I10_P-5486	U221	173.9	6	22.3%	33.5%	64.8%	64.8%	66.4%
O_G20_P-1085	U217	344.6	10	24.2%	35.9%	65.1%	65.1%	70.7%
X_H27_P-10	U202	328.1	8	26.8%	37.8%	65.2%	65.2%	68.7%
U_F26_P-3154	N112	272.6	8	23.4%	34.9%	65.3%	65.3%	68.0%
H_B13_P-4379	E7	364.8	36	36.9%	52.7%	65.3%	70.9%	80.5%
E_I9_P-5802	U207	379.0	6	23.6%	35.1%	65.7%	65.7%	100.0%
K_F14_P-4091	E35	352.4	18	32.4%	46.9%	65.8%	68.7%	76.0%
K_F14_P-4093	E35	71.1	18	32.5%	47.0%	65.8%	68.8%	76.2%
X_H27_P-9	U202	314.9	8	27.0%	38.1%	65.9%	65.8%	69.4%
Q_E20_P-1789	U226	257.8	8	24.8%	36.8%	66.0%	66.0%	70.3%
P_C20_P-2227	U225	196.0	21	35.3%	48.8%	66.5%	69.4%	75.3%
P_C18_P-339	U225	311.3	24	32.7%	47.3%	66.6%	68.8%	81.4%
K_F14_P-4092	E35	349.4	18	33.0%	47.8%	67.3%	70.4%	78.3%
P_C18_P-2240	U225	333.8	24	33.3%	48.3%	68.3%	70.7%	100.0%
U_E25_P-2903	U219	348.3	18	32.3%	47.1%	68.5%	71.2%	78.6%
U_E24_P-2914	U219	351.9	18	32.4%	47.3%	68.8%	71.5%	79.0%
U_E24_P-2915	U219	353.3	18	32.4%	47.3%	68.9%	71.6%	79.1%
U_E25_P-2905	U219	348.2	18	32.4%	47.3%	68.9%	71.6%	79.1%
U_E24_P-2916	U219	354.1	18	32.5%	47.3%	69.0%	71.7%	79.2%
U_E24_P-2913	U219	357.2	18	32.5%	47.5%	69.2%	71.9%	79.6%
K_F15_P-3972	U216	75.7	18	32.1%	46.9%	70.6%	70.6%	80.2%
K_F15_P-3973	U216	212.1	18	32.1%	46.9%	70.6%	70.6%	79.2%
X_D24_P-2917	U219	381.6	18	33.1%	48.4%	71.0%	73.9%	100.0%
B_H6_P-6205	U215	195.2	18	32.7%	46.6%	73.2%	73.5%	100.0%
E_H8_P-5746	U231	90.0	6	17.3%	25.5%	46.4%	46.5%	63.6%
P_D19_P-1840	U236	73.0	15	17.0%	31.4%	56.1%	56.1%	74.6%
P_E19_P-1849	U213	63.8	8	12.4%	24.6%	44.3%	44.3%	53.7%
P_E19_P-1848	U213	178.5	8	13.2%	26.3%	47.8%	47.8%	58.2%
P_E18_P-1850	U213	420.7	8	12.9%	25.9%	47.3%	47.3%	57.7%
P_E18_P-1858	U213	227.1	10	16.4%	24.2%	44.2%	44.2%	79.9%
P_D19_P-2136	U236	325.4	15	15.3%	28.1%	49.3%	49.3%	63.4%
P_D19_P-2137	U236	39.4	15	16.3%	30.3%	57.2%	57.2%	78.0%

Pipe ID	Project Number	Length (ft)	Existing Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio
I_E18_PC-217	U236	409.9	15	16.1%	29.8%	52.7%	52.7%	68.7%
U_G26_PC-181	U202	203.0	8	16.1%	25.7%	48.2%	48.2%	50.7%
W_K28_P-3279	N107	148.6	12	20.4%	29.9%	49.7%	49.7%	56.3%
W_K28_P-3275	N107	229.0	10	21.1%	30.1%	50.1%	50.1%	58.9%
L_E14_P-95	E25	50.7	15	24.5%	35.4%	53.6%	53.6%	54.6%
C_I6_P-6225	N102	462.8	6	11.5%	17.3%	34.9%	34.9%	100.0%
TOTAL: 323 pipes		82,070.7						



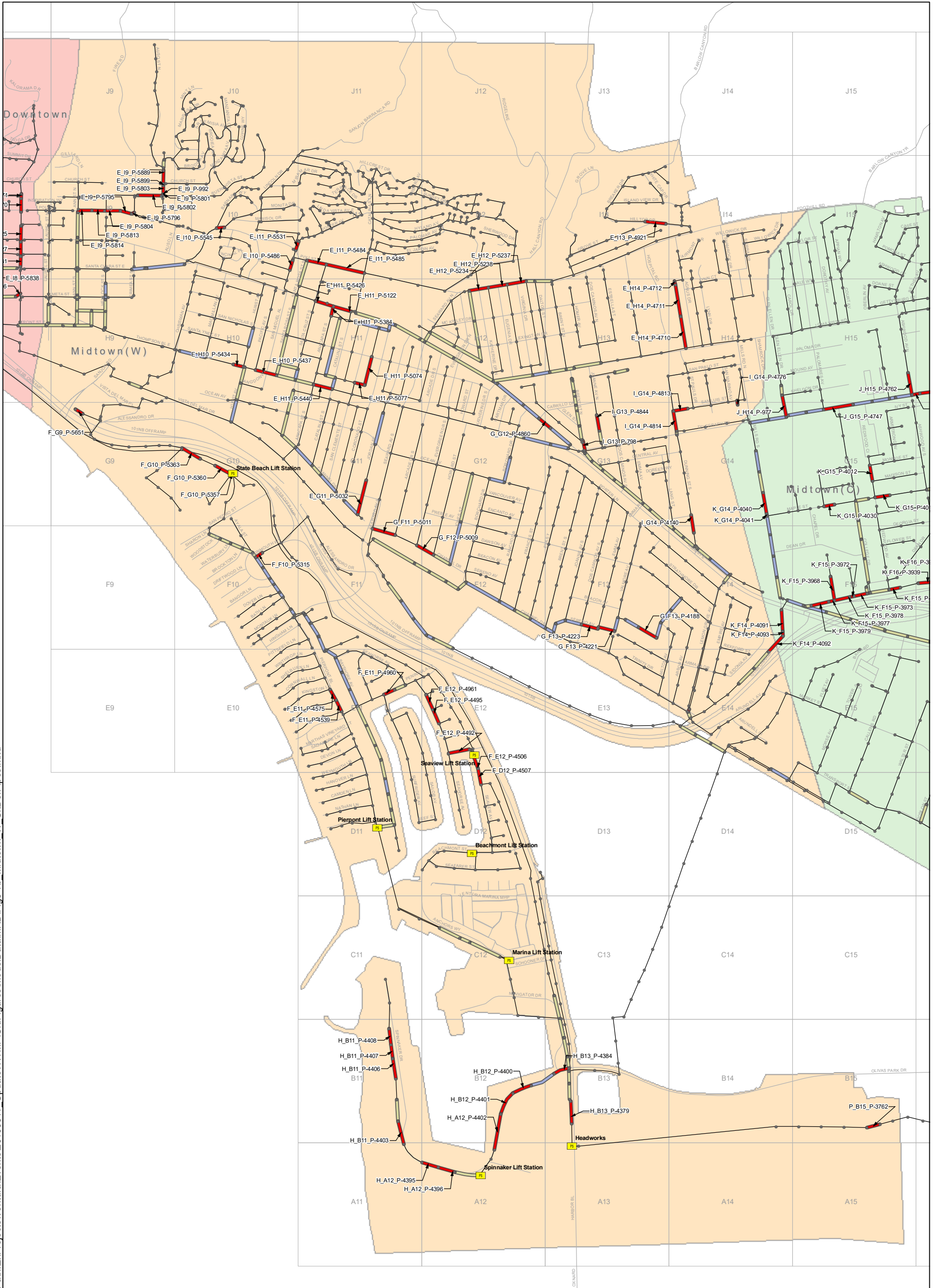
Kennedy/Jenks Consultants

City of San Buenaventura
San Buenaventura, California

**Ultimate System Deficient Pipelines
Westside/Downtown**

K/J 1089015*00
August 2010

Figure 5-7a



Legend

- Manhole
- PS Lift Station
- Street
- Atlas Sheet
- Gravity Sewer
- Ultimate Deficiencies
- Existing Deficiencies
- Near Term Deficiencies

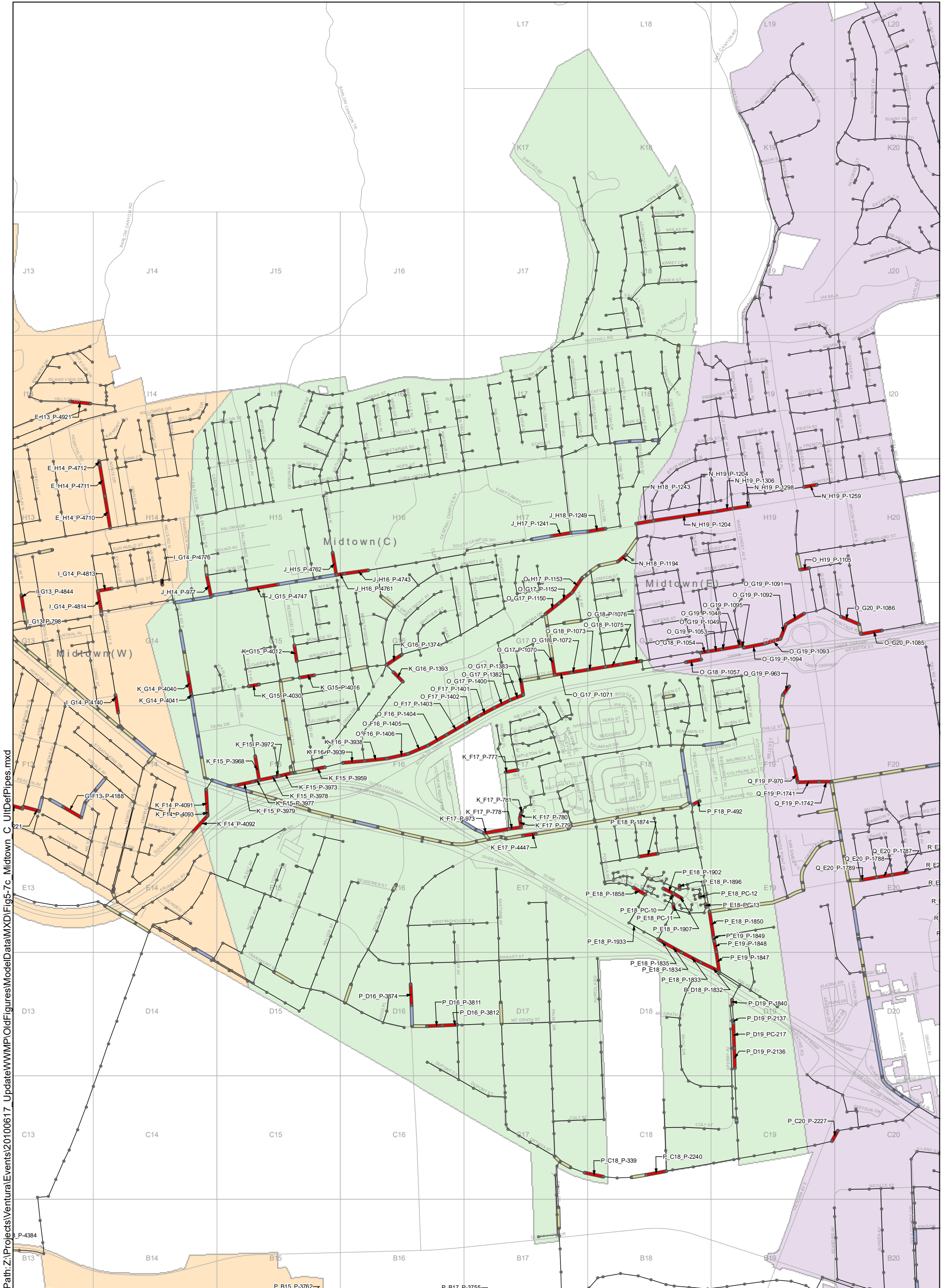
N

0 750 1,500
Scale: Feet

Kennedy/Jenks Consultants
City of San Buenaventura
San Buenaventura, California

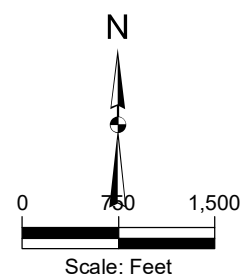
**Ultimate System Deficient Pipelines
Midtown (West)**

K/J 1089015*00
August 2010
Figure 5-7b



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MXD\Fig5-7c_Midtown_C_UltDefPipes.mxd

Legend	
●	Manhole
—	Gravity Sewer
—	Street
□	Atlas Sheet
—	Ultimate Deficiencies
—	Existing Deficiencies
—	Near Term Deficiencies

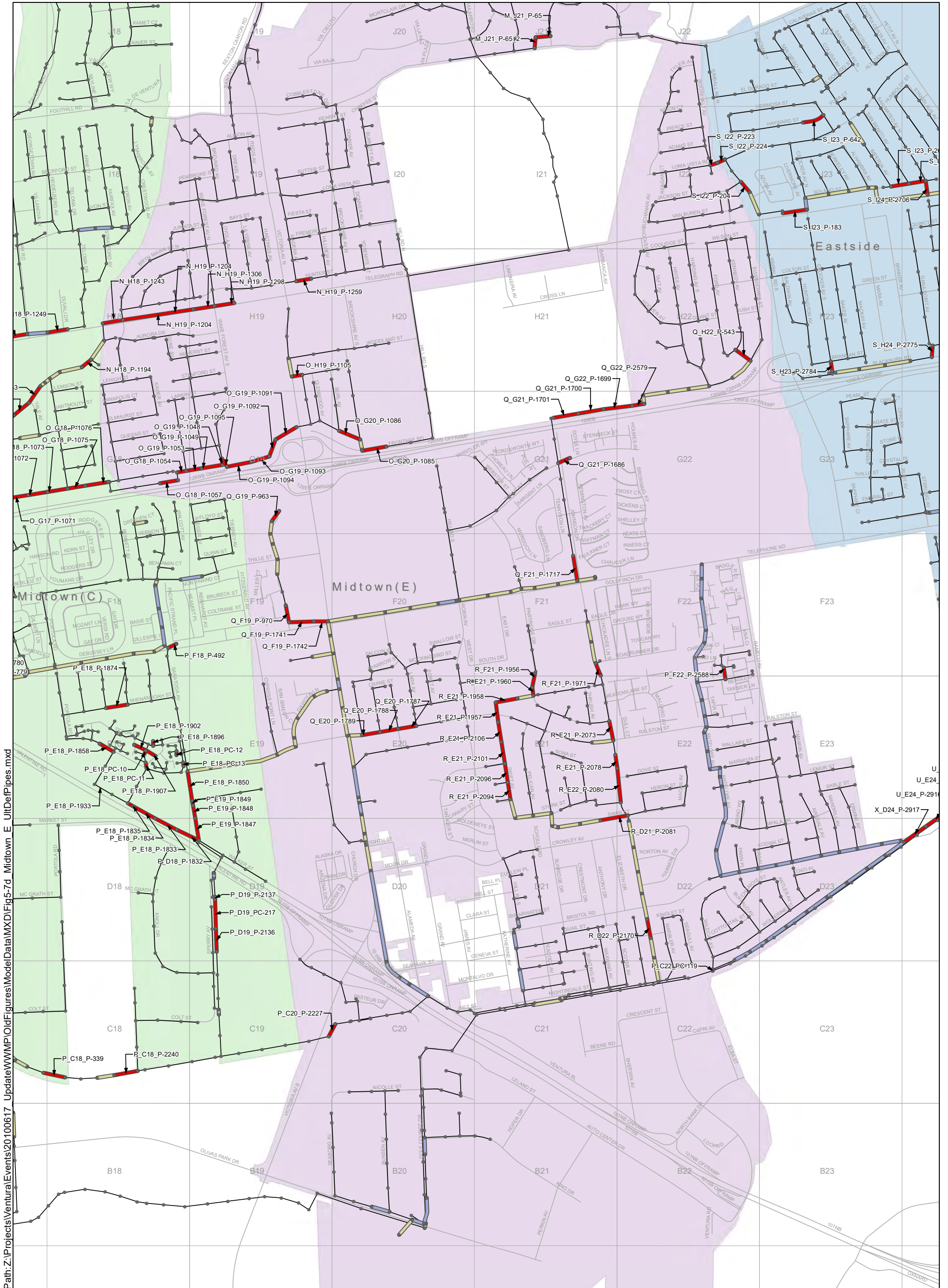


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Ultimate System Deficient Pipelines
 Midtown (Center)**

K/J 1089015*00
 August 2010

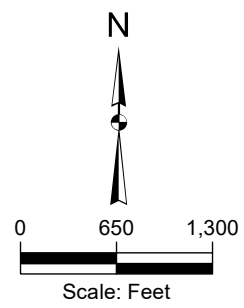
Figure 5-7c



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModelData\MXD\Fig-7d_Midtown_E_UltDefPipes.mxd

Legend

- Manhole
- Street
- Atlas Sheet
- Gravity Sewer
- Ultimate Deficiencies
- Existing Deficiencies
- Near Term Deficiencies



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Ultimate System Deficient Pipelines
 Midtown (East)**

K/J 1089015*00
 August 2010
Figure 5-7d

5.4 Lift Station and Force Main Hydraulic Evaluation

Information regarding the lift stations within the collection system is presented in Table 5-1. Capacity of each of lift station is presented again in Table 5-8 with the peak wet weather flows from the three development conditions (existing, near-term, and ultimate) as determined in the model. Design criteria for lift stations, presented in Section 2.4, requires lift stations to be sized for peak wet weather flow with the largest capacity pump serving as standby.

The Parking Structure Lift Station serves just a few commercial developments and sees very little change in flows under the different development conditions. Also, the lift station conveys wastewater a short distance, and there was limited information was available related to the capacity of the lift station. Thus the Parking Structure Lift Station was not represented in the hydraulic model as a lift station, but rather as a load to a gravity sewer, and was not included in the evaluation in this section.

Based on the information in Table 5-8, the Seaside Transfer Station could require larger capacity pumps to handle peak wet weather flows under the existing condition. The evaluation of the Seaview Lift Station indicates that the pumps may need to be upsized for existing conditions. However, variable frequency drives (VFDs) were recently installed on the pump motors and field observations indicate that this lift station has sufficient capacity. Also, due to the limited anticipated growth in the area served by the Seaview Lift Station, the Seaview Lift Station is not recommended for future improvements.

The North Bank Lift Station could require improvements with near-term developments in place. Currently, the North Bank Lift Station has three pumps with space to install a fourth pump. It was assumed that improvements to the North Bank Lift Station include only the material, electrical, and installation costs for a single pump and motor.

Improvements were recommended for the Topaz Lift Station for ultimate development. The ultimate wet weather flow at the Harper Lift Station was slightly over the design capacity. Improvements were not recommended for the Harper Lift Station.

Each lift station conveys the wastewater from the wet well to a gravity pipe via a forcemain in the collection system. Table 5-9 summarizes the information available regarding the forcemains. Design criteria for forcemains was presented in Section 2.4.2. Collection system forcemains were evaluated based on the following design criteria:

- Maximum velocity at 5 fps
- Maximum allowable headloss at 10 ft per 1,000 ft of pipeline (HL per 1,000 ft)

Table 5-9 presents the velocities and headlosses in the existing forcemains with the existing pumps in each pump station and any recommended pump improvements. Velocities were calculated based on existing and recommended firm capacities for each lift station and the existing forcemain diameter. Headlosses were calculated assuming a Hazen-Williams C factor of 130 and the firm capacity of the lift station.

Forcemains exceeding the criteria stated above, with exceedances shown in bold font in Table 5-9, are summarized below.

- **North Bank Lift Station Forcemain.** The existing forcemain is sufficient for the flows if two pumps operate at once. According to the Preliminary Design Report for the North Bank Lift Station (Brown and Caldwell, 2001 Appendix I), the ultimate capacity of the lift station is 3,035 gpm (4.4 MGD). With this flow rate, the existing 15-inch forcemain will be flowing with an estimated velocity of 5.5 fps. This forcemain is not recommended for improvements. The projected flow of 3,035 gpm is larger than the ultimate peak wet weather flow modeled in this study, as this study did not include flows from the Harper and Topaz Lift Stations. Also it is uncertain whether the ultimate capacity of 4.4 MGD has one pump operating as standby.
- **Seaside Transfer Station Forcemain.** The Seaside Transfer Station forcemain appears deficient due to high velocities and headlosses for a future condition when larger pumps are installed to handle the peak flows. The Condition Assessment Report for the Seaside Transfer Station (Appendix J) reports that there are two parallel forcemains in one area. The Report also identifies areas requiring imminent improvements due to corrosion. It is recommended that the forcemain size be increased to the next available pipe diameter for any repair work to ensure capacity when the pumps are replaced.
- **Pierpont Lift Station Forcemain.** The velocity in the existing 12-inch forcemain at the Pierpont Lift Station, with one existing pump operating at maximum capacity, exceeds the 5 fps design criteria. However, because the pump motors have VFDs, the pumps are likely not operating at maximum capacity and no improvements are recommended.

**TABLE 5-8
SUMMARY OF LIFT STATION CAPACITY EVALUATION**

Station Name	No. Pumps	Pump HP	Head (ft)	Firm Capacity (gpm) ^(a)	Model Data Flow			Comments
					Existing PWWF (gpm)	Near Term PWWF (gpm)	Ultimate PWWF (gpm)	
Harper	2	5	32	160	149	149	167	
Topaz	2	10	37	271	226	226	324	Recommended for ultimate improvements
Wells Road								Not in operation.
North Bank	3	40	85	2,083	1,856	2,220	2,798	Recommended for near-term improvements
Spinnaker	2	7.5	36	450	285	285	385	
Marina	2	5	20	275	225	225	225	
Beachmont	2	3	31	100	83	83	86	
Seaview	2	3	19	200 ^(b)	225	225	249	Not recommended for improvement based on City Staff observations
Seaside Transfer	2	200	110	4,200	4,926	5,292	6,357	Recommended for existing improvements
Pierpont	2	60	68	2,400 ^(c)	1,359	1,362	1,515	
State Beach	2	7.5	-	260-385	127	130	162	
Influent	3	~125	28.5	25,000	15,083.3	18,048.6	20,465.3	

Notes:

- (a) Standby capacity, 1 unit out of service. HP and head specified PER individual pump in station.
- (b) Lift station controls were recently upgraded to include variable frequency drives (VFD's) for the pump motors.
- (c) VFD's are installed on the pump motors.

**TABLE 5-9
SUMMARY OF FORCE MAIN CAPACITY EVALUATIONS**

Station Name	Forcemain Diameter (in)	Estimated Forcemain Length (ft)		Existing Maximum	Maximum After Improvements	Comments
Harper	6	1,206	velocity (fps)	1.82	NA	
			HL/1,000 ft (ft)	2.51	NA	
Topaz	6	1,430	velocity (fps)	3.08	3.69	
			HL/1,000 ft (ft)	6.65	9.28	
North Bank ^(a)	15	5,200	velocity (fps)	3.78	5.51	Forcemain replacement is not recommended
			HL/1,000 ft (ft)	3.35	6.73	
Spinnaker	12	20	velocity (fps)	1.28	NA	
			HL/1,000 ft (ft)	0.58	NA	
Marina	12	25	velocity (fps)	0.78	NA	
			HL/1,000 ft (ft)	0.23	NA	
Beachmont	8	30	velocity (fps)	0.64	NA	
			HL/1,000 ft (ft)	0.26	NA	
Seaview	8	75	velocity (fps)	1.28	1.60	
			HL/1,000 ft (ft)	0.94	1.41	
Seaside Transfer	21	16,619	velocity (fps)	3.89	5.89	Forcemain replacement is recommended for existing improvements (as a result of the recommended pump replacement).
			HL/1,000 ft (ft)	2.39	5.13	
Pierpont ^(b)	12	3,312	velocity (fps)	6.81	4.40	No improvements are recommended because VFD's are installed
			HL/1,000 ft (ft)	12.90	5.75	
State Beach	6	500	velocity (fps)	2.95	NA	
			HL/1,000 ft (ft)	6.16	NA	
Influent	24	30	velocity (fps)	8.87	NA	
			HL/1,000 ft (ft)	9.37	NA	

Notes:

- (a) Existing flows with three (3) pumps operating together and future flows assuming a fourth pump is in place were from the Preliminary Design Report for the North Bank Lift Station (Brown and Caldwell, 2001)
- (b) Existing pump motors have variable frequency drives (VFD's) installed.

5.5 Collection System Capital Improvement Recommendations

Results of the hydraulic model, as presented in Figures 5-4 through 5-7 and Tables 5-4 to 5-9, formed the basis for the recommendations discussed in this section. Individual deficiencies were grouped into projects and the estimated costs to implement each project were determined.

5.5.1 Collection System Unit Costs

Capital cost estimates presented in this study were based on gravity sewer unit cost data, as shown in Table 5-10. These planning-level unit costs include pipe materials (assumed to be vitrified clay pipe), sewer manholes (assumed to be pre-cast reinforced concrete), excavation, bedding and backfill, bypass pumping and traffic control during construction, pavement replacement (assumed to be concrete pavement), lateral reconnection, and allowances for miscellaneous site work. The unit costs do not include right-of-way acquisition or lateral replacement. The unit costs also include allowance for engineering, administration, and project contingencies as a percentage of the estimated construction costs. A factor of 20 percent of construction cost was used to account for engineering and administrative costs, including the following:

- Planning and preliminary design
- Surveying and geotechnical investigations
- CEQA compliance and permitting
- Final design
- Construction administration and inspection

**TABLE 5-10
GRAVITY SEWER UNIT COSTS**

Pipe Diameter (in)	Pipe Unit Cost ^(a)
6	\$170
8	\$200
10	\$210
12	\$230
15	\$260
18	\$290
21	\$330
24	\$380
27	\$410
30	\$460
33	\$530
36	\$580
39	\$670
42	\$740
54	\$1,050
60	\$1,170

Note:

- (a) Costs represent March 2008 dollar values, ENR-CCI –LA 9200.

Gravity sewer unit costs presented in Table 5-10 are supplemented with the unit costs presented in Table 5-11 for jack and bore installation. These additional costs are necessary to install those proposed sewers which cross under Highways 101, 126, or 33. These costs assume that construction includes a steel casing pipe, casing spacers, and end seals, with casing voids filled with sand. Unit costs include allowances for Caltrans permitting, and also take into consideration the relatively high costs of mobilization given the size of the projects recommended in this study.

**TABLE 5-11
JACK AND BORE UNIT COSTS**

Pipe Diameter (in)	Jack and Bore Unit Cost
10	\$280
12	\$310
15	\$330
18	\$390
21	\$440
24	\$530
27	\$670

Improvements to the lift stations will involve replacing the existing pumps with larger capacity pumps and, perhaps, adjusting the wet well pump operation set points. It was assumed that the existing wet wells have sufficient capacity and require no significant improvements. This assumption must be further reviewed for each wet well in the preliminary design phase. Replacement pumps were sized for ultimate peak wet weather flows and an approximation of the total head. Construction cost estimates for lift station improvements were based on manufacturer-provided estimates for the specific pump and motor units (material costs). It was also assumed that:

- Costs for installation of the pumps and motors were 50 percent of the material costs.
- Costs for electrical equipment and appurtenances were 25 percent of the material costs.

In addition to this, a factor of 20 percent of the construction cost was used to account for engineering and administrative costs.

Costs presented in this study were based on the Engineering New Record Construction Cost Index for Los Angeles, California area (ENR-CCI-LA). The ENR-CCI is an inflation index used to adjust prices from one time period to another. Estimates of probable cost presented in this study represent March 2008 costs, consistent with an ENR-CCI of 9200. Costs estimated herein for recommended facilities should be adjusted in the future either by making new estimates or comparing the future ENR-CCI index to 9200. Costs provided in this collection system improvement plan are not definitive values of project cost. At all levels of design, from the conceptual stage to the design stage, there was an assumed accuracy for any estimate of probable cost. For this evaluation, the estimates of probable cost included an accuracy range of +50 percent to -30 percent. This range of values was consistent with the level of accuracy developed by the Association for Advancement of Cost Engineering (AACE) for the conceptual level of design.

5.5.2 Collection System Capital Improvement Recommendations

This section presents recommended collection system capital improvements necessary to mitigate capacity deficiencies in the existing system, and to meet projected wastewater flows for near-term and ultimate development conditions in accordance with the established criteria.

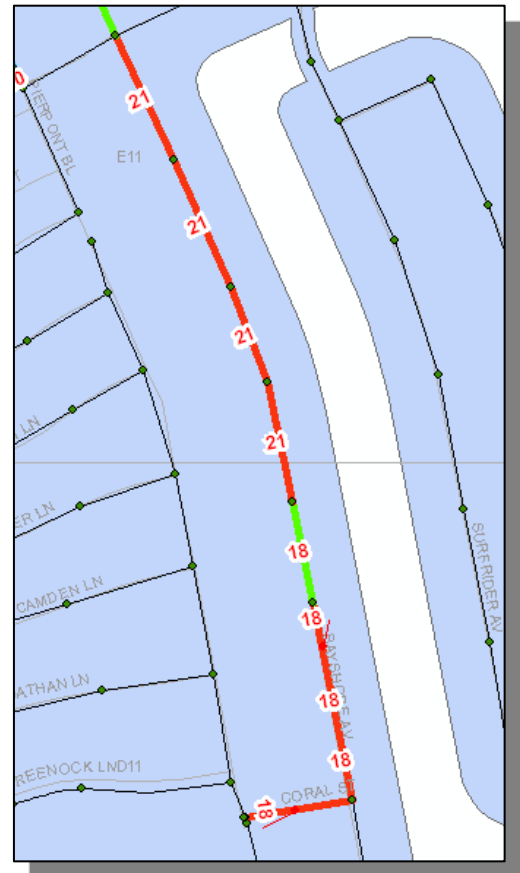
The identified capital improvement project recommendations were based on meeting peak wet weather flow conditions, with proposed sewers sized to meet ultimate wet weather flow conditions. All proposed sewers were assumed to replace the existing sewer with a larger pipe of the same slope. These assumptions should be evaluated at the preliminary design stage for each project. In some instances it may be economically beneficial to parallel a sewer, rather than replace it. In other instances it may be beneficial from an operations standpoint to modify the grade of the pipe to obtain sufficient velocities.

It is also recommended that the City confirm manhole invert elevations for those locations where manhole elevations in the model were interpolated from upstream and downstream manhole data as part of future preliminary design work. This work may also include conducting local flow monitoring to confirm dry weather and peak wet weather flows relative to the model results.

5.5.2.1 Project Grouping

Capital improvement projects presented in this section represent deficient sewer reaches, which were grouped together based on their proximity to form a “project.” These projects were further grouped according to development condition. In most cases those projects identified as “existing” remedy existing system deficiencies, with “near-term” projects addressing near-term deficiencies, etc. However, in instances where adjacent pipelines were found to be deficient at different development conditions (for example, near-term and ultimate development conditions), these deficiencies were proposed to be corrected through a single capital improvement project to improve efficiencies and lessen community impacts during construction.

In some cases, near-term or ultimate development deficiencies were grouped with existing deficiencies in an existing project. In other cases, existing deficiencies were grouped with near-term and ultimate deficiencies in near-term and ultimate projects. To account for the portion of project costs necessitated by existing versus future developments, the costs presented in this section were divided into the following: 1) costs which the existing users should bear because the deficiency



Example of a location where a near-term deficiency was grouped with adjacent pipes in an existing project.

was due to an existing deficiency and 2) costs which future users should bear because the deficiency was due to future development.

In a few locations, replacing a deficient pipeline with a larger pipeline would result in a “bottleneck” as the new pipeline connects back to the existing smaller-diameter pipeline. In many of these instances, the downstream pipeline is recommended for replacement with the upstream pipelines to avoid creating a pipe diameter “bottleneck,” even though the existing downstream pipeline has sufficient hydraulic capacity. Specifically, upsizing of the downstream pipeline was recommended where the following occur:

- Affected downstream pipeline represented one sewer reach.
- Affected downstream pipeline(s) were less than two standard pipe sizes smaller than the upstream replacement sewer.

Recommendations based on the above conditions were noted in the cost tables. Costs associated with these specific improvements were assigned to existing system capital costs if included in an existing project and to future system capital costs if included in a near-term or ultimate project. These recommendations should be further reviewed by the City during the preliminary design of these sewer replacement projects.

5.5.2.2 Project Timing

Exact timing of these recommended projects, particularly for the near-term and ultimate development conditions, is dependent upon the level of actual development in the City. Capital improvement projects presented in this section should be considered as development occurs. If growth occurs faster or slower than assumed in this study, then the facility improvement projects should be accelerated or delayed, accordingly.

5.5.2.3 Project Prioritization

Identified capital improvement projects were each assigned an identification number, as follows:

- Existing projects are denoted with a label of E1 to E42.
- Near-term projects are denoted with a label of N101 to N121.
- Ultimate projects are denoted with a label of U201 to U235.

Project identification number correlates to the projects’ degree of deficiency, or priority, relative to the other project recommendations. The lower numbered projects represent the higher priority due to their flow conditions versus capacity, noted deficiencies (such as root intrusions), and maintenance history. However, as described above, the implementation of near-term and ultimate projects will be dependent upon development. Thus, a single development built in the near future may trigger the needs for an improvement project regardless of the project category (existing, near-term, or ultimate) and regardless of that project’s identification number.

The following further describes the factors considered in the prioritization of the recommended sewer replacement projects:

- Deficiencies under dry conditions: Existing system sewers that failed to meet the study's design criteria under average dry weather flow conditions were given the highest priority, followed by those sewers failing to meet the design criteria under peak dry weather flow conditions, and lastly those failing to convey peak wet weather flows in accordance with the design criteria.
- Severity of the deficiency: Severity of the deficiency was also considered. A pipe flowing with a d/D of 100 percent presents a greater potential for a sewer system overflow (SSO) event versus a pipe with a d/D ratio of say 80 percent. Therefore, projects containing pipes that flow full were given priority over projects with pipes that have remaining capacity.
- Maintenance Concerns: Prioritization also considered areas where maintenance concerns were identified. These locations are presented in Figures 5-3a to 5-3e. Projects were considered "Priority Area" locations and pipes with roots were given higher priority.
- Location relative to environmentally sensitive areas: Lastly, the location of the pipe was considered. If the project was located near the ocean or a park it was given a higher priority.

There were other factors not considered here, but for which the City may want to consider as these recommended capital improvement projects move from the conceptual stage to the preliminary design stage. These other factors may include: condition of the pipe, age of the pipe, pipe material, timing of roadway and other municipal improvements, and location of the pipe relative to areas of tourism, businesses, etc.

5.5.3 Existing Collection System Improvement Recommendations

The existing system capital improvement recommendations were based on the results of the system evaluation and hydraulic analysis as described in Section 5.3. Information related to these capital improvement recommendations are provided in several locations.

- Table 5-12 summarizes all recommended sewer replacement projects. This table includes the pipe information (identifier labels, lengths, diameters), the model depth-to-diameter ratios for the different flow conditions, estimates of probable cost, and other information, such as whether the pipe is in a priority area or invert elevations were uncertain.
- Table 5-13 summarizes the existing recommended lift station improvements.
- Figures 5-8a to 5-8e identify the locations of the existing recommended projects with the pipe identifiers and recommended replacement diameters.
- Exhibit 5 presents the recommendations for the entire collection system in one figure.
- The Recommended CIP Project Sheets, located after Section 7, briefly summarizes each of the recommended existing projects with a figure showing the area recommended for improvement. The format of these project sheets allows the City to incorporate the projects into their CIP.

**TABLE 5-12
RECOMMENDED EXISTING GRAVITY SEWER CAPITAL IMPROVEMENTS**

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
E1	E2	A_K7_P-6144	150.5	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$43,653	(b)	\$0			
	E2	A_K7_P-6149	195.3	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$56,631	(b)	\$0			
	E2	A_K7_P-6651	203.9	15 (12)	15	66%	66%	66%	66%	66%	\$260	\$53,010	(b)	\$0			
<i>Figure</i>	E2	A_J6_P-6332	283.5	18 (8)	18	66%	66%	66%	66%	66%	\$290	\$82,204	(b)	\$0			
<i>5-8a</i>	E2	A_J6_P-6333	336.0	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$97,426	(b)	\$0			
	E2	A_J6_P-6334	338.3	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$98,101	(b)	\$0			
	E2	A_J6_P-6370	363.1	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$105,286	(b)	\$0			
	E2	A_J6_P-6341	177.9	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$51,596	(b)	\$0			
	E2	A_J6_P-6348	37.9	18 (8)	18	66%	66%	66%	66%	66%	\$290	\$11,003	(b)	\$0			
	E2	A_J6_P-6381	206.5	18 (8)	18	66%	66%	66%	66%	66%	\$290	\$59,874	(b)	\$0			
	E2	A_J6_P-6385	241.3	18 (8)	18	66%	66%	66%	66%	66%	\$290	\$69,985	(b)	\$0			
	E2	A_J6_P-6402	327.8	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$95,061	(b)	\$0			
	E2	A_J6_P-6367	332.1	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$96,297	(b)	\$0			
	E2	A_J6_P-6368	344.1	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$99,783	(b)	\$0			
	E2	A_J7_P-6125	180.5	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$52,342	(b)	\$0			Y
	E2	A_J7_P-6150	619.8	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$179,737	(b)	\$0			
	E2	A_K7_P-6150_2	232.0	18 (12)	18	66%	66%	66%	66%	66%	\$290	\$67,271	(b)	\$0			
Subtotal E1			4,570.3									\$1,319,261	\$0				
E2		F_D11_P-4476	241.1	15	18	34.8%	51.9%	100.0%	100.0%	100.0%	\$290	\$69,923	\$0				Y
		F_D11_P-4477	268.9	15	18	34.3%	50.9%	100.0%	100.0%	100.0%	\$290	\$77,994	\$0				
<i>Figure</i>		F_E11_P-4479	345.2	15	21	43.7%	68.1%	100.0%	100.0%	100.0%	\$330	\$113,929	\$0				Y
<i>5-8b</i>		F_E11_P-4480	351.7	15	21	44.7%	70.2%	100.0%	100.0%	100.0%	\$330	\$116,062	\$0				Y
		F_D11_P-4512	241.5	15	18	34.7%	51.7%	100.0%	100.0%	100.0%	\$290	\$70,038	\$0				Y
		F_D11_P-4513	258.0	15	18	27.2%	39.6%	61.0%	61.1%	65.4%	\$290	\$0	\$74,824				Y
		F_E11_P-4515	255.9	15	21	30.8%	45.3%	72.7%	72.9%	79.9%	\$330	\$84,442	\$0				Y
		F_E11_PC-18	306.9	15	21	43.3%	67.2%	100.0%	100.0%	100.0%	\$330	\$101,286	\$0				Y
		F_D11_PC-19	24.7	15	18	26.9%	39.1%	60.0%	60.1%	64.2%	\$290	\$0	\$7,153				Y
Subtotal E2			2,294.0									\$633,674	\$81,977				
E3	E1	B_H6_P-6182	217.3	18 (8)	18	66%	66%	66%	66%	66%	\$680	\$0	\$0			Y	
<i>Figure</i>		B_I6_P-924	94.0	6	10	24.7%	37.5%	100.0%	100.0%	100.0%	\$210	\$19,750	\$0				Y
Subtotal E3			311.3									\$19,750	\$0				
E4		A_M7_P-6496	29.2	12	15	21.7%	31.5%	50.1%	56.2%	64.3%	\$260	\$0	\$7,584				
		A_M7_P-6497	105.0	12	15	100.0%	100.0%	100.0%	100.0%	100.0%	\$260	\$27,313	\$0				Y
<i>Figure</i>		A_M8_P-6510	136.8	6	8	55.8%	100.0%	100.0%	100.0%	100.0%	\$200	\$27,356	\$0				Y
<i>5-8a</i>	E3	A_M7_P-6577	232.2	8	15	30.6%	45.4%	78.8%	100.0%	100.0%	\$260	\$60,367	\$0				
		A_M7_P-6578	224.7	12	15	15.1%	21.7%	33.2%	36.5%	41.8%	\$260	\$58,411	(a)	\$0			
		A_M7_P-6623	272.0	8	10	16.4%	25.4%	62.3%	62.3%	62.3%	\$210	\$0	\$57,113		Y		Y
		A_M8_P-6629	316.8	8	12	18.3%	27.4%	53.9%	53.9%	59.7%	\$230	\$0	\$72,858				Y
		A_M8_P-6630	351.6	8	12	23.6%	35.9%	80.3%	80.3%	100.0%	\$230	\$80,857	\$0				Y
Subtotal E4			1,668.1									\$254,304	\$137,555				
E5		E_H8_P-5699	114.6	8	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$33,236	\$0				
		E_H8_P-5707	455.3	6	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$132,040	\$0	64			Y
<i>Figures</i>		E_H9_P-5710	271.0	6	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$78,598	\$0	64			Y
<i>5-8a</i>		E_H8_P-5711	56.4	6	10	28.2%	42.9%	100.0%	100.0%	100.0%	\$210	\$11,836	\$0	71			Y
<i>5-8b</i>		E_H8_P-5712	291.1	6	10	27.5%	41.8%	100.0%	100.0%	100.0%	\$210	\$61,135	\$0				Y
		E_H9_P-5714	256.6	6	12	62.5%	100.0%	100.0%	100.0%	100.0%	\$230	\$59,012	\$0	43			Y
		E_H9_P-5715	189.4	6	12	33.1%	49.6%	100.0%	100.0%	100.0%	\$230	\$43,560	\$0	64			Y
		E_H9_P-5716	266.6	6	10	27.6%	49.2%	100.0%	100.0%	100.0%	\$210	\$55,992	\$0				
		E_H9_P-5717	241.5	6	15	45.6%	100.0%	100.0%	100.0%	100.0%	\$260	\$62,786	\$0				Y

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		E_H9_P-5718	214.9	6	8	14.7%	22.1%	46.6%	47.4%	49.1%	\$200	\$42,979	(a)	\$0			
		E_H9_P-5719	274.6	6	10	25.4%	38.8%	100.0%	100.0%	100.0%	\$210	\$57,668		\$0			Y
		E_H9_P-5720	38.3	6	10	25.6%	40.1%	100.0%	100.0%	100.0%	\$210	\$8,052		\$0			Y
		E_H9_P-5728	224.1	4	8	38.0%	58.3%	100.0%	100.0%	100.0%	\$200	\$44,819		\$0			Y
		E_H9_P-5729	186.0	6	10	29.0%	43.4%	100.0%	100.0%	100.0%	\$210	\$39,056		\$0			Y
		E_H9_P-5733	234.6	4	8	0.0%	47.5%	100.0%	100.0%	100.0%	\$200	\$46,924		\$0			Y
		E_H9_P-5734	184.4	6	10	31.4%	47.2%	100.0%	100.0%	100.0%	\$210	\$38,728		\$0	43		Y
		E_H9_P-5736	72.7	6	10	31.1%	46.8%	100.0%	100.0%	100.0%	\$210	\$15,262		\$0			Y
		E_I9_P-5772	409.2	6	10	26.7%	39.6%	70.9%	70.9%	100.0%	\$210	\$85,927		\$0			Y
		E_I9_P-5773	77.3	6	10	26.7%	39.7%	71.0%	71.0%	100.0%	\$210	\$16,243		\$0			Y
		E_I9_P-5774	397.0	6	10	32.4%	48.9%	100.0%	100.0%	100.0%	\$210	\$83,380		\$0			Y
		E_I9_P-5777	389.3	6	10	30.8%	46.2%	100.0%	100.0%	100.0%	\$210	\$81,749		\$0			Y
		E_I9_P-5785	61.7	6	10	30.2%	45.3%	100.0%	100.0%	100.0%	\$210	\$12,952		\$0			Y
		E_I8_P-5838	57.1	6	12	12.4%	18.3%	33.7%	33.8%	50.6%	\$230	\$0	\$13,134				Y
		E_I8_P-5839	343.9	6	12	26.7%	40.7%	100.0%	100.0%	100.0%	\$230	\$79,093		\$0			
		E_H8_P-5699	114.6	8	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$33,236		\$0			Y
		E_H8_P-5476_3	74.7	6	10	24.5%	36.8%	73.4%	73.6%	100.0%	\$210	\$15,681		\$0			Y
		E_H8_P-5476_2	330.2	6	10	21.2%	31.6%	59.8%	59.9%	100.0%	\$210	\$69,341		\$0			Y
		E_H8_PC-186	199.3	6	10	18.8%	27.7%	48.9%	48.9%	71.5%	\$210	\$41,852		\$0			Y
		E_I9_PC-23	124.4	6	10	26.6%	40.7%	100.0%	100.0%	100.0%	\$210	\$26,128		\$0	24		
Subtotal E5			6,150.8									\$1,377,266	\$13,134				
E6		S_I24_P-178	352.8	8	15	32.5%	48.9%	100.0%	100.0%	100.0%	\$260	\$91,737		\$0			
		S_I23_P-179	353.4	8	15	38.0%	58.6%	100.0%	100.0%	100.0%	\$260	\$91,892		\$0			Y
Figure		S_I23_P-180	197.5	8	12	33.0%	49.8%	100.0%	100.0%	100.0%	\$230	\$45,419		\$0			
5-8e		S_I23_P-181	106.7	8	12	31.2%	46.9%	100.0%	100.0%	100.0%	\$230	\$24,534		\$0			
		S_I23_P-182	163.7	8	10	21.5%	31.9%	57.8%	57.8%	63.2%	\$210	\$0	\$34,378				Y
		S_I23_P-198	336.4	8	12	29.8%	44.7%	100.0%	100.0%	100.0%	\$230	\$77,367		\$0			
		S_I23_P-199	286.6	8	12	31.7%	47.7%	100.0%	100.0%	100.0%	\$230	\$65,916		\$0			
		S_I23_P-200	274.7	8	12	29.7%	44.4%	100.0%	100.0%	100.0%	\$230	\$63,185		\$0			
		S_J23_P-2682	29.4	8	10	100.0%	100.0%	100.0%	100.0%	100.0%	\$210	\$6,164		\$0		Y	Y
		S_J23_P-2685	118.0	8	12	29.5%	44.8%	100.0%	100.0%	100.0%	\$230	\$27,144		\$0		Y	
		S_I24_P-2697	298.2	10	15	28.5%	42.0%	69.4%	69.4%	73.5%	\$260	\$77,521		\$0			
		S_I24_P-2698	285.5	10	15	28.6%	42.1%	69.8%	69.8%	73.9%	\$260	\$74,223		\$0			
		S_I23_P-2716	352.4	8	18	72.1%	100.0%	100.0%	100.0%	100.0%	\$290	\$102,205		\$0			Y
		S_I24_P-2920	297.6	8	10	21.2%	30.5%	46.9%	46.9%	48.8%	\$210	\$62,501	(a)	\$0			
		S_I24_P-58	77.7	10	12	21.7%	31.6%	51.5%	51.5%	54.8%	\$230	\$0	\$17,881				
		S_I24_P-650	191.0	8	10	24.1%	36.2%	72.4%	72.4%	72.6%	\$210	\$40,107		\$0			
		S_I24_P-652	154.8	8	10	10.7%	15.7%	27.4%	27.4%	30.5%	\$210	\$32,506	(a)	\$0			
Subtotal E6			3,876.4									\$882,418	\$52,260				
E7		H_C13_P-100	324.0	6	36	100.0%	100.0%	100.0%	100.0%	100.0%	\$580	\$187,920		\$0			Y
		H_C13_P-101	373.2	15	36	100.0%	100.0%	100.0%	100.0%	100.0%	\$580	\$216,443		\$0			
		H_B13_P-111	200.4	36	42	53.9%	100.0%	100.0%	100.0%	100.0%	\$740	\$148,280		\$0			Y
Figure		H_B13_P-4379	364.8	36	42	36.9%	52.7%	65.3%	70.9%	80.2%	\$740	\$0	\$269,977				
5-8b		H_B13_P-4385	39.1	36	42	24.7%	34.2%	41.0%	43.6%	47.3%	\$740	\$28,918	(a)	\$0			
		H_B13_P-4386	252.1	36	42	74.2%	100.0%	100.0%	100.0%	100.0%	\$740	\$186,567		\$0			
		H_B13_P-4387	44.3	15	42	100.0%	100.0%	100.0%	100.0%	100.0%	\$740	\$32,812		\$0			Y
		H_C12_P-4411	539.5	8	12	29.4%	44.4%	100.0%	100.0%	100.0%	\$230	\$124,087		\$0			Y
		H_C12_P-4412	178.4	8	12	26.5%	39.6%	75.9%	75.9%	81.9%	\$230	\$41,040		\$0			Y
		H_B13_P-98	199.6	15	42	100.0%	100.0%	100.0%	100.0%	100.0%	\$740	\$147,728		\$0			
		H_B13_P-99	307.5	36	42	44.7%	66.8%	100.0%	100.0%	100.0%	\$740	\$227,520		\$0			
		H_C12_PC-55	361.3	8	12	31.7%	48.3%	100.0%	100.0%	100.0%	\$230	\$83,097		\$0			Y
Subtotal E7			3,184.3									\$1,424,412	\$269,977				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
E8		I_F14_P-4137	212.2	10	18	36.1%	54.2%	100.0%	100.0%	100.0%	\$290	\$61,550	\$0				
		I_F14_P-4138	226.9	10	18	48.8%	80.6%	100.0%	100.0%	100.0%	\$290	\$65,791	\$0				
Figure		I_F14_P-4175	47.5	12	18	32.5%	47.7%	75.5%	75.8%	77.0%	\$290	\$13,783	\$0				
5-8b		I_F14_P-4176	32.4	12	18	26.1%	38.0%	59.5%	59.8%	60.7%	\$290	\$0	\$9,403				
		I_G13_P-4226	231.4	10	18	42.7%	66.6%	100.0%	100.0%	100.0%	\$290	\$67,104	\$0				
		I_G13_P-4227	255.6	10	18	38.9%	59.3%	100.0%	100.0%	100.0%	\$290	\$74,128	\$0				
		I_F14_P-44	413.1	12	18	29.0%	42.2%	64.0%	64.1%	65.2%	\$290	\$0	\$119,798				
		I_F14_P-45	144.2	15	24	61.2%	100.0%	100.0%	100.0%	100.0%	\$380	\$54,787	\$0				
		I_F14_P-47	259.8	12	18	40.8%	62.0%	100.0%	100.0%	100.0%	\$290	\$75,328	\$0				
		I_G13_P-4795	226.1	8	15	38.6%	58.9%	100.0%	100.0%	100.0%	\$260	\$58,783	\$0				
		I_G13_P-4808	418.5	8	15	49.9%	100.0%	100.0%	100.0%	100.0%	\$260	\$108,806	\$0				
		I_G13_P-4816	161.2	10	15	35.1%	52.6%	100.0%	100.0%	100.0%	\$260	\$41,901	\$0				
		I_G13_P-4818	180.2	8	15	49.5%	100.0%	100.0%	100.0%	100.0%	\$260	\$46,851	\$0				
		I_G13_P-4822	240.7	8	15	49.6%	100.0%	100.0%	100.0%	100.0%	\$260	\$62,573	\$0				
		I_G13_P-4840	224.1	8	12	35.3%	53.6%	100.0%	100.0%	100.0%	\$230	\$51,540	\$0				
		I_G13_P-4841	339.8	8	12	30.1%	44.8%	81.8%	81.8%	81.8%	\$230	\$78,144	\$0				
		I_H13_P-4867	230.6	8	12	100.0%	100.0%	100.0%	100.0%	100.0%	\$230	\$53,029	\$0				Y
		I_H13_P-4868	208.6	8	12	100.0%	100.0%	100.0%	100.0%	100.0%	\$230	\$47,988	\$0				Y
		I_G13_P-798	179.7	10	12	21.8%	31.7%	50.5%	50.5%	50.8%	\$230	\$0	\$41,332				
		I_G13_P-800	175.6	10	15	35.0%	52.6%	100.0%	100.0%	100.0%	\$260	\$45,649	\$0				
		I_G13_P-801	17.0	8	12	30.7%	45.8%	100.0%	100.0%	100.0%	\$230	\$3,900	\$0				
		I_G13_P-979	35.5	10	15	100.0%	100.0%	100.0%	100.0%	100.0%	\$260	\$9,228	\$0				Y
Subtotal E8			4,460.5									\$1,020,861	\$170,534				
E9		P_C18_P-2239	242.9	24	33	43.4%	65.8%	100.0%	100.0%	100.0%	\$530	\$128,736	\$0				
		P_C17_P-337	193.3	24	30	38.3%	56.5%	100.0%	100.0%	100.0%	\$450	\$86,978	\$0				
Figure		P_B17_P-3777	337.5	8	21	100.0%	100.0%	100.0%	100.0%	100.0%	\$330	\$111,390	\$0				
5-8c		P_C17_P-3794	119.1	8	15	29.3%	44.0%	100.0%	100.0%	100.0%	\$260	\$30,961	\$0				
Subtotal E9			892.8									\$358,064	\$0				
E10		X_G27_P-146	20.8	8	18	30.0%	43.6%	72.1%	72.1%	100.0%	\$290	\$6,023	\$0				
		X_G27_P-147	177.8	8	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$51,567	\$0				
Figure		X_G28_P-3310	144.7	8	15	38.3%	57.1%	100.0%	100.0%	100.0%	\$260	\$37,627	\$0				
5-8e		X_H28_P-3380	283.3	6	8	18.5%	27.5%	51.5%	51.5%	52.3%	\$200	\$0	\$56,654				
		X_G27_P-3399	207.4	8	12	30.8%	44.5%	81.6%	81.6%	100.0%	\$230	\$47,713	\$0				
		X_G28_P-3400	51.5	8	10	100.0%	100.0%	100.0%	100.0%	100.0%	\$210	\$10,820	\$0				Y
		X_G28_P-3401	256.4	8	10	19.6%	29.1%	53.7%	53.7%	54.7%	\$210	\$0	\$53,848				
		X_G27_PC-81	24.6	8	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$7,126	\$0				Y
		X_G27_PC-82	78.1	8	24	100.0%	100.0%	100.0%	100.0%	100.0%	\$380	\$29,673	\$0				Y
Subtotal E10			1,244.6									\$190,550	\$110,502				
E11		T_F25_P-2899	258.1	18	21	39.7%	59.5%	100.0%	100.0%	100.0%	\$330	\$85,167	\$0				
		T_F25_P-2900	97.4	15	18	21.5%	30.4%	42.1%	43.5%	45.2%	\$290	\$28,258	(a)	\$0			
Figure		T_F25_P-2910	259.2	15	24	69.9%	100.0%	100.0%	100.0%	100.0%	\$380	\$98,485	\$0				
5-8e		T_F25_P-2911	174.0	15	18	24.3%	34.7%	48.6%	50.2%	52.3%	\$290	\$0	\$50,461				
		T_F25_P-3082	255.6	18	21	28.4%	40.9%	58.7%	61.0%	63.9%	\$330	\$84,338	(a)	\$0			
		T_F25_P-3083	260.1	18	21	36.8%	54.4%	100.0%	100.0%	100.0%	\$330	\$85,836	\$0				
		T_F25_P-3106	342.9	18	21	33.0%	48.3%	72.6%	76.4%	81.8%	\$330	\$0	\$113,162				
		T_F25_P-3107	280.5	18	21	26.2%	37.6%	53.5%	55.6%	58.1%	\$330	\$92,553	(a)	\$0			
		T_F25_P-3110	67.8	8	21	100.0%	100.0%	100.0%	100.0%	100.0%	\$330	\$22,363	\$0				
		T_G25_P-3111	219.6	18	21	24.7%	35.2%	49.8%	51.7%	53.9%	\$330	\$72,478	(a)	\$0			
		T_G25_P-3113	129.7	18	27	56.8%	100.0%	100.0%	100.0%	100.0%	\$410	\$53,174	\$0				
		U_F25_P-3222	248.7	15	18	20.1%	28.5%	39.2%	40.5%	42.0%	\$290	\$72,122	(a)	\$0			
		T_F25_P-3223	274.8	15	18	26.8%	38.5%	54.5%	56.5%	58.9%	\$290	\$0	\$79,701				
		X_F25_P-525	348.9	18	21	100.0%	100.0%	100.0%	100.0%	100.0%	\$330	\$115,139	\$0				Y

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
Subtotal E11			3,217.3									\$809,912	\$243,325				
E12		A_J6_P-123	14.3	21	24	100.0%	100.0%	100.0%	100.0%	100.0%	\$380	\$5,427	\$0				Y
		A_J6_P-6428	335.7	8	12	30.7%	43.9%	74.3%	74.4%	100.0%	\$230	\$77,220	\$0				
Figure		A_K6_P-6635	208.1	8	10	21.9%	32.4%	58.1%	58.3%	62.4%	\$210	\$0	\$43,703				Y
5-8a		A_K6_P-6666	211.6	8	12	22.8%	34.0%	63.6%	63.6%	64.3%	\$230	\$0	\$48,667				Y
		A_K6_P-6667	182.2	6	12	41.0%	65.7%	100.0%	100.0%	100.0%	\$230	\$41,913	\$0				Y
		A_L7_P-6727	349.0	8	12	40.5%	67.0%	100.0%	100.0%	100.0%	\$230	\$80,267	\$0				Y
Subtotal E12			1,300.9									\$204,827	\$92,370				
E13		R_D22_P-166	369.6	8	24	100.0%	100.0%	100.0%	100.0%	100.0%	\$380	\$140,448	\$0				Y
		R_D22_P-167	303.6	8	24	100.0%	100.0%	100.0%	100.0%	100.0%	\$380	\$115,361	\$0				Y
Figure		R_D22_P-168	355.6	8	15	41.9%	65.4%	100.0%	100.0%	100.0%	\$260	\$92,460	\$0				Y
5-8d		R_D22_P-169	373.9	8	15	41.9%	65.3%	100.0%	100.0%	100.0%	\$260	\$97,212	\$0				Y
		R_E22_P-170	77.3	8	12	13.8%	19.7%	29.9%	29.9%	33.1%	\$230	\$17,771 (a)	\$0				Y
		R_F21_P-1971	189.8	8	10	19.2%	28.5%	53.4%	53.4%	60.6%	\$210	\$0	\$39,862				
		R_F21_P-1988	307.3	4	8	24.7%	37.3%	76.4%	76.4%	100.0%	\$200	\$61,462	\$0				
		R_F21_P-1989	284.3	4	8	27.9%	42.5%	100.0%	100.0%	100.0%	\$200	\$56,858	\$0				
		R_E21_P-2070	298.2	8	10	30.7%	48.1%	100.0%	100.0%	100.0%	\$210	\$62,627	\$0				Y
		R_D22_P-2154	341.7	8	15	44.1%	69.9%	100.0%	100.0%	100.0%	\$260	\$88,833	\$0				Y
		R_D22_P-2164	276.8	8	15	44.0%	69.7%	100.0%	100.0%	100.0%	\$260	\$71,965	\$0				Y
		R_D22_P-2170	270.9	8	15	24.3%	35.4%	56.9%	56.9%	64.8%	\$260	\$0	\$70,442				Y
Subtotal E13			3,449.0									\$804,998	\$110,304				
E14		G_F12_P-4976	353.2	15	18	29.9%	43.5%	66.4%	66.5%	69.7%	\$290	\$102,441	\$0				
		G_F12_P-4977	129.1	15	18	29.0%	42.2%	63.8%	63.9%	66.4%	\$290	\$0	\$37,431				
Figure		G_F11_P-4978	340.5	15	18	29.4%	42.7%	65.0%	65.1%	67.6%	\$290	\$0	\$98,737				
5-8b		G_F11_P-4990	357.0	8	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$103,519	\$0				
		G_F11_P-4992	350.0	15	18	29.4%	42.8%	65.3%	65.4%	68.0%	\$290	\$0	\$101,500				
		E_H9_P-5683	209.5	6	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$60,745	\$0				
Subtotal E14			1,739.2									\$266,705	\$237,668				
E15		E_H10_P-5374	370.6	15	21	24.7%	35.6%	54.2%	54.6%	57.3%	\$330	\$0	\$122,298				
		E_H11_P-5382	486.2	6	8	25.1%	37.5%	70.6%	70.7%	75.7%	\$200	\$97,235	\$0				Y
Figure		E_H11_P-5390	191.4	15	18	22.1%	32.3%	51.8%	52.1%	55.1%	\$290	\$0	\$55,498				
5-8b		E_H11_P-5391	156.0	6	10	29.7%	44.9%	100.0%	100.0%	100.0%	\$210	\$32,757	\$0	69			
		E_H11_P-5392	467.6	6	8	23.9%	35.6%	65.5%	65.6%	69.6%	\$200	\$0	\$93,510				Y
		E_H10_P-5398	307.1	6	10	31.2%	47.0%	100.0%	100.0%	100.0%	\$210	\$64,498	\$0				
		E_H10_P-5403	179.6	8	10	20.9%	30.2%	51.5%	51.6%	54.0%	\$210	\$0	\$37,721				
		E_H10_P-5404	209.1	6	12	38.0%	61.1%	100.0%	100.0%	100.0%	\$230	\$48,097	\$0				Y
		E_H10_P-5405	464.7	6	12	38.3%	61.6%	100.0%	100.0%	100.0%	\$230	\$106,891	\$0				Y
		E_H10_P-5406	483.6	6	15	60.2%	100.0%	100.0%	100.0%	100.0%	\$260	\$125,738	\$0				
		E_H10_P-5407	187.9	6	10	31.2%	47.0%	100.0%	100.0%	100.0%	\$210	\$39,465	\$0				
		E_H10_P-5412	268.3	15	21	34.6%	51.2%	100.0%	100.0%	100.0%	\$330	\$88,531	\$0				
		E_H10_P-5436	178.7	15	18	15.1%	21.4%	31.7%	31.8%	33.0%	\$290	\$51,826 (a)	\$0				
		E_H10_P-5437	354.7	15	18	22.1%	31.6%	48.3%	48.5%	50.6%	\$290	\$0	\$102,853				
		E_H10_P-5438	306.7	8	12	34.4%	51.0%	100.0%	100.0%	100.0%	\$230	\$70,533	\$0	28			
		E_H11_P-5439	309.9	6	8	31.5%	45.8%	72.5%	73.0%	77.2%	\$200	\$61,986	\$0				
		E_H11_P-5440	309.0	12	15	21.3%	31.0%	49.1%	49.4%	52.2%	\$260	\$0	\$80,351				
		E_H11_P-5458	151.0	6	10	14.3%	20.8%	35.3%	35.3%	37.0%	\$210	\$31,704 (a)	\$0				
		E_I11_P-5463	429.8	6	10	31.7%	48.1%	100.0%	100.0%	100.0%	\$210	\$90,268	\$0				
		E_H10_PC-21	273.2	15	21	42.4%	65.2%	100.0%	100.0%	100.0%	\$330	\$90,157	\$0				Y
Subtotal E15			6,085.1									\$999,685	\$492,232				
E16		K_E16_P-3904	422.9	10	18	40.2%	61.5%	100.0%	100.0%	100.0%	\$290	\$122,641	\$0				
		K_F16_P-3905	382.4	12	18	27.2%	39.6%	61.2%	68.1%	73.9%	\$290	\$0	\$110,910				
Figure		K_F16_P-3906	376.6	12	21	49.5%	100.0%	100.0%	100.0%	100.0%	\$330	\$124,267	\$0				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
5-8c		K_F15_P-3907	376.4	12	18	35.9%	53.7%	100.0%	100.0%	100.0%	\$290	\$109,146	\$0				
		K_F15_P-3908	19.4	12	18	17.4%	24.8%	36.3%	39.3%	41.5%	\$290	\$5,628	\$0	(a)			
		K_F15_P-3909	235.3	12	18	44.2%	69.2%	100.0%	100.0%	100.0%	\$290	\$68,226	\$0				
		K_F15_P-3910	184.1	12	18	24.1%	34.8%	52.4%	57.5%	61.4%	\$290	\$0	\$53,394				
		K_F15_P-3911	403.5	12	18	30.8%	45.2%	72.5%	100.0%	100.0%	\$680	\$274,371	\$0			Y	
		K_F15_P-3912	156.1	12	18	32.1%	47.4%	77.8%	100.0%	100.0%	\$680	\$106,133	\$0			Y	
		K_F15_P-3976	359.2	15	18	23.7%	34.2%	51.4%	56.2%	60.0%	\$290	\$0	\$104,165				
		K_F15_P-3981	277.7	15	18	26.0%	37.1%	50.9%	53.5%	58.0%	\$290	\$0	\$80,536				
		K_F15_P-3982	29.9	15	18	25.1%	35.7%	48.8%	51.3%	55.5%	\$290	\$0	\$8,660				
		K_F15_P-3983	100.5	15	18	36.2%	53.4%	100.0%	100.0%	100.0%	\$290	\$29,132	\$0				
		K_E16_P-4439	322.9	10	18	36.5%	54.8%	100.0%	100.0%	100.0%	\$290	\$93,627	\$0				
		K_E16_P-4440	288.8	10	18	35.0%	52.3%	100.0%	100.0%	100.0%	\$290	\$83,750	\$0				
		K_E16_P-4441	202.8	10	18	30.6%	45.0%	72.7%	100.0%	100.0%	\$290	\$58,801	\$0				
		K_E17_P-4442	394.3	10	18	35.1%	52.6%	100.0%	100.0%	100.0%	\$680	\$268,140	\$0			Y	
		K_E17_P-4443	206.8	10	15	31.8%	47.0%	78.8%	100.0%	100.0%	\$590	\$121,995	\$0			Y	
Subtotal E16			4,739.4									\$1,465,857	\$357,666				
E17		E_H13_P-4873	286.2	12	15	25.4%	37.4%	62.7%	62.9%	64.7%	\$260	\$0	\$74,402				
		E_H13_P-4877	268.8	10	18	45.9%	74.5%	100.0%	100.0%	100.0%	\$290	\$77,949	\$0				
Figure		E_H13_P-4878	454.4	10	15	31.0%	46.3%	100.0%	100.0%	100.0%	\$260	\$118,144	\$0	68			Y
5-8b		E_H13_P-4879	123.3	10	15	31.2%	46.7%	100.0%	100.0%	100.0%	\$260	\$32,050	\$0	68			Y
		E_H12_P-5090	545.1	8	12	29.6%	44.3%	100.0%	100.0%	100.0%	\$230	\$125,384	\$0				
		E_H12_P-5091	741.7	8	12	30.1%	44.7%	79.5%	79.9%	100.0%	\$230	\$170,597	\$0				
		E_H12_P-5092	641.0	12	15	26.8%	39.4%	66.4%	66.6%	68.7%	\$260	\$166,651	\$0				
		E_H12_P-5112	87.8	8	15	39.3%	60.5%	100.0%	100.0%	100.0%	\$260	\$22,829	\$0				
		E_H11_P-5113	451.3	8	15	39.8%	61.4%	100.0%	100.0%	100.0%	\$260	\$117,339	\$0				
		E_H11_P-5114	161.9	8	10	24.2%	35.9%	63.4%	63.5%	69.0%	\$210	\$0	\$34,002				
		E_H11_P-5115	118.2	8	10	24.3%	35.8%	60.4%	60.6%	65.7%	\$210	\$0	\$24,813				
		E_H11_P-5116	90.7	8	15	23.4%	34.1%	55.0%	55.2%	58.7%	\$260	\$0	\$23,582	26			
		E_H11_P-5117	330.0	6	10	23.2%	34.1%	58.0%	58.6%	62.4%	\$210	\$0	\$69,291				
		E_H11_P-5118	581.0	6	8	32.3%	47.7%	80.6%	80.8%	100.0%	\$200	\$116,198	\$0				
		E_H11_P-5122	296.1	6	8	26.0%	37.7%	60.5%	60.5%	63.3%	\$200	\$0	\$59,216				
		E_H11_P-5384	160.7	6	8	20.9%	30.4%	52.0%	52.1%	54.4%	\$200	\$0	\$32,139				
		E_H11_P-5426	308.2	6	8	20.9%	30.4%	52.0%	52.1%	54.4%	\$200	\$0	\$61,641				Y
Subtotal E17			5,646.3									\$947,141	\$379,086				
E18		P_B20_P-1018	282.0	6	15	30.1%	45.8%	100.0%	100.0%	100.0%	\$260	\$73,329	\$0				
Figure	5-8d	P_B20_P-296	64.1	10	18	56.4%	100.0%	100.0%	100.0%	100.0%	\$290	\$18,588	\$0				
Subtotal E18			346.1									\$91,917	\$0				
E19		E_H10_P-5347	380.8	6	15	53.7%	100.0%	100.0%	100.0%	100.0%	\$260	\$99,015	\$0				Y
Figure		E_G10_P-5351	293.7	8	15	29.8%	45.4%	100.0%	100.0%	100.0%	\$260	\$76,368	\$0				
5-8b		E_G10_P-5353	366.4	6	15	44.7%	74.4%	100.0%	100.0%	100.0%	\$260	\$95,262	\$0				Y
Subtotal E19			1,040.9									\$270,645	\$0				
E20		P_E19_P-1791	283.9	8	15	19.5%	46.3%	100.0%	100.0%	100.0%	\$260	\$73,806	\$0				
		P_E19_P-1792	125.3	8	15	19.5%	46.4%	100.0%	100.0%	100.0%	\$260	\$32,572	\$0				
Figures		P_E19_P-1793	289.1	8	18	28.4%	76.5%	100.0%	100.0%	100.0%	\$290	\$83,853	\$0				
5-8c		P_E19_P-1795	389.4	8	15	17.6%	41.3%	100.0%	100.0%	100.0%	\$260	\$101,243	\$0				
5-8d		P_E19_P-1796	190.1	8	15	18.2%	44.0%	100.0%	100.0%	100.0%	\$260	\$49,425	\$0				
		P_E20_P-1797	175.9	12	15	10.7%	24.4%	42.9%	43.0%	47.6%	\$260	\$45,742	\$0	(a)			
		P_E19_P-1923	341.5	8	15	17.3%	36.9%	75.9%	75.9%	100.0%	\$260	\$88,796	\$0				
		P_E19_P-1924	329.8	8	15	17.5%	37.3%	77.6%	77.6%	100.0%	\$260	\$85,744	\$0				
		P_E19_P-791	615.9	8	15	24.9%	56.8%	100.0%	100.0%	100.0%	\$260	\$160,133	\$0				
Subtotal E20			2,740.9									\$721,315	\$0				
E21		R_D21_P-2081	391.8	8	12	22.8%	33.5%	55.8%	55.8%	62.8%	\$230	\$0	\$90,103				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		R_D21_P-2082	291.9	8	12	27.2%	40.3%	70.8%	70.8%	100.0%	\$230	\$67,136	\$0				
<i>Figure</i>		R_D21_P-2083	313.3	8	12	26.5%	39.2%	68.4%	68.4%	80.6%	\$230	\$72,050	\$0				
<i>5-8d</i>		R_D21_P-2084	84.2	8	12	28.0%	41.6%	74.8%	74.8%	100.0%	\$230	\$19,368	\$0				
		R_E21_P-2085	176.2	8	12	30.7%	46.0%	100.0%	100.0%	100.0%	\$230	\$40,522	\$0				
		R_E21_P-2087	258.6	8	12	28.3%	42.2%	78.3%	78.3%	100.0%	\$230	\$59,482	\$0				
		R_E21_P-2089	251.1	8	12	26.4%	39.2%	70.8%	70.8%	100.0%	\$230	\$57,763	\$0				
		R_E21_P-2090	270.7	8	12	25.9%	38.5%	69.3%	69.3%	100.0%	\$230	\$62,255	\$0				
Subtotal E21			2,037.7									\$378,576	\$90,103				
E22		U_G26_P-3099	283.8	8	15	26.8%	43.2%	100.0%	100.0%	100.0%	\$260	\$73,784	\$0				
<i>Figure</i>		U_G26_P-3138	343.1	8	12	17.6%	27.6%	51.1%	51.6%	76.3%	\$230	\$0	\$78,913				
<i>5-8e</i>		U_G26_P-3150	344.9	8	10	57.0%	100.0%	100.0%	100.0%	100.0%	\$210	\$72,432	\$0				Y
Subtotal E22			971.8									\$146,216	\$78,913				
E23		Q_H22_P-2575	293.5	8	12	32.6%	49.1%	100.0%	100.0%	100.0%	\$230	\$67,505	\$0				
		Q_H22_P-2576	296.5	8	15	41.7%	65.6%	100.0%	100.0%	100.0%	\$260	\$77,086	\$0				
<i>Figure</i>		Q_G22_P-2577	347.7	8	18	77.1%	100.0%	100.0%	100.0%	100.0%	\$290	\$100,823	\$0				
<i>5-8d</i>		Q_G22_P-2578	116.8	8	18	31.9%	47.8%	100.0%	100.0%	100.0%	\$290	\$33,863	\$0				
		Q_H22_P-543	260.1	8	10	18.8%	27.8%	50.6%	50.6%	50.8%	\$210	\$0	\$54,615				
		Q_H22_P-554	352.0	8	10	25.2%	37.5%	68.9%	68.9%	69.3%	\$210	\$73,921	\$0				
		Q_H22_P-555	347.6	8	10	19.2%	28.2%	48.4%	48.4%	48.6%	\$210	\$73,003 (a)	\$0				
Subtotal E23			2,014.1									\$426,202	\$54,615				
E24		K_G16_P-1380	268.9	8	10	44.7%	76.8%	100.0%	100.0%	100.0%	\$210	\$56,463	\$0				Y
		K_G16_P-1411	267.2	8	18	52.3%	100.0%	100.0%	100.0%	100.0%	\$290	\$77,501	\$0				
<i>Figure</i>		K_F15_P-3962	385.4	8	12	29.2%	43.5%	79.1%	79.1%	100.0%	\$230	\$88,632	\$0				
<i>5-8c</i>		K_F15_P-3963	317.4	8	12	29.8%	44.5%	100.0%	100.0%	100.0%	\$230	\$73,003	\$0				
		K_G15_P-3964	316.9	8	12	30.5%	45.5%	100.0%	100.0%	100.0%	\$230	\$72,894	\$0				
		K_G15_P-3965	317.2	8	12	30.3%	45.3%	100.0%	100.0%	100.0%	\$230	\$72,960	\$0				Y
		K_F15_P-3974	101.8	6	12	30.9%	46.7%	100.0%	100.0%	100.0%	\$230	\$23,418	\$0				Y
		K_F15_P-3975	88.7	6	12	17.8%	25.7%	41.3%	41.3%	46.2%	\$230	\$20,412 (a)	\$0				Y
		K_G15_P-4012	261.8	8	10	13.7%	20.3%	39.0%	39.0%	70.7%	\$210	\$0	\$54,977				
		K_G15_P-4016	241.3	8	10	21.6%	31.8%	55.3%	55.3%	56.7%	\$210	\$0	\$50,675				Y
		K_G15_P-4017	269.3	8	10	8.9%	13.0%	23.5%	23.5%	35.1%	\$210	\$56,556 (a)	\$0				
		K_G15_P-4019	204.4	8	12	27.6%	41.1%	75.6%	75.6%	100.0%	\$230	\$47,013	\$0				Y
		K_G15_P-4020	109.9	8	10	12.5%	18.0%	29.0%	29.0%	33.0%	\$210	\$23,074 (a)	\$0				Y
		K_G15_P-4026	350.2	8	10	7.5%	11.0%	20.2%	20.2%	20.4%	\$210	\$73,540 (a)	\$0	7			Y
		K_G15_P-4030	172.0	8	10	20.1%	30.3%	62.6%	62.6%	63.3%	\$210	\$0	\$36,126				
Subtotal E24			3,672.5									\$685,464	\$141,778				
E25		L_E14_P-4075	267.5	27	54	61.9%	100.0%	100.0%	100.0%	100.0%	\$1,050	\$280,901	\$0				
		L_E14_P-4110	106.6	10	15	30.0%	44.0%	69.4%	69.6%	71.0%	\$260	\$27,713	\$0				
<i>Figure</i>		L_E14_P-4127	284.6	27	30	37.8%	55.0%	75.8%	78.8%	100.0%	\$450	\$128,084	\$0				
<i>5-8b</i>		L_E14_P-4128	278.8	27	30	28.9%	41.1%	53.3%	54.7%	58.5%	\$1,080	\$301,115	\$0		Y		
		L_E14_P-95	50.7	15	18	24.5%	35.4%	53.6%	53.6%	54.6%	\$290	\$14,716	\$0				Y
Subtotal E25			988.3									\$752,529	\$0				
E26		E_H12_P-4946	148.7	6	8	24.5%	36.5%	68.5%	68.5%	100.0%	\$200	\$29,746	\$0				
		E_H12_P-5065	449.1	6	10	30.4%	45.9%	100.0%	100.0%	100.0%	\$210	\$94,308	\$0				
<i>Figure</i>		E_H12_P-5096	501.4	6	10	29.6%	44.6%	100.0%	100.0%	100.0%	\$210	\$105,295	\$0				
<i>5-8b</i>		E_H12_P-5097	238.2	6	10	31.2%	47.2%	100.0%	100.0%	100.0%	\$210	\$50,013	\$0				
		E_H12_P-5099	431.7	6	10	33.5%	51.2%	100.0%	100.0%	100.0%	\$210	\$90,661	\$0				
		E_H12_P-5110	173.1	6	10	31.5%	47.7%	100.0%	100.0%	100.0%	\$210	\$36,347	\$0				
		E_H12_P-5130	490.4	6	10	32.7%	50.0%	100.0%	100.0%	100.0%	\$210	\$102,989	\$0		Y		
		E_H12_P-5234	310.1	6	8	23.5%	34.9%	63.6%	63.6%	74.1%	\$200	\$0	\$62,020				
		E_H12_P-5237	311.3	6	8	22.4%	33.2%	60.3%	60.3%	70.5%	\$200	\$0	\$62,266				
		E_H12_P-5238	308.3	6	8	23.1%	34.2%	62.3%	62.3%	72.6%	\$200	\$0	\$61,663				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		E_H13_PC-17	269.5	6	10	26.3%	39.4%	77.4%	77.4%	100.0%	\$210	\$56,586	\$0				Y
Subtotal E26			3,631.8									\$565,943	\$185,949				
E27		O_G20_P-1087	136.1	10	15	28.7%	43.2%	100.0%	100.0%	100.0%	\$260	\$35,374	\$0				
		Q_F19_P-1744	205.4	12	18	38.3%	57.3%	100.0%	100.0%	100.0%	\$290	\$59,579	\$0				
<i>Figure</i>		Q_E20_P-1749	14.6	8	18	50.4%	70.7%	100.0%	100.0%	100.0%	\$290	\$4,231	\$0	60			
<i>5-8d</i>		Q_E20_P-1790	192.4	8	10	26.1%	38.7%	69.5%	69.5%	74.2%	\$210	\$40,405	\$0				
		Q_E20_P-1794	402.0	12	18	51.2%	72.3%	100.0%	100.0%	100.0%	\$290	\$116,593	\$0				
		Q_E20_P-1798	137.2	12	18	27.3%	39.3%	56.4%	56.5%	60.9%	\$290	\$0	\$39,785				
		Q_F20_P-1799	373.8	12	18	35.1%	51.7%	81.1%	81.4%	100.0%	\$290	\$108,412	\$0				
		Q_F19_P-1800	245.3	12	18	48.0%	76.7%	100.0%	100.0%	100.0%	\$290	\$71,136	\$0				
		Q_F19_P-1801	299.8	8	10	24.1%	36.0%	67.4%	67.4%	73.8%	\$210	\$62,965	\$0				
		Q_E20_P-1806_2	77.5	12	21	77.4%	100.0%	100.0%	100.0%	100.0%	\$330	\$25,564	\$0				Y
		Q_E20_P-1807	166.1	12	15	29.7%	39.6%	53.0%	54.0%	56.6%	\$260	\$0	\$43,176				Y
		Q_E20_P-1808	428.1	12	21	33.2%	44.5%	60.7%	60.8%	64.0%	\$330	\$0	\$141,267				Y
		Q_E20_P-1809	449.5	15	21	52.3%	75.7%	100.0%	100.0%	100.0%	\$330	\$148,341	\$0				Y
		Q_E20_P-1812	275.1	10	15	35.5%	47.9%	66.1%	67.6%	71.7%	\$260	\$71,521	\$0				Y
		Q_D20_P-1814	121.8	10	15	43.1%	59.6%	100.0%	100.0%	100.0%	\$260	\$31,669	\$0				Y
		Q_D20_P-1818	42.3	10	15	36.2%	49.1%	68.0%	70.4%	74.8%	\$260	\$10,995	\$0				Y
		Q_D20_P-1821	363.5	10	15	41.4%	57.2%	100.0%	100.0%	100.0%	\$260	\$94,511	\$0				Y
		P_C20_P-2237	314.0	12	15	29.3%	39.2%	52.3%	54.3%	56.7%	\$260	\$0	\$81,639				
		P_C20_P-2238	162.8	12	15	33.5%	45.2%	61.5%	64.1%	67.3%	\$260	\$0	\$42,327				
		Q_C20_P-359	299.4	12	15	35.2%	47.8%	65.7%	68.6%	72.5%	\$260	\$0	\$77,838				
		Q_D20_P-361	1,297.2	12	15	34.0%	45.9%	62.6%	65.3%	68.7%	\$260	\$0	\$337,283				
		Q_E20_PC-9	264.0	12	18	40.7%	54.4%	72.9%	73.0%	77.6%	\$290	\$76,563	\$0				
Subtotal E27			6,267.9									\$957,861	\$763,316				
E28		D_H7_P-5936	345.6	8	10	17.6%	25.9%	46.5%	46.5%	53.4%	\$210	\$0	\$72,566	13			
		D_H7_P-5941	288.1	8	12	29.0%	43.9%	100.0%	100.0%	100.0%	\$230	\$66,267	\$0				
<i>Figure</i>		B_H7_P-6199	430.6	8	12	22.0%	32.6%	58.7%	60.2%	67.1%	\$230	\$0	\$99,042				
<i>5-8a</i>		D_H7_P-994	340.5	8	10	12.5%	18.2%	30.8%	31.1%	34.1%	\$210	\$71,501 (a)	\$0				
Subtotal E28			1,404.8									\$137,769	\$171,608				
E29		P_D17_P-3829	345.8	8	15	27.1%	41.6%	100.0%	100.0%	100.0%	\$260	\$89,901	\$0				Y
		L_D16_P-3865	309.6	8	15	25.4%	38.8%	100.0%	100.0%	100.0%	\$260	\$80,487	\$0				
<i>Figure</i>		L_E16_P-3884	102.6	8	12	26.7%	41.8%	100.0%	100.0%	100.0%	\$230	\$23,604	\$0				Y
<i>5-8c</i>		L_D15_P-3896	339.0	8	15	19.7%	38.3%	100.0%	100.0%	100.0%	\$260	\$88,151	\$0				Y
		L_E15_P-3899	280.5	8	8	Calcium Deposits are restricting flow					\$200	\$56,102 (d)	\$0				
		L_E15_P-3900	274.8	8	8	Calcium Deposits are restricting flow					\$200	\$54,961 (d)	\$0				
		L_E15_P-3901	285.8	8	8	Calcium Deposits are restricting flow					\$200	\$57,156 (d)	\$0				
		L_E15_P-3902	239.4	8	8	Calcium Deposits are restricting flow					\$200	\$47,886 (d)	\$0				Y
		L_E15_P-3916	360.8	8	8	Calcium Deposits are restricting flow					\$200	\$72,154 (d)	\$0				Y
		L_E15_P-3922	300.0	8	8	Calcium Deposits are restricting flow					\$200	\$60,007 (d)	\$0				Y
		L_E15_P-3929	346.6	8	8	Calcium Deposits are restricting flow					\$200	\$69,330 (d)	\$0				Y
		L_D15_P-3898	288.2	8	8	Calcium Deposits are restricting flow					\$200	\$57,634 (d)	\$0				
Subtotal E29			3,473.2									\$757,373	\$0				
E30		X_H26_P-3563	284.3	8	12	32.0%	44.8%	100.0%	100.0%	100.0%	\$230	\$65,386	\$0				
<i>Figure</i>		U_H26_P-3577	264.4	8	15	36.6%	57.3%	100.0%	100.0%	100.0%	\$260	\$68,746	\$0				
<i>5-8e</i>		U_H26_P-586	334.8	8	15	34.1%	53.0%	100.0%	100.0%	100.0%	\$260	\$87,047	\$0				
Subtotal E30			883.5									\$221,180	\$0				
E31		R_C21_P-2210	72.6	18	21	33.2%	49.5%	100.0%	100.0%	100.0%	\$330	\$23,974	\$0				
		P_C21_P-284	402.0	36	42	46.5%	71.4%	100.0%	100.0%	100.0%	\$740	\$297,480	\$0				Y
<i>Figure 5-8d</i>																	
Subtotal E31			474.6									\$321,454	\$0				
E32		W_K28_P-160	231.1	8	10	32.9%	52.5%	100.0%	100.0%	100.0%	\$210	\$48,533	\$0				Y

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
<i>Figure 5-8e</i>																	
Subtotal E32			231.1									\$48,533	\$0				
E33		J_I18_P-1510	107.0	8	10	100.0%	100.0%	100.0%	100.0%	100.0%	\$210	\$22,464	\$0				Y
<i>Figure 5-8c</i>																	
Subtotal E33			107.0									\$22,464	\$0				
E34		Q_F21_P-1717	358.0	10	12	20.8%	30.3%	49.2%	49.2%	53.9%	\$230	\$0	\$82,331				
		Q_F21_P-1719	16.6	8	12	34.2%	51.9%	100.0%	100.0%	100.0%	\$230	\$3,829	\$0				Y
<i>Figure 5-8d</i>																	
		Q_F21_P-1720	253.4	8	12	34.7%	52.6%	100.0%	100.0%	100.0%	\$230	\$58,283	\$0				
		Q_F21_P-1721	276.0	10	15	32.1%	47.7%	100.0%	100.0%	100.0%	\$260	\$71,766	\$0				
		Q_F21_P-1722	332.7	10	15	33.9%	50.6%	100.0%	100.0%	100.0%	\$260	\$86,489	\$0				
		Q_F21_P-1723	184.9	10	15	34.6%	51.7%	100.0%	100.0%	100.0%	\$260	\$48,076	\$0				Y
		Q_F21_P-1724	332.3	10	15	35.6%	53.4%	100.0%	100.0%	100.0%	\$260	\$86,398	\$0				
		Q_F21_P-1737	405.0	10	15	34.8%	52.1%	100.0%	100.0%	100.0%	\$260	\$105,301	\$0				
		Q_F20_P-1739	36.0	12	15	26.4%	38.3%	58.4%	58.5%	62.4%	\$260	\$0	\$9,363				
		Q_F20_P-1740	258.9	12	15	28.2%	41.2%	63.8%	64.0%	68.6%	\$260	\$0	\$67,326				
		Q_F20_P-1745	390.3	12	18	34.1%	50.2%	79.4%	79.7%	100.0%	\$290	\$113,180	\$0				
		Q_F20_P-1746	419.6	12	18	34.6%	51.0%	81.5%	81.8%	100.0%	\$290	\$121,692	\$0				
		Q_F20_P-1747	366.4	12	18	33.4%	49.0%	76.3%	76.5%	100.0%	\$290	\$106,256	\$0				
		Q_F20_P-1748	394.5	12	18	34.0%	50.0%	78.9%	79.2%	100.0%	\$290	\$114,413	\$0				
		Q_F21_PC-36	150.4	10	15	34.1%	50.8%	100.0%	100.0%	100.0%	\$260	\$39,102	\$0				Y
Subtotal E34			4,175.1									\$954,785	\$159,020				
E35		K_F14_P-3985	338.0	10	15	33.7%	50.3%	100.0%	100.0%	100.0%	\$260	\$87,879	\$0				
		K_F14_P-4091	352.4	18	21	32.4%	46.9%	65.8%	68.7%	76.0%	\$330	\$0	\$116,277				
<i>Figures 5-8b</i>																	
		K_F14_P-4092	349.4	18	21	33.0%	47.8%	67.3%	70.4%	78.3%	\$330	\$0	\$115,295				
		K_F14_P-4093	71.1	18	21	32.5%	47.0%	65.8%	68.8%	76.2%	\$330	\$0	\$23,464				
<i>5-8c</i>																	
		K_E14_P-4094	354.6	18	24	41.7%	62.6%	100.0%	100.0%	100.0%	\$380	\$134,765	\$0				
		K_E14_P-4096	354.3	18	21	38.6%	57.0%	100.0%	100.0%	100.0%	\$330	\$116,917	\$0				
Subtotal E35			1,819.8									\$339,560	\$255,037				
E36		O_G17_P-1068	272.8	8	15	36.4%	55.3%	100.0%	100.0%	100.0%	\$260	\$70,931	\$0				
		O_G17_P-1069	270.7	12	18	29.9%	43.9%	70.1%	70.1%	76.9%	\$290	\$78,504	\$0				
<i>Figure 5-8c</i>																	
		O_G17_P-1070	264.6	8	15	27.2%	40.1%	63.7%	63.7%	68.5%	\$260	\$0	\$68,790				
		O_G17_P-1143	271.6	8	15	39.7%	61.3%	100.0%	100.0%	100.0%	\$260	\$70,617	\$0				
		O_G17_P-1145	276.7	8	12	13.3%	19.9%	71.0%	71.0%	100.0%	\$230	\$63,646	\$0				
		O_G17_P-1149	188.5	8	10	31.4%	46.8%	71.1%	71.1%	74.2%	\$210	\$39,576	\$0				Y
		O_G17_P-1150	280.4	8	10	27.1%	40.0%	58.4%	58.4%	60.4%	\$210	\$0	\$58,882				Y
		O_G17_P-1152	273.4	8	10	25.8%	37.9%	54.9%	54.9%	56.7%	\$210	\$0	\$57,415				Y
		O_H17_P-1153	282.3	8	10	25.1%	36.9%	53.2%	53.2%	54.9%	\$210	\$0	\$59,277				Y
		O_H17_P-1154	86.9	8	12	37.2%	56.9%	100.0%	100.0%	100.0%	\$230	\$19,993	\$0				
		O_H18_P-1155	90.2	8	12	35.8%	54.3%	100.0%	100.0%	100.0%	\$230	\$20,753	\$0				
		N_H18_P-1191	323.4	8	10	26.7%	39.3%	66.4%	66.4%	74.2%	\$210	\$67,919	\$0				Y
		N_H18_P-1194	169.6	8	10	25.5%	37.5%	62.5%	62.5%	69.3%	\$210	\$0	\$35,620				
		O_H18_P-1195	318.2	8	12	31.9%	47.7%	100.0%	100.0%	100.0%	\$230	\$73,193	\$0				
		O_H18_P-1196	158.6	8	12	33.6%	50.6%	100.0%	100.0%	100.0%	\$230	\$36,476	\$0				
		O_G17_P-1387	286.5	12	18	32.6%	48.3%	81.2%	81.2%	100.0%	\$290	\$83,096	\$0				
Subtotal E36			3,814.5									\$624,705	\$279,984				
E37		K_F17_P-2043	61.6	10	15	25.6%	37.5%	61.0%	68.6%	72.5%	\$260	\$0	\$16,005				
		K_F18_P-2044	392.4	8	12	31.4%	46.8%	100.0%	100.0%	100.0%	\$230	\$90,257	\$0				
<i>Figure 5-8c</i>																	
		K_F18_P-2053	367.8	8	12	26.8%	39.6%	68.3%	100.0%	100.0%	\$230	\$84,587	\$0				
		K_F18_P-2054	364.5	8	12	27.2%	40.2%	69.9%	100.0%	100.0%	\$230	\$83,836	\$0				
		K_F18_P-2055	383.8	8	12	27.8%	41.2%	72.2%	100.0%	100.0%	\$230	\$88,277	\$0				
		K_E17_P-4444	202.7	10	15	27.9%	41.0%	67.8%	76.9%	100.0%	\$260	\$52,707	\$0				
		K_E17_P-4445	84.7	10	15	31.2%	46.4%	81.9%	100.0%	100.0%	\$260	\$22,013	\$0				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		K_E17_P-4446	275.9	10	15	30.5%	45.3%	78.5%	100.0%	100.0%	\$260	\$71,730	\$0				
		K_E17_P-4447	214.6	10	15	19.8%	28.6%	44.4%	48.6%	50.6%	\$260	\$0	\$55,806				
		K_F17_P-4448	537.8	10	15	31.2%	46.4%	100.0%	100.0%	100.0%	\$260	\$139,819	\$0				
		K_E17_P-4449	122.6	8	15	29.2%	43.7%	100.0%	100.0%	100.0%	\$260	\$31,886	\$0				
		K_G18_P-821	169.8	8	10	18.7%	28.9%	72.2%	72.2%	72.2%	\$210	\$35,662	\$0				Y
		K_F19_P-839	304.2	8	10	16.1%	23.7%	41.7%	55.1%	57.9%	\$210	\$0	\$63,889				
		K_F18_P-840	331.0	8	10	13.9%	20.3%	35.3%	45.9%	48.0%	\$210	\$69,510	(a)	\$0			
		K_F18_P-847	85.1	8	12	25.2%	37.3%	67.1%	100.0%	100.0%	\$230	\$19,584	\$0				
		K_F18_P-848	325.2	8	12	23.4%	34.6%	60.7%	74.6%	78.6%	\$230	\$0	\$74,793				
		K_F18_P-849	268.5	8	12	23.4%	34.5%	60.6%	74.4%	78.4%	\$230	\$0	\$61,746				
		K_F18_P-850	263.2	8	12	21.4%	31.2%	51.9%	61.6%	63.4%	\$230	\$0	\$60,527				
		K_F18_P-852	163.1	8	12	28.0%	41.6%	74.8%	100.0%	100.0%	\$230	\$37,515	\$0				
		K_F18_P-853	296.5	8	12	30.1%	45.1%	100.0%	100.0%	100.0%	\$230	\$68,194	\$0				
Subtotal E37			5,215.0									\$895,577	\$332,766				
E38		F_F10_P-5310	181.5	10	15	25.7%	38.6%	76.2%	77.2%	100.0%	\$260	\$47,202	\$0				
		F_F10_P-5311	202.3	10	15	24.8%	37.1%	72.3%	73.2%	100.0%	\$260	\$52,593	\$0				
Figure		F_F10_P-5314	91.5	8	15	29.7%	45.1%	100.0%	100.0%	100.0%	\$260	\$23,778	\$0				
5-8b		F_F10_P-5329	188.5	10	15	24.6%	37.0%	74.1%	75.3%	100.0%	\$260	\$48,997	\$0				
		F_F10_P-5330	189.4	10	15	23.2%	34.7%	66.5%	67.3%	76.7%	\$260	\$49,234	\$0				
Subtotal E38			853.1									\$221,804	\$0				
E39		A_L7_P-6462	135.6	8	12	22.8%	33.8%	60.9%	60.9%	65.4%	\$230	\$0	\$31,191				
		A_L7_P-6463	238.5	8	15	32.1%	49.0%	100.0%	100.0%	100.0%	\$260	\$62,015	\$0				
Figure		A_L7_P-6615	258.4	6	8	25.9%	38.7%	73.6%	73.6%	78.4%	\$200	\$51,685	\$0				
5-8a		A_L7_P-6688	144.0	8	12	31.1%	47.1%	100.0%	100.0%	100.0%	\$230	\$33,123	\$0				
		A_K7_P-6692	147.6	8	10	23.7%	35.1%	63.2%	63.2%	68.5%	\$210	\$0	\$31,002				
		A_K7_P-6694	294.3	8	10	17.8%	26.1%	44.4%	44.4%	47.3%	\$210	\$61,805	(a)	\$0			Y
		A_K7_P-6696	140.0	8	10	23.2%	34.3%	61.1%	61.1%	65.9%	\$210	\$0	\$29,394				
		A_K7_P-6718	316.3	8	12	27.6%	41.3%	77.6%	77.6%	100.0%	\$230	\$72,755	\$0				
		A_K7_P-6719	312.2	8	12	28.1%	42.1%	80.6%	80.6%	100.0%	\$230	\$71,806	\$0				
		A_K7_P-6720	31.9	8	12	26.2%	39.0%	71.4%	71.4%	77.8%	\$230	\$7,326	\$0				Y
		A_K7_P-6722	142.9	8	10	24.8%	36.9%	67.1%	67.1%	73.0%	\$210	\$30,017	\$0				Y
		A_K7_P-6724	192.2	8	12	25.3%	37.6%	68.5%	68.5%	74.6%	\$230	\$44,213	\$0				Y
		A_K7_P-6724_2	129.9	8	12	25.5%	37.9%	69.3%	69.3%	75.4%	\$230	\$29,876	\$0				Y
		A_K7_P-6725	183.2	8	10	23.9%	35.5%	63.6%	63.6%	68.7%	\$210	\$0	\$38,462				Y
Subtotal E39			2,667.1									\$464,621	\$130,048				
E40		G_F12_P-4619	628.2	15	18	27.6%	40.5%	65.4%	65.5%	67.4%	\$290	\$0	\$182,189				
		G_F12_P-4637	282.2	15	18	26.2%	38.2%	61.1%	61.2%	62.9%	\$290	\$0	\$81,824				
Figure		G_F12_P-4639	288.7	15	18	27.9%	41.0%	67.1%	67.3%	68.9%	\$290	\$83,727	\$0				
5-8b		G_F12_P-4659	164.5	15	18	35.2%	52.7%	100.0%	100.0%	100.0%	\$290	\$47,693	\$0				
		G_F12_P-4995	237.5	15	18	29.9%	43.9%	71.4%	71.6%	74.4%	\$290	\$68,862	\$0				Y
		G_F12_P-4996	312.0	15	18	30.9%	45.6%	75.4%	75.6%	79.1%	\$290	\$90,472	\$0				Y
		G_F11_P-4997	778.5	15	18	31.0%	45.7%	75.5%	75.7%	79.2%	\$290	\$225,756	\$0				
		G_F12_P-4998	270.1	15	18	30.9%	45.6%	75.5%	75.7%	79.2%	\$290	\$78,327	\$0				Y
Subtotal E40			2,961.6									\$594,837	\$264,013				
E41		S_H23_P-2778	367.8	8	12	26.8%	40.0%	74.8%	74.8%	76.8%	\$230	\$84,600	\$0	12			
		S_H23_P-2779	362.5	8	12	27.1%	40.6%	76.5%	76.5%	78.6%	\$230	\$83,374	\$0	12			
Figure		S_H23_P-2782	329.4	8	12	26.4%	39.4%	73.2%	73.2%	75.0%	\$230	\$75,759	\$0	12			
5-8e		S_H23_P-2783	53.5	8	10	18.9%	27.7%	47.2%	47.2%	48.0%	\$210	\$11,231	(a)	\$0	8		
		S_H23_P-2784	141.7	8	10	22.9%	34.0%	60.8%	60.8%	62.2%	\$210	\$0	\$29,761	10			
Subtotal E41			1,254.9									\$254,965	\$29,761				
E42		I_H13_P-4843	633.7	6	8	15.9%	23.5%	43.8%	43.8%	44.4%	\$200	\$126,741	(a)	\$0			Y
		I_G13_P-4844	255.8	6	8	18.3%	27.3%	51.0%	51.0%	51.7%	\$200	\$0	\$51,161				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
<i>Figure</i>		I_G13_P-4845	202.3	6	8	23.6%	35.4%	69.8%	69.8%	71.0%	\$200	\$40,455	\$0				Y
<i>5-8b</i>		I_G13_P-4847	80.5	6	8	14.1%	20.7%	36.9%	36.9%	37.3%	\$200	\$16,096	(a)	\$0			Y
		I_H13_PC-16	210.1	8	10	22.9%	34.5%	71.3%	71.3%	72.8%	\$210	\$44,128	\$0				Y
Subtotal E42			1,382.4									\$227,420	\$51,161				

Notes:

- (a) Pipe was not found deficient.
- (b) Modeled assuming improvements from 2005 Study were implemented. Actual existing diameter is in parenthesis. Existing d/D ratio is assumed to be 66% for D<15" and 75% for D>15".
- (c) Not found deficient, but was in the 2005 Study. Pipe should be evaluated for improvements. d/D ratio is assumed to be 66% for D<15" and 75% for D>15".
- (d) City Staff indicate that permanent deposits have reduced the pipeline capacity; pipe should be considered for improvement.

The existing Seaside Transfer Station does not have capacity for existing peak wet weather flows. Estimated cost for improving this lift station is presented in Table 5-13. Anticipated improvements include replacing the two existing pumps and motors and upgrading electrical equipment and appurtenances. The estimated cost assumes that the new pumps could be sized for ultimate wet weather conditions with one pump as standby. During the preliminary design, the wet well capacity should be further evaluated.

**TABLE 5-13
RECOMMENDED EXISTING LIFT STATION AND FORCE MAIN CAPITAL
IMPROVEMENTS AND ESTIMATES OF PROBABLE COST**

Name	Existing Firm Capacity (gpm)	Future Firm Capacity (gpm)	Estimated Cost
Seaside Transfer Station	4,200	6,350	\$315,000
Seaside Transfer Station Force Main	5,400	7,050	\$6,300,000

With the recommended improvements to the Seaside Transfer Station, the existing Seaside Transfer Station force main will not have sufficient capacity to maintain velocities below 5 fps. This improvement is not necessary until new pumps are installed. However, given the reported condition of the force main, any repair activities should consider upsizing the current 21-inch diameter force main. The total estimated cost to install this pipeline is approximately \$6.3 million (assuming a 24-inch replacement pipeline).

5.5.4 Near-term Collection System Improvement Recommendations

The capital improvement recommendations for the near-term development condition were based on the results of the system evaluation and hydraulic analysis as described in Section 5.3. These capital improvement recommendations for the sewer pipelines are summarized in Table 5-14 and displayed in Figures 5-8a to 5-8e. Exhibit 5 presents the recommendations for the entire collection system. Table 5-14 provides a cost summary for all near-term sewer pipeline projects. Prior to implementing any near-term projects it is recommended that local flow monitoring be conducted to confirm the dry weather and peak wet weather flows.

In addition to sewer pipeline improvements, the existing North Bank Lift Station may not have capacity for near-term peak wet weather flows. Estimated cost for installing a fourth pump and motor, including electrical, is approximately \$63,000. Anticipated improvements include the materials and installation of the new pump and motor.

**TABLE 5-14
RECOMMENDED NEAR-TERM GRAVITY SEWER CAPITAL IMPROVEMENTS**

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
N101		A_J7_P-6150	620	12	15	22.1%	32.4%	53.7%	54.3%	60.6%	\$260	\$0	\$161,144				
		A_M8_P-6482	247	8	12	22.2%	32.9%	59.3%	59.3%	81.7%	\$230	\$0	\$56,756				
<i>Figure</i>		A_M8_P-6485	249	8	12	22.6%	33.6%	60.7%	60.7%	100.0%	\$230	\$0	\$57,161				
<i>5-8a</i>		A_M8_P-6486	229	8	12	21.3%	31.4%	55.7%	55.7%	73.0%	\$230	\$0	\$52,711				
		A_M8_P-6487	242	8	12	25.1%	37.3%	68.0%	100.0%	100.0%	\$230	\$55,576	\$0				
		A_M8_P-6488	246	8	12	25.4%	37.8%	69.2%	100.0%	100.0%	\$230	\$56,548	\$0				
		A_M7_P-6489	177	8	12	19.4%	28.5%	48.7%	57.5%	68.9%	\$230	\$0	\$40,777				
	U42	A_N7_P-6583	303	12	15	17.6%	25.7%	43.6%	49.1%	51.3%	\$260	\$0	\$78,866				
		A_N7_P-6585	360	8	10	21.4%	31.6%	55.9%	64.9%	68.5%	\$210	\$0	\$75,694				
		A_N7_P-6586	99	8	10	22.1%	32.7%	58.2%	67.9%	71.9%	\$210	\$0	\$20,775	80			
	U40	A_L7_P-6606	121	12	18	27.0%	39.5%	63.9%	71.8%	100.0%	\$290	\$0	\$35,032				Y
	U42	A_N7_P-6584	150	10 (8)	10	50%	50%	50%	50%	50%	\$210	\$0	\$31,562				
Subtotal N101			2,892.5									\$112,124	\$578,916				
N102	NT23	C_I7_P-6071_2	226	6	8	15.5%	23.1%	45.3%	52.1%	53.1%	\$200	\$0	\$45,252				Y
	NT22	C_H6_P-6170	403	8	10	10.1%	15.0%	29.5%	64.8%	65.7%	\$490	\$0	\$197,475		Y		
<i>Figure</i>		B_H6_P-6179	308	24	27	35.0%	50.4%	73.5%	76.0%	100.0%	\$410	\$0	\$126,316				
<i>5-8a</i>		C_I6_P-6225	463	6	10	11.5%	17.3%	34.5%	34.5%	100.0%	\$210	\$0	\$97,191				
	NT21	B_I6_P-6259	231	10	12	18.1%	26.6%	46.2%	50.3%	54.3%	\$230	\$0	\$53,047				
		B_H6_P-6273	337	6	8	6.5%	9.8%	21.9%	57.5%	57.5%	\$200	\$0	\$67,310				Y
	NT21	B_H6_P-6274	228	10	12	18.5%	27.2%	47.3%	59.3%	63.0%	\$230	\$0	\$52,546				
		B_I6_P-6281	31	6	10	24.3%	37.3%	100.0%	100.0%	100.0%	\$210	\$6,478	\$0				Y
		C_I7_PC-49	31	10	12	41.4%	68.1%	100.0%	100.0%	100.0%	\$230	\$7,196	\$0				Y
	NT23	C_H7_P-5954	279	8	10	50%	50%	50%	50%	50%	\$490	\$0	\$136,652		Y		
	NT23	C_I7_P-6104	182	6	8	50%	50%	50%	50%	50%	\$200	\$0	\$36,481				
	NT23	C_I7_P-6057	468	6	10	50%	50%	50%	50%	50%	\$210	\$0	\$98,288				
	NT23	C_I7_P-6071	229	6	8	50%	50%	50%	50%	50%	\$200	\$0	\$45,895				Y
	NT23	C_I7_P-6101	180	6	8	50%	50%	50%	50%	50%	\$200	\$0	\$36,037				
	NT23	C_I7_P-6103	111	6	8	50%	50%	50%	50%	50%	\$200	\$0	\$22,248				
	NT23	C_I7_PC-45	42	6	8	50%	50%	50%	50%	50%	\$200	\$0	\$8,484				
	NT22	C_H7_P-5949	409	18 (12)	18	50%	50%	50%	50%	50%	\$290	\$0	\$118,722				
	NT22	B_H6_P-6162	25	18 (12)	18	50%	50%	50%	50%	50%	\$290	\$0	\$7,385				
	NT22	B_H6_P-6184	433	12	18	50%	50%	50%	50%	50%	\$290	\$0	\$125,614	72			
	NT22	C_H7_P-5951	47	15 (10)	15	50%	50%	50%	50%	50%	\$260	\$0	\$12,194	30			
Subtotal N102			4,665.5									\$13,674	\$1,287,135				
N103		G_G12_P-4649	368	8	10	17.2%	24.9%	40.9%	41.0%	42.6%	\$210	\$0	\$77,195				
		G_G12_P-4650	417	8	10	24.2%	35.8%	64.6%	64.7%	68.0%	\$210	\$0	\$87,495				
<i>Figure</i>		G_G12_P-4651	248	8	10	21.2%	31.2%	54.5%	54.6%	57.0%	\$210	\$0	\$52,151				
<i>5-8b</i>		G_G13_P-4823	417	10	12	19.9%	29.2%	50.0%	50.2%	51.4%	\$230	\$0	\$96,023				
		G_G13_P-4857	71	10	12	14.0%	20.3%	33.6%	33.7%	34.4%	\$230	\$0	\$16,219				
		G_G13_P-4858	290	10	12	20.9%	30.7%	52.7%	52.8%	54.7%	\$230	\$0	\$66,601				
		G_G13_P-4859	451	10	12	20.7%	30.4%	52.2%	52.3%	54.1%	\$230	\$0	\$103,663				
		G_G12_P-4860	241	8	10	19.7%	29.0%	49.7%	49.8%	51.0%	\$210	\$0	\$50,631				Y
		G_G12_P-4861	338	8	10	20.0%	29.4%	50.7%	50.9%	52.1%	\$210	\$0	\$70,924				Y
		G_G12_P-5002	712	6	8	21.3%	31.5%	58.1%	58.2%	61.3%	\$200	\$0	\$142,324				
		G_F12_P-5008	311	8	12	27.1%	40.8%	100.0%	100.0%	100.0%	\$230	\$71,643	\$0				
		G_F12_P-5009	307	8	10	18.5%	27.2%	48.2%	48.2%	50.7%	\$210	\$0	\$64,571				
		G_F11_P-5011	380	10	12	19.6%	28.7%	49.3%	49.4%	51.6%	\$230	\$0	\$87,448				
		G_G12_P-5022	805	6	8	25.7%	38.6%	77.1%	77.3%	100.0%	\$200	\$160,921	\$0				

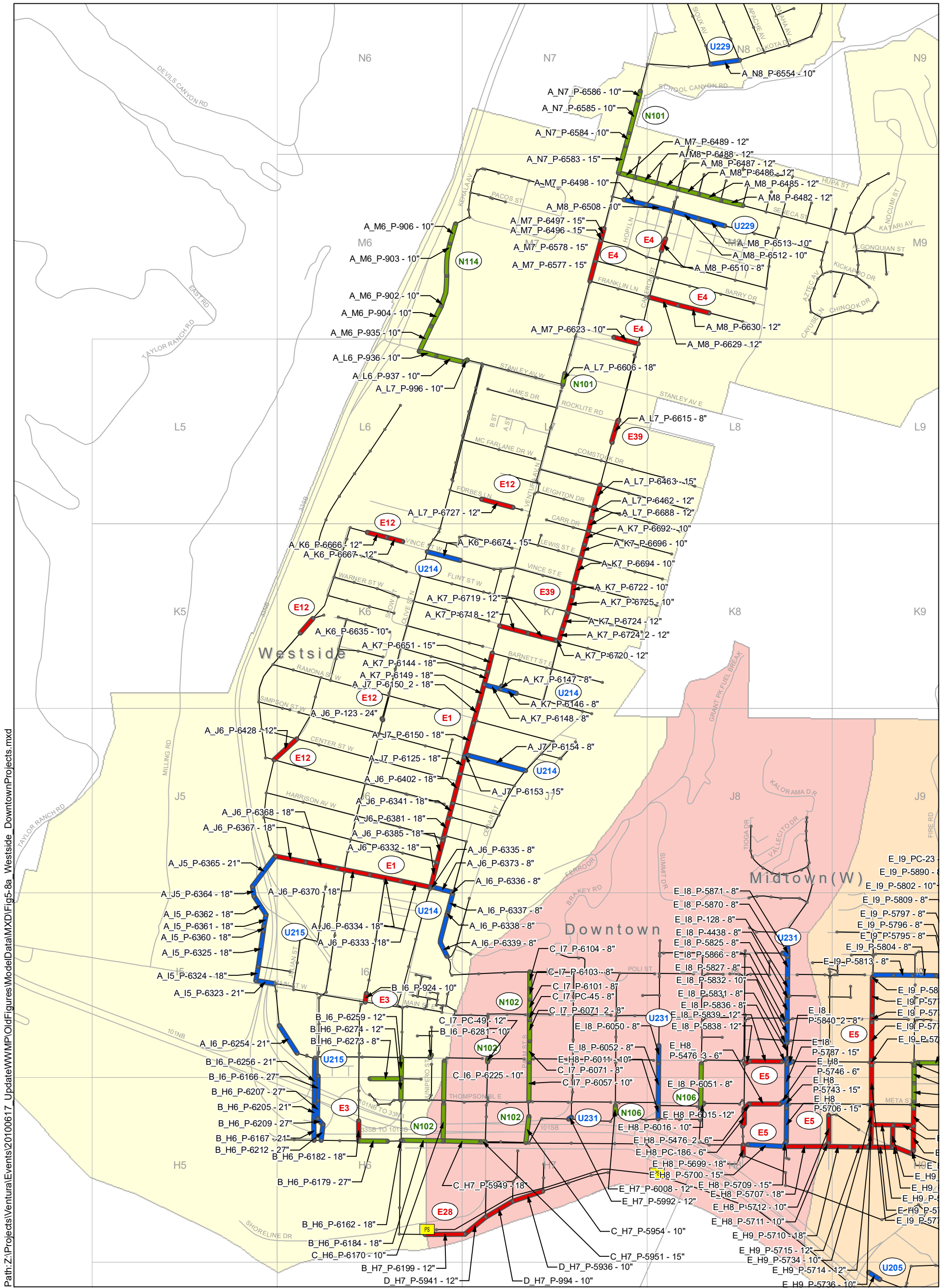
Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		G_G12_P-5035	135	6	12	41.3%	65.5%	100.0%	100.0%	100.0%	\$230	\$31,149	\$0				
		G_H12_P-5063	548	8	10	21.5%	31.6%	55.3%	55.5%	56.9%	\$210	\$0	\$115,071				
		G_H12_P-5093	67	8	10	23.4%	34.2%	55.5%	55.7%	57.2%	\$210	\$0	\$14,132				
Subtotal N103			6,105.8									\$263,714	\$1,044,448				
N104		F_E11_P-4579	302	15	18	25.8%	37.8%	61.7%	62.0%	68.6%	\$290	\$0	\$87,568				
		F_E11_P-4580	300	15	18	24.4%	35.6%	57.5%	57.7%	63.5%	\$290	\$0	\$87,044				
Figure		F_E11_P-4581	263	15	18	23.3%	33.9%	54.4%	54.6%	60.0%	\$290	\$0	\$76,336				
5-8b		F_E11_P-4585	196	15	18	23.3%	34.0%	54.6%	54.8%	60.3%	\$290	\$0	\$56,958				
		F_F11_P-4588	253	15	18	23.8%	34.7%	56.0%	56.2%	61.9%	\$290	\$0	\$73,414				
		F_E11_P-4589	32	15	18	16.0%	23.0%	35.5%	35.6%	38.6%	\$290	\$0	\$9,419	(a)			
		F_F11_P-4592	250	15	18	23.7%	34.5%	55.7%	55.9%	61.6%	\$290	\$0	\$72,593				
		F_F11_P-4597	168	15	18	22.2%	32.3%	52.3%	52.6%	58.3%	\$290	\$0	\$48,762				Y
		F_F11_P-4607	33	15	18	22.2%	32.3%	52.3%	52.5%	58.3%	\$290	\$0	\$9,456				Y
		F_F10_P-4608	111	8	15	24.7%	36.3%	60.8%	61.0%	67.3%	\$260	\$0	\$28,967				
		F_F10_P-5291	164	15	18	23.4%	34.3%	58.0%	58.2%	64.1%	\$290	\$0	\$47,466				
		F_F10_P-5293	94	15	18	21.5%	31.3%	51.6%	51.8%	56.3%	\$290	\$0	\$27,283				
		F_F10_P-5295	208	15	18	24.3%	35.9%	61.5%	61.7%	68.4%	\$290	\$0	\$60,274				
		F_F10_P-5296	117	15	18	21.4%	31.4%	52.2%	52.4%	57.2%	\$290	\$0	\$34,003				
		F_F10_P-5297	201	15	18	24.4%	35.9%	61.4%	61.6%	68.2%	\$290	\$0	\$58,220				
		F_F10_P-5315	131	8	10	23.7%	35.1%	63.6%	63.6%	71.1%	\$210	\$0	\$27,612				
Subtotal N104			2,825.0									\$0	\$805,377				
N105		E_I9_P-3743	202	6	8	15.4%	22.4%	38.3%	39.6%	41.4%	\$200	\$0	\$40,354	(a)			Y
		E_I10_P-5545	127	6	8	18.2%	27.0%	51.3%	51.3%	57.6%	\$200	\$0	\$25,492				
Figure		E_I10_P-5551	613	6	8	18.8%	27.9%	52.6%	57.0%	61.2%	\$200	\$0	\$122,645	51			Y
5-8b		E_H9_P-5731	77	6	8	24.1%	35.8%	65.8%	68.5%	72.7%	\$200	\$0	\$15,472				Y
		E_H9_P-5753	188	6	8	24.1%	35.8%	65.8%	68.5%	72.7%	\$200	\$0	\$37,504				Y
		E_I9_P-5754	386	6	8	15.3%	22.5%	39.9%	42.0%	44.5%	\$200	\$0	\$77,115	(a)			
		E_I9_P-5755	49	6	8	22.2%	33.0%	61.8%	65.5%	70.6%	\$200	\$0	\$9,728				
		E_I9_P-5764	203	6	8	17.9%	26.5%	48.3%	51.2%	54.6%	\$200	\$0	\$40,548	51			Y
		E_I9_P-5765	13	6	8	17.7%	26.2%	47.7%	50.6%	54.1%	\$200	\$0	\$2,654	51			Y
		E_I9_P-993	25	6	8	17.8%	26.3%	47.9%	50.8%	54.2%	\$200	\$0	\$4,913	51			Y
Subtotal N105			1,882.1									\$0	\$376,426				
N106	U32	E_H8_P-6016	49	8 (6)	10	15.9%	23.3%	39.9%	40.0%	54.9%	\$210	\$0	\$10,293	(b)	75		
Figure	NT24	E_H7_P-6008	93	6	12	50%	50%	50%	50%	50%	\$230	\$0	\$21,380	(c)			
5-8a	U32	E_I8_P-6051	468	8 (6)	8	50%	50%	50%	50%	50%	\$200	\$0	\$93,589	(b)			
	U32	E_H8_P-6015	136	12(6)	12	50%	50%	50%	50%	50%	\$230	\$0	\$31,384	(b)			
Subtotal N106			746.4									\$0	\$156,647				
N107		W_K29_P-152	261	10	10	15.1%	22.2%	39.2%	48.5%	48.8%	\$210	\$0	\$54,802	(a)			
		W_K29_P-153	263	10	10	14.5%	21.2%	37.4%	46.1%	46.3%	\$210	\$0	\$55,282	(a)			
Figure		W_K28_P-154	265	10	12	16.6%	24.5%	43.8%	54.6%	54.9%	\$230	\$0	\$60,950				
5-8e		W_K29_P-155	250	8	10	18.4%	27.2%	49.1%	62.2%	62.5%	\$210	\$0	\$52,419				
		W_J29_P-3254	307	12	15	22.5%	32.8%	53.6%	59.4%	61.0%	\$260	\$0	\$79,820				
		W_J29_P-3260	312	12	15	22.3%	32.5%	53.1%	53.1%	60.3%	\$260	\$0	\$81,065				
		X_J29_P-3264	386	15	18	21.6%	31.4%	50.2%	56.6%	60.0%	\$290	\$0	\$111,932				Y
		X_I29_P-3265	393	15	18	20.9%	30.3%	48.1%	54.2%	57.3%	\$290	\$0	\$113,873				
		X_I29_P-3266	383	15	18	20.4%	29.6%	46.9%	52.7%	55.9%	\$290	\$0	\$111,178				
		X_I29_P-3267	57	15	18	10.9%	15.5%	23.6%	26.1%	27.4%	\$290	\$0	\$16,589	(a)			
		X_I29_P-3268	347	15	18	20.7%	30.0%	47.7%	53.7%	57.0%	\$290	\$0	\$100,710				
		W_J29_P-3276	40	10	15	18.4%	26.6%	42.3%	42.3%	47.5%	\$260	\$0	\$10,400	(a)			
		W_J29_P-3277	291	10	15	18.6%	26.9%	43.0%	43.0%	48.3%	\$260	\$0	\$75,771	(a)			
		W_J29_P-3278	290	12	15	22.4%	32.7%	53.5%	53.5%	60.1%	\$260	\$0	\$75,358				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		W_K28_P-3279	149	12	15	20.4%	29.9%	49.7%	49.7%	56.3%	\$260	\$0	\$38,645				
		W_K28_P-3280	382	12	15	19.4%	28.4%	46.9%	51.2%	53.0%	\$260	\$0	\$99,392				
		W_K28_P-3281	376	8	10	22.8%	33.9%	61.7%	61.7%	64.6%	\$210	\$0	\$78,871				
		X_I29_P-3349	225	15	18	21.8%	31.6%	50.6%	57.1%	60.7%	\$290	\$0	\$65,224				Y
		X_J29_P-702	41	8	15	15.4%	22.2%	34.8%	38.0%	38.8%	\$260	\$0	\$10,621	(a)			
		X_J29_P-703	333	15	18	100.0%	100.0%	100.0%	100.0%	100.0%	\$290	\$96,585	\$0				Y
		X_J29_P-704	366	15	18	18.8%	27.3%	43.6%	49.1%	50.2%	\$290	\$0	\$106,186				
		X_J29_P-708	38	15	18	19.8%	28.8%	46.2%	52.2%	53.8%	\$290	\$0	\$10,901				Y
		X_J29_P-710	92	15	18	20.4%	29.5%	47.4%	53.9%	56.8%	\$290	\$0	\$26,609				Y
		X_J29_P-711	137	8	10	40.8%	67.6%	100.0%	100.0%	100.0%	\$210	\$28,863	\$0				Y
		X_I29_P-77	248	15	18	20.3%	29.5%	47.6%	65.3%	66.9%	\$290	\$0	\$72,016				Y
		X_J29_P-946	184	15	18	21.6%	31.4%	50.2%	56.6%	60.0%	\$290	\$0	\$53,283				Y
		W_K28_P-3275	229	10	15	21.1%	30.1%	50.1%	50.1%	58.9%	\$260	\$0	\$59,540			Y	
Subtotal N107			6,415.7									\$125,449	\$1,561,897				
N108		E_H10_P-5413	341	6	8	17.5%	25.8%	46.3%	47.6%	50.0%	\$200	\$0	\$68,222	(a)			Y
		E_H10_P-5414	315	6	8	21.2%	31.6%	59.4%	61.5%	65.5%	\$200	\$0	\$62,946				Y
Figure		E_H10_P-5432	426	6	8	17.8%	26.7%	53.6%	61.4%	62.6%	\$200	\$0	\$85,293				Y
5-8b		E_H10_P-5434	170	6	8	17.7%	26.8%	55.9%	55.9%	57.7%	\$200	\$0	\$34,099		15		
Subtotal N108			1,252.8									\$0	\$250,561				
N109		V_J26_P-3660	184	10	15	15.4%	23.2%	48.9%	100.0%	100.0%	\$260	\$0	\$47,815				Y
		V_J26_P-3661	314	12	15	12.2%	18.3%	37.3%	100.0%	100.0%	\$260	\$0	\$81,719				Y
Figure		V_J26_P-3661_2	169	10	15	15.3%	23.2%	48.8%	100.0%	100.0%	\$260	\$0	\$43,966				Y
5-8e		V_J26_P-3662	336	12	15	12.1%	18.2%	37.2%	100.0%	100.0%	\$260	\$0	\$87,230				Y
		V_J26_P-3663	330	12	18	20.8%	31.4%	63.5%	100.0%	100.0%	\$290	\$0	\$95,686				Y
		V_J26_P-3664	390	12	18	18.8%	28.2%	55.6%	100.0%	100.0%	\$290	\$0	\$113,040				Y
		V_J26_P-3665	318	12	15	16.0%	23.8%	45.5%	67.6%	67.9%	\$260	\$0	\$82,651				Y
		V_K26_PC-31	74	12	15	16.2%	24.1%	46.2%	68.9%	69.2%	\$260	\$0	\$19,307				Y
Subtotal N109			2,114.7									\$0	\$571,414				
N110		P_D23_P-2672	320	18	21	32.7%	47.7%	69.3%	79.8%	100.0%	\$330	\$0	\$105,649				
		P_D24_P-2672_2	322	18	21	32.8%	47.8%	69.4%	80.0%	100.0%	\$330	\$0	\$106,347				
Figure		P_D23_P-2673	347	18	21	33.4%	48.8%	71.4%	100.0%	100.0%	\$330	\$0	\$114,485				
5-8d		P_D23_P-2674	347	18	21	33.7%	49.3%	72.1%	100.0%	100.0%	\$330	\$0	\$114,591				
		P_D23_P-2675	347	18	21	33.7%	49.3%	72.2%	100.0%	100.0%	\$330	\$0	\$114,641				
		P_D23_P-2676	349	18	21	33.7%	49.3%	72.3%	100.0%	100.0%	\$330	\$0	\$115,064				
		P_D23_P-2676_2	349	18	21	33.7%	49.3%	72.3%	100.0%	100.0%	\$330	\$0	\$115,177				
		P_D23_P-2677	279	18	21	33.7%	49.3%	72.3%	100.0%	100.0%	\$330	\$0	\$91,908				
		P_D22_P-2678	241	18	21	32.9%	47.9%	69.6%	80.1%	100.0%	\$330	\$0	\$79,488				
		P_D22_P-50	334	18	21	22.5%	32.0%	43.8%	48.1%	52.5%	\$330	\$0	\$110,264	(a)			Y
		P_C22_PC-119	21	12	15	21.9%	31.0%	42.2%	46.2%	50.3%	\$260	\$0	\$5,565				
Subtotal N110			3,256.6									\$0	\$1,073,177				
N111		P_E22_P-174	273	8	15	15.5%	22.8%	41.3%	100.0%	100.0%	\$260	\$0	\$71,014				
		P_E22_P-175	84	8	12	11.1%	16.2%	28.6%	67.6%	100.0%	\$230	\$0	\$19,314				
Figure		P_F22_P-2580	203	8	10	5.1%	7.6%	14.6%	57.9%	57.9%	\$210	\$0	\$42,715				
5-8d		P_F22_P-2588	168	8	10	0.0%	0.0%	0.0%	0.0%	55.6%	\$210	\$0	\$35,358				Y
		P_F22_P-2593	272	8	10	4.6%	6.8%	13.0%	50.1%	51.3%	\$210	\$0	\$57,220				
		P_F22_P-2594	449	8	10	7.8%	11.5%	21.0%	60.6%	64.7%	\$210	\$0	\$94,188				
		P_F22_P-2595	178	8	10	7.9%	11.6%	21.3%	61.8%	67.8%	\$210	\$0	\$37,315				
		P_F22_P-2596	251	8	12	8.4%	12.4%	22.7%	67.7%	75.9%	\$230	\$0	\$57,722				
		P_F22_P-2600	354	8	12	12.5%	18.3%	32.6%	100.0%	100.0%	\$230	\$0	\$81,406				
		P_E22_P-2601	256	8	15	14.0%	20.6%	37.0%	100.0%	100.0%	\$260	\$0	\$66,617				Y
		P_E22_P-2607	228	8	12	11.9%	17.4%	30.9%	77.5%	100.0%	\$230	\$0	\$52,399				Y

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		P_E22_P-2608	153	8	12	11.9%	17.4%	30.9%	77.5%	100.0%	\$230	\$0	\$35,162				Y
		P_D22_P-2611	368	8	12	12.6%	18.4%	32.5%	77.7%	100.0%	\$230	\$0	\$84,616				
		P_D22_P-2612	395	8	12	11.8%	17.3%	30.5%	71.4%	100.0%	\$230	\$0	\$90,901				
		P_E22_P-2615	268	8	12	11.6%	17.0%	30.0%	70.4%	100.0%	\$230	\$0	\$61,669				
		P_D23_P-2618	258	10	18	17.7%	26.0%	45.1%	100.0%	100.0%	\$290	\$0	\$74,927				
		P_D23_P-2619	262	8	18	22.8%	33.8%	61.3%	100.0%	100.0%	\$290	\$0	\$75,948				
		P_D23_P-2620	345	10	18	20.8%	30.6%	53.8%	100.0%	100.0%	\$290	\$0	\$100,152				
		P_D23_P-2621	272	10	18	18.7%	27.5%	47.5%	100.0%	100.0%	\$290	\$0	\$79,018				
		P_D23_P-2633	418	10	18	17.1%	25.0%	43.6%	100.0%	100.0%	\$290	\$0	\$121,248				
		P_D23_P-2634	221	10	18	14.6%	21.4%	37.8%	100.0%	100.0%	\$290	\$0	\$64,199				
		P_D22_P-2638	261	10	18	16.3%	24.0%	42.9%	100.0%	100.0%	\$290	\$0	\$75,765				
		P_D22_P-2639	268	10	18	14.0%	20.6%	36.4%	100.0%	100.0%	\$290	\$0	\$77,799				
		P_D22_P-2640	264	10	15	12.9%	18.9%	33.3%	80.4%	100.0%	\$260	\$0	\$68,690				
		P_E22_P-2642	255	8	12	11.6%	16.9%	29.8%	70.3%	100.0%	\$230	\$0	\$58,647				
		P_E22_P-2645	138	8	12	10.5%	15.4%	27.0%	61.5%	79.2%	\$230	\$0	\$31,839				
		P_E22_P-2646	253	8	15	12.3%	18.1%	32.1%	81.3%	100.0%	\$260	\$0	\$65,860				
		P_E22_P-2647	136	8	15	14.1%	20.8%	37.3%	100.0%	100.0%	\$260	\$0	\$35,332				
		P_E22_P-61	128	8	15	13.5%	19.9%	35.5%	100.0%	100.0%	\$260	\$0	\$33,265				
Subtotal N111			7,382.5									\$0	\$1,850,307				
N112		U_F26_P-3091	354	12	15	21.9%	33.1%	56.9%	57.2%	72.6%	\$260	\$0	\$91,914				
		U_F26_P-3092	287	12	15	21.9%	33.1%	57.0%	57.4%	73.2%	\$260	\$0	\$74,672				
Figure		U_F26_P-3093	289	12	15	22.0%	33.3%	57.5%	57.9%	74.3%	\$260	\$0	\$75,141				Y
5-8e		U_F26_P-3094	47	8	12	26.3%	40.3%	74.3%	74.8%	100.0%	\$230	\$10,751	\$0				Y
		U_F26_P-3095	223	8	10	16.1%	24.8%	43.8%	44.1%	59.1%	\$210	\$0	\$46,866				
		U_G26_P-3098	283	8	12	18.6%	29.0%	53.0%	53.5%	77.3%	\$230	\$0	\$65,124				
		U_G27_P-3139	348	10	12	19.8%	29.4%	53.5%	53.5%	55.7%	\$230	\$0	\$80,152				
		U_F26_P-3154	273	8	10	23.4%	34.9%	65.3%	65.3%	68.0%	\$210	\$0	\$57,237				
		U_F26_P-3205	264	12	18	22.8%	34.4%	59.5%	59.8%	76.7%	\$290	\$0	\$76,508				
		U_F26_P-3206	659	12	18	22.8%	34.4%	59.1%	59.4%	75.3%	\$290	\$0	\$191,252				
		U_F25_P-3209	131	12	18	22.6%	34.1%	58.3%	58.6%	73.9%	\$290	\$0	\$38,036				
		U_F25_P-3210	124	12	18	20.9%	31.3%	52.8%	53.0%	65.3%	\$290	\$0	\$35,846				
		U_F25_P-3212	260	12	18	23.0%	34.6%	59.2%	59.5%	74.8%	\$290	\$0	\$75,378				
		U_F25_P-3219	255	12	18	23.4%	35.2%	60.1%	60.4%	75.9%	\$290	\$0	\$74,010				
		U_F25_P-3220	257	12	18	20.7%	31.0%	51.4%	51.7%	62.4%	\$290	\$0	\$74,525				
Subtotal N112			4,054.0									\$10,751	\$1,056,663				
N113		K_F14_P-3986	348	10	15	27.5%	40.3%	64.9%	65.4%	74.0%	\$260	\$0	\$90,603				
		K_F14_P-3987	353	10	15	26.9%	39.3%	62.9%	63.5%	71.5%	\$260	\$0	\$91,738				
Figure		K_G14_P-3988	304	10	15	26.3%	38.4%	61.5%	62.1%	70.3%	\$260	\$0	\$79,072				
5-8c		J_G14_P-4037	354	10	12	19.0%	27.4%	42.7%	43.1%	47.6%	\$230	\$0	\$81,307	(a)			
		K_G14_P-4038	349	10	12	21.7%	31.5%	49.8%	50.3%	56.0%	\$230	\$0	\$80,302				
		K_G14_P-4039	337	10	15	29.9%	44.2%	75.5%	76.5%	100.0%	\$260	\$87,743	\$0				
		K_G14_P-4040	354	10	12	21.2%	30.7%	47.8%	48.2%	53.7%	\$230	\$0	\$81,341				
		K_G14_P-4041	29	10	12	20.1%	29.1%	44.9%	45.2%	50.1%	\$230	\$0	\$6,735				
		J_G14_P-4042	113	10	12	17.1%	24.6%	38.0%	38.3%	42.2%	\$230	\$0	\$26,081	(a)			
		J_H16_P-4743	390	10	12	19.1%	27.8%	46.2%	47.0%	54.0%	\$230	\$0	\$89,679				
		J_G14_P-4744	306	10	12	22.9%	33.4%	53.2%	53.7%	60.0%	\$230	\$0	\$70,474				Y
		J_H15_P-4745	286	10	15	24.9%	36.6%	60.6%	61.2%	70.5%	\$260	\$0	\$74,446				
		J_H15_P-4746	304	10	12	22.3%	32.5%	52.6%	53.1%	60.1%	\$230	\$0	\$70,034				
		J_G15_P-4747	485	10	12	20.0%	28.9%	46.0%	46.4%	51.9%	\$230	\$0	\$111,461				
		J_G15_P-4751	287	10	15	26.2%	38.5%	64.1%	64.8%	74.8%	\$260	\$0	\$74,628				
		J_G15_P-4752	292	10	15	26.4%	38.9%	64.9%	65.6%	76.0%	\$260	\$0	\$75,858				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations	
		J_G14_P-4753	41	10	12	16.0%	23.0%	35.7%	36.0%	39.8%	\$230	\$0	(a)					
		J_H14_P-4754	156	6	8	24.5%	37.0%	76.7%	76.7%	100.0%	\$200	\$31,273						Y
		J_H15_P-4759	106	10	12	23.0%	33.6%	55.1%	55.7%	63.0%	\$230	\$0						
		J_H15_P-4760	267	10	12	23.7%	34.7%	57.2%	57.9%	65.9%	\$230	\$0						
		J_H16_P-4761	129	10	12	19.4%	28.3%	47.0%	47.7%	54.8%	\$230	\$0						
		J_H15_P-4762	363	8	10	21.3%	31.5%	56.8%	56.8%	60.9%	\$210	\$0						
		J_H14_P-977	357	6	8	20.0%	29.9%	56.9%	56.9%	60.4%	\$200	\$0						Y
		J_G14_PC-59	289	10	12	25.1%	36.6%	59.4%	60.0%	67.8%	\$230	\$0						Y
Subtotal N113			6,600.7									\$119,015	\$1,442,734					
N114		A_M6_P-902	348	8	10	22.0%	32.6%	59.4%	59.4%	63.7%	\$210	\$0						Y
		A_M6_P-903	350	8	10	22.3%	33.1%	60.3%	60.3%	64.3%	\$210	\$0						Y
Figure		A_M6_P-904	243	8	10	22.3%	33.2%	60.5%	60.5%	68.9%	\$210	\$0						
5-8a		A_M6_P-906	217	8	10	17.8%	26.3%	47.8%	47.8%	51.2%	\$210	\$0						
		A_M6_P-935	298	8	10	22.6%	33.6%	61.7%	64.7%	73.6%	\$210	\$0						
		A_L6_P-936	184	8	10	22.3%	33.1%	60.1%	62.8%	71.3%	\$210	\$0						
		A_L6_P-937	314	8	10	22.6%	33.6%	61.3%	64.2%	73.1%	\$210	\$0						
		A_L7_P-996	43	8	10	21.7%	32.2%	58.1%	60.8%	68.7%	\$210	\$0						
Subtotal N114			1,996.4									\$0	\$419,252					
N115		J_I18_P-1224	101	8	10	21.1%	31.3%	57.5%	58.8%	69.0%	\$210	\$0						
		J_I18_P-1225	136	8	10	15.8%	23.2%	40.7%	41.5%	47.2%	\$210	\$0	(a)					
Figure		J_I18_P-1226	232	8	10	21.0%	31.2%	56.5%	57.6%	66.9%	\$210	\$0						Y
5-8c		J_I18_P-1229	244	8	10	22.3%	33.1%	60.7%	61.9%	72.8%	\$210	\$0						Y
Subtotal N115			714.2									\$0	\$149,985					
N116		P_D16_P-3811	248	8	10	17.7%	26.3%	48.7%	49.5%	53.3%	\$210	\$0						
		P_D16_P-3812	240	8	10	17.8%	26.4%	48.9%	49.6%	53.3%	\$210	\$0						
Figures		P_D16_P-3872	243	8	12	23.5%	35.3%	71.3%	72.9%	81.7%	\$230	\$55,842						
5-8b		P_D16_P-3873	340	8	10	20.1%	30.0%	57.3%	58.3%	63.2%	\$210	\$0						
5-8c		P_D16_P-3874	339	8	10	17.5%	26.0%	48.4%	49.2%	52.9%	\$210	\$0						
		L_D14_P-4084	339	12	15	16.3%	25.6%	49.8%	50.3%	60.4%	\$260	\$0						
Subtotal N116			1,747.6									\$55,842	\$332,968					
N117		G_F13_P-4185	251	15	18	22.4%	32.6%	52.6%	52.7%	53.6%	\$290	\$0						
		G_F14_P-4186	257	15	18	22.4%	32.6%	52.5%	52.7%	53.5%	\$290	\$0						
Figure		G_F14_P-4187	258	15	18	22.4%	32.6%	52.5%	52.7%	53.5%	\$290	\$0						
5-8b		G_F13_P-4188	336	15	18	21.4%	31.1%	49.8%	49.9%	50.7%	\$290	\$0						
		G_F13_P-4221	266	15	18	21.4%	31.1%	49.4%	49.6%	50.4%	\$290	\$0						
		G_F13_P-4223	274	15	18	21.5%	31.2%	49.5%	49.6%	50.4%	\$290	\$0						
		G_F13_P-4224	275	15	18	22.1%	32.1%	50.8%	50.9%	51.8%	\$290	\$0						
		G_F13_P-4233	246	15	18	24.3%	35.5%	58.1%	58.3%	59.3%	\$290	\$0						
		G_F13_P-4240	127	15	18	20.5%	29.7%	47.2%	47.3%	48.1%	\$290	\$0	(a)					
		G_F13_P-4241	225	15	18	21.7%	31.5%	50.3%	50.4%	51.2%	\$290	\$0						
		G_F13_P-4249	30	15	18	17.6%	25.4%	39.4%	39.5%	40.1%	\$290	\$0	(a)					
		G_F13_P-4280	163	15	18	22.2%	32.2%	50.7%	50.8%	51.7%	\$290	\$0						
		G_F13_P-4281	150	15	18	22.0%	32.0%	50.4%	50.5%	51.3%	\$290	\$0						
		G_F13_P-4282	153	12	18	26.0%	38.1%	61.8%	61.9%	63.2%	\$290	\$0						
		G_F12_P-4638	288	15	18	25.4%	37.1%	59.5%	59.6%	60.8%	\$290	\$0						
Subtotal N117			3,298.9									\$0	\$956,667					
N118		E_G11_P-5012	316	6	8	22.1%	33.1%	64.2%	65.3%	67.1%	\$200	\$0						Y
		E_G11_P-5032	572	6	8	17.4%	25.8%	48.1%	48.8%	50.0%	\$200	\$0						Y
Figure		E_G11_P-5033	602	6	8	16.1%	23.9%	44.5%	45.3%	46.3%	\$200	\$0	(a)					
6-1b		E_G11_P-5048	523	6	8	21.7%	32.6%	65.6%	67.2%	68.8%	\$200	\$0						
		E_G11_P-5338	375	8	10	21.4%	31.8%	58.6%	59.2%	61.3%	\$210	\$0						

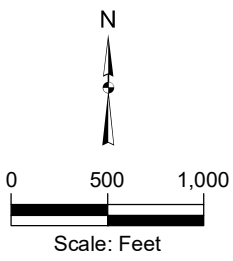
Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		E_G11_P-5349	197	8	12	25.3%	37.9%	72.4%	73.2%	76.4%	\$230	\$45,379	\$0				
		E_G11_P-5350	403	8	12	22.8%	33.9%	61.9%	62.4%	64.7%	\$230	\$0	\$92,719				
Subtotal N118			2,988.5									\$45,379	\$574,082				
N119		V_J28_P-3312	727	12	15	21.3%	31.2%	52.0%	68.9%	66.6%	\$260	\$0	\$189,135				
		X_J28_P-3332	91	15	18	19.1%	27.7%	44.8%	62.2%	61.1%	\$290	\$0	\$26,466				
<i>Figure 5-8e</i>																	
Subtotal N119			818.7									\$0	\$215,601				
N120		T_G24_P-2808	149	8	10	21.0%	31.0%	54.7%	56.8%	60.5%	\$210	\$0	\$31,292				
		T_G24_P-2828	53	8	10	20.7%	30.7%	54.8%	55.5%	59.6%	\$210	\$0	\$11,130				
<i>Figure</i>		T_G24_P-2829	328	8	10	20.6%	30.4%	54.2%	54.8%	58.9%	\$210	\$0	\$68,831				
<i>5-8e</i>		T_G24_P-2831	373	8	10	21.1%	31.2%	55.8%	56.5%	60.7%	\$210	\$0	\$78,384				
		T_G24_P-2832	385	8	10	21.0%	31.1%	55.4%	57.8%	62.0%	\$210	\$0	\$80,777				
		T_G24_P-2837	189	8	10	6.6%	9.8%	18.7%	39.9%	40.2%	\$210	\$0	\$39,786	(a)			
		T_G24_P-2841	161	8	10	8.1%	12.1%	23.3%	53.4%	53.9%	\$210	\$0	\$33,781				
		T_G24_P-2842	355	8	10	7.2%	10.7%	21.0%	51.8%	52.2%	\$210	\$0	\$74,540				
		T_G25_P-3005	263	8	10	17.6%	25.7%	43.5%	56.0%	58.3%	\$210	\$0	\$55,146				
		T_G25_P-3007	264	8	10	20.0%	29.2%	49.2%	61.4%	64.1%	\$210	\$0	\$55,527				
		T_G25_P-3009	253	10	12	19.3%	28.2%	46.9%	57.7%	60.1%	\$230	\$0	\$58,184				



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\MD\Fig-8a Westside_DowntownProjects.mxd

Legend

●	Manhole	—	Gravity Sewer
PS	Lift Stations	—	Existing System Improvement Needs
—	Street	—	Near Term System Improvement Needs
□	Atlas Sheet	—	Ultimate System Improvement Needs

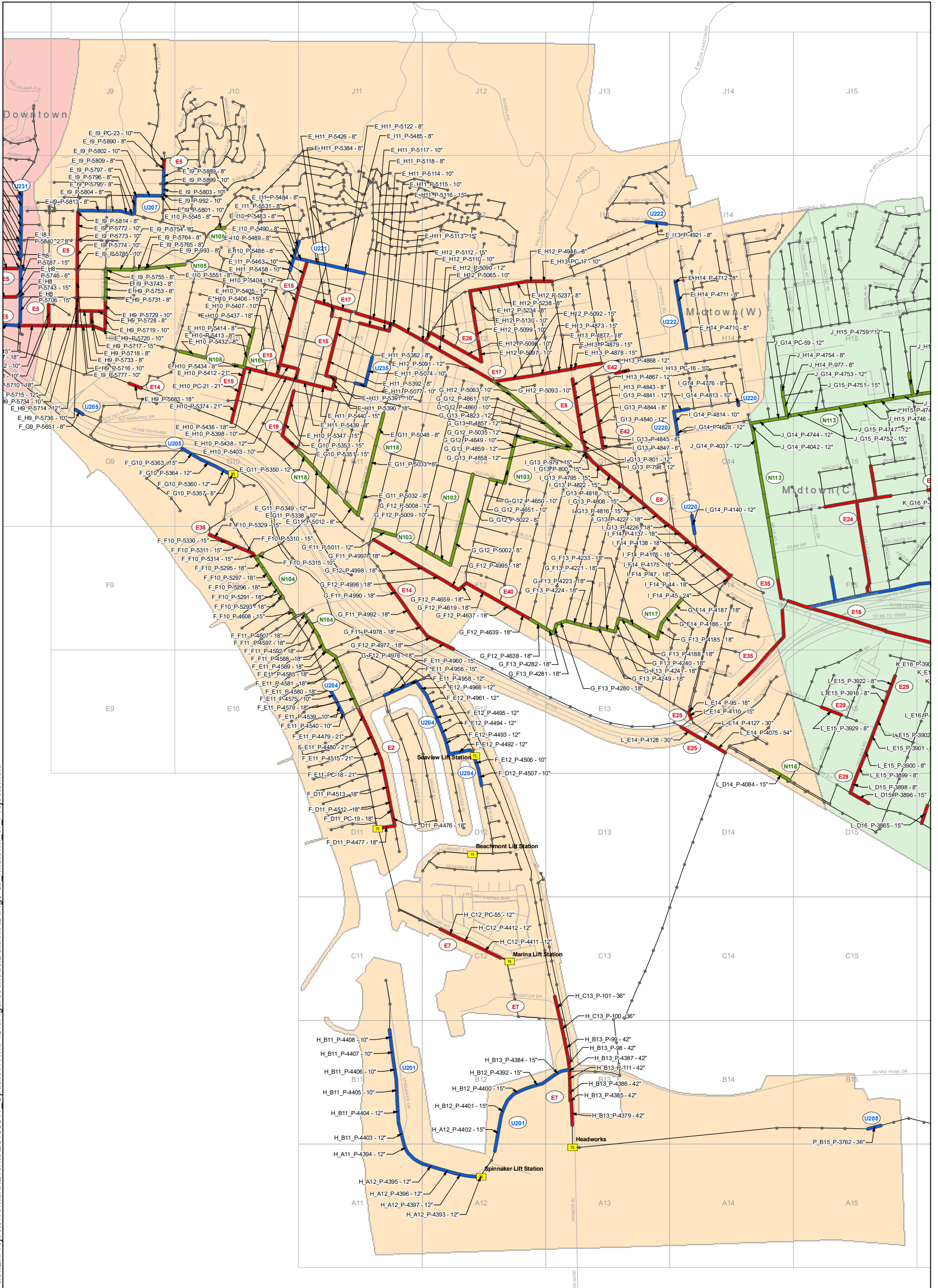


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Collection System
 Improvement Recommendations
 Westside/Downtown**

K/J 1089015*00
 August 2010

Figure 5-8a



Legend

- Manhole
- PS Lift Stations
- Street
- Atlas Sheet
- Gravity Sewer
- Existing System Improvement Needs
- Near Term System Improvement Needs
- Ultimate System Improvement Needs

N

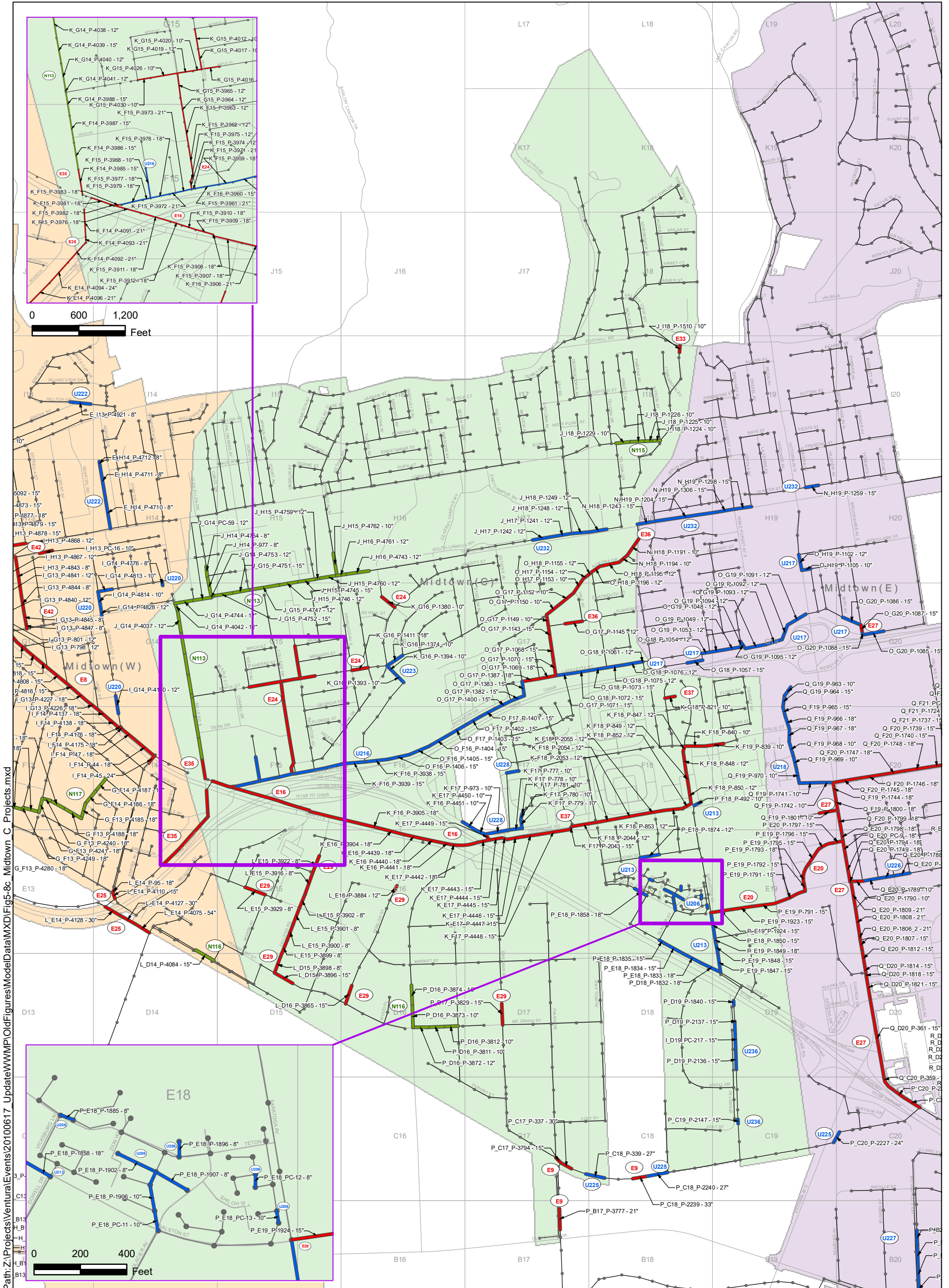
Scale: Feet

Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Collection System
 Improvement Recommendations
 Midtown (West)**

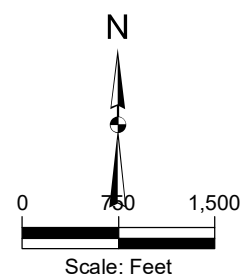
K/J 1089015*00
 August 2010

Figure 5-8b



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModelData\XDFig5-8c_Midtown_C_Projects.mxd

Legend	
●	Manhole
—	Gravity Sewer
—	Street
□	Atlas Sheet
—	Existing System Improvement Needs
—	Near Term System Improvement Needs
—	Ultimate System Improvement Needs

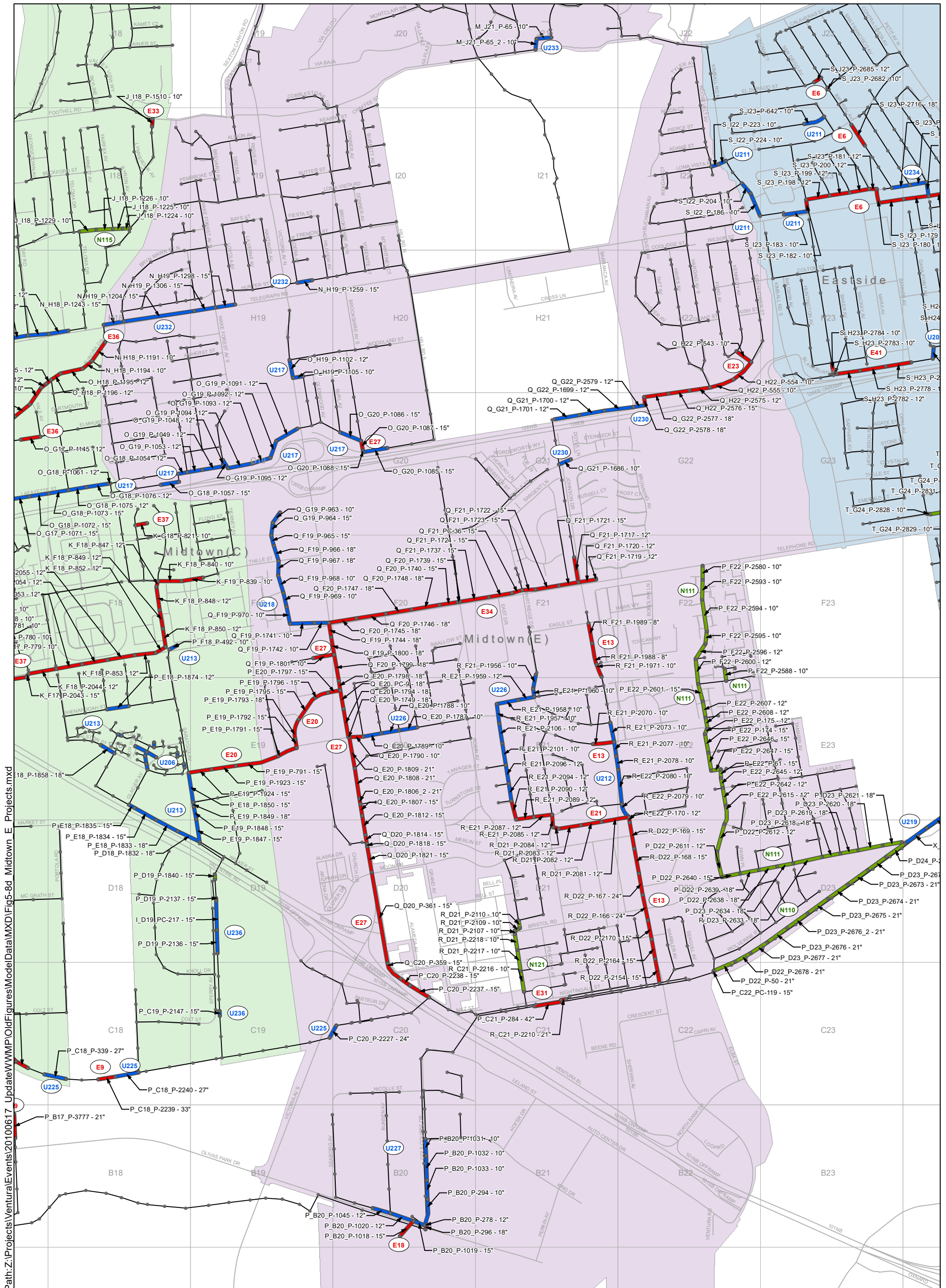


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Collection System
 Improvement Recommendations
 Midtown (Center)**

K/J 1089015*00
 August 2010

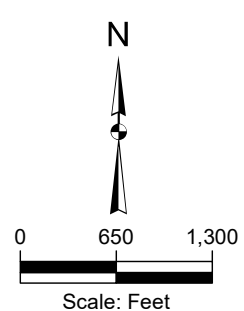
Figure 5-8c



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModelData\MXD\Fig-8d Midtown E Projects.mxd

Legend

- Manhole
- Street
- Atlas Sheet
- Gravity Sewer
- Existing System Improvement Needs
- Near Term System Improvement Needs
- Ultimate System Improvement Needs

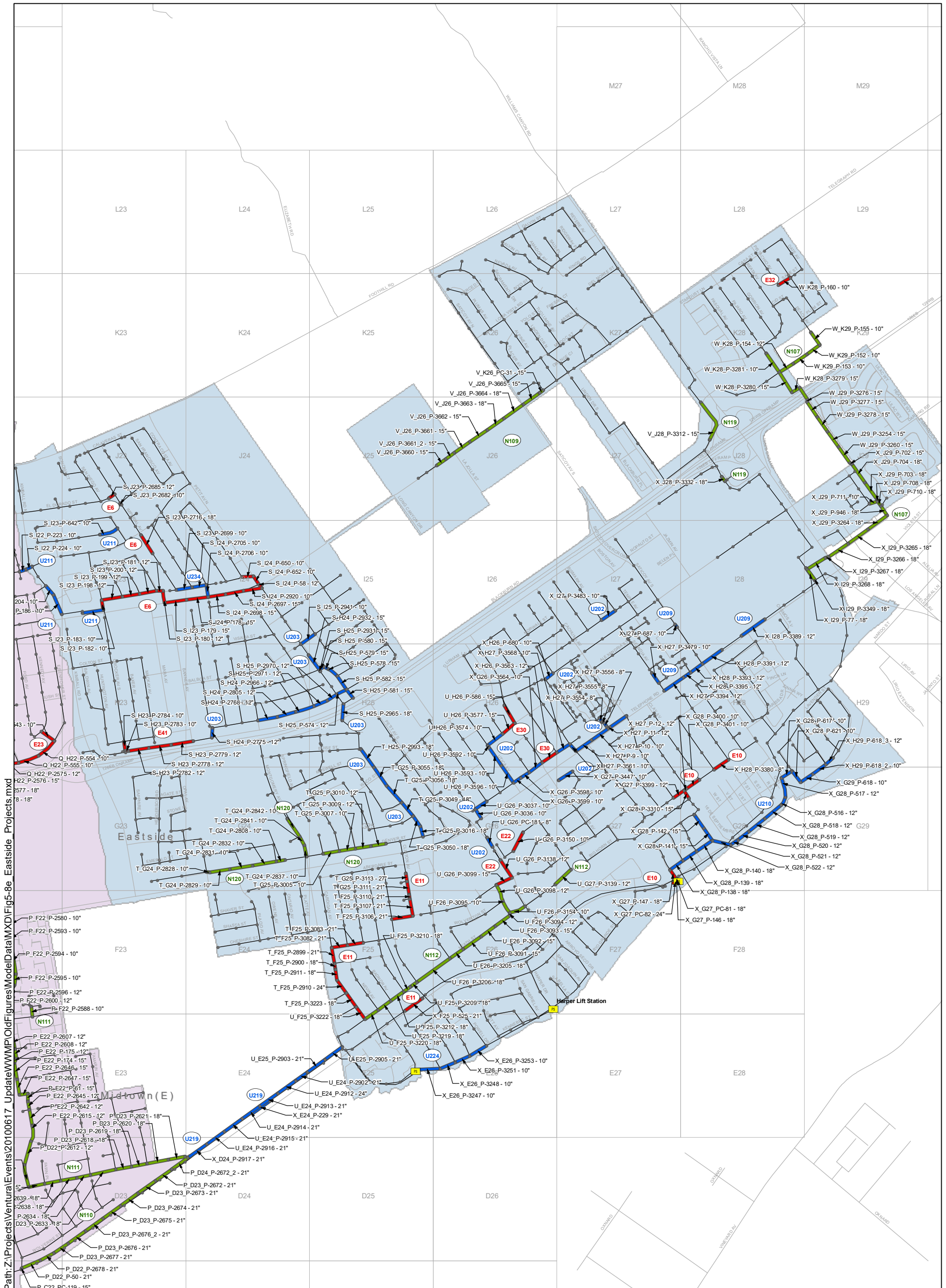


Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Collection System
 Improvement Recommendations
 Midtown (East)**

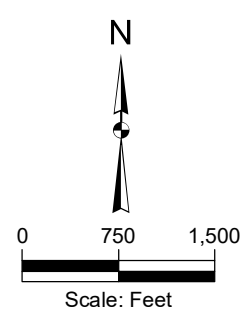
K/J 1089015*00
 December 2010

Figure 5-8d



Path: Z:\Projects\Ventura\Events\20100617_Update\WMP\OldFigures\ModeData\WDX\Fig-8e_Eastside_Projects.mxd

Legend	
●	Manhole
—	Gravity Sewer
PS	Lift Stations
—	Street
□	Atlas Sheet
—	Existing System Improvement Needs
—	Near Term System Improvement Needs
—	Ultimate System Improvement Needs



Kennedy/Jenks Consultants
 City of San Buenaventura
 San Buenaventura, California

**Collection System
 Improvement Recommendations
 Eastside**

K/J 1089015*00
 August 2010

Figure 5-8e

**TABLE 5-15
RECOMMENDED ULTIMATE GRAVITY SEWER CAPITAL IMPROVEMENTS**

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
U201		H_B13_P-4384	251	12	15	19.5%	28.7%	49.5%	49.7%	61.0%	\$260	\$0	\$65,339				
		H_B12_P-4392	424	12	15	19.9%	29.2%	50.7%	50.8%	62.1%	\$260	\$0	\$110,272				
Figure		H_A12_P-4393	9	6	12	28.7%	43.2%	100.0%	100.0%	100.0%	\$230	\$2,056	\$0				
5-8b		H_A11_P-4394	429	10	12	17.1%	25.1%	43.2%	43.2%	49.1%	\$230	\$0	(a) \$98,555	37			
		H_A12_P-4395	281	10	12	17.9%	26.2%	45.4%	45.4%	51.8%	\$230	\$0	\$64,573				
		H_A12_P-4396	273	10	12	18.0%	26.4%	45.7%	45.7%	52.1%	\$230	\$0	\$62,782				
		H_A12_P-4397	413	6	12	100.0%	100.0%	100.0%	100.0%	100.0%	\$230	\$94,907	\$0				Y
		H_B12_P-4400	323	12	15	16.8%	24.5%	41.7%	41.8%	50.1%	\$260	\$0	\$84,014				
		H_B12_P-4401	395	12	15	17.6%	25.8%	44.1%	44.2%	53.2%	\$260	\$0	\$102,824				
		H_A12_P-4402	595	12	15	17.6%	25.8%	44.1%	44.1%	53.1%	\$260	\$0	\$154,644				Y
		H_B11_P-4403	388	8	12	21.8%	32.5%	60.8%	60.8%	77.9%	\$230	\$0	\$89,127				
		H_B11_P-4404	350	8	12	25.2%	37.8%	75.7%	75.7%	75.7%	\$230	\$80,566	\$0				
		H_B11_P-4405	337	8	10	17.7%	26.1%	47.2%	47.2%	47.2%	\$210	\$0	(a) \$70,816				
		H_B11_P-4406	332	8	10	19.7%	29.2%	53.6%	53.6%	53.6%	\$210	\$0	\$69,668				
		H_B11_P-4407	232	8	10	20.0%	29.7%	54.7%	54.7%	54.7%	\$210	\$0	\$48,686				
		H_B11_P-4408	254	8	10	19.1%	28.3%	51.8%	51.8%	51.8%	\$210	\$0	\$53,336				
Subtotal U201			5,285.2									\$177,529	\$1,074,636				
U202		X_H27_P-10	328	8	10	26.8%	37.8%	65.2%	65.2%	68.7%	\$210	\$0	\$68,895				Y
		X_H27_P-11	40	8	12	28.6%	40.8%	71.9%	71.9%	100.0%	\$230	\$9,277	\$0				Y
Figure		X_H27_P-12	319	8	12	28.6%	40.8%	71.9%	71.9%	100.0%	\$230	\$73,454	\$0				Y
5-8e		U_G26_P-3036	177	8	10	13.3%	21.1%	39.0%	39.3%	41.0%	\$210	\$0	(a) \$37,193				
		U_G26_P-3037	221	8	10	15.3%	25.7%	52.0%	52.0%	54.8%	\$210	\$0	\$46,403				Y
		U_G26_PC-181	203	8	10	16.1%	25.7%	48.2%	48.2%	50.7%	\$210	\$0	\$42,630				
		X_G27_P-3447	268	8	10	15.8%	24.0%	52.2%	52.2%	62.0%	\$210	\$0	\$56,229				Y
		X_I27_P-3483	270	8	10	18.0%	26.9%	52.8%	52.8%	55.5%	\$210	\$0	\$56,780				Y
		X_H27_P-3554	75	6	8	16.0%	23.9%	46.9%	46.9%	58.8%	\$200	\$0	\$14,999				
		X_H27_P-3555	37	6	8	15.7%	23.4%	45.9%	45.9%	58.9%	\$200	\$0	\$7,379				
		X_H27_P-3556	75	6	8	7.8%	11.4%	21.3%	21.3%	26.3%	\$200	\$0	(a) \$15,037				Y
		X_H27_P-3561	149	8	10	24.3%	34.1%	57.3%	57.3%	60.0%	\$210	\$0	\$31,250				
		X_G26_P-3564	266	8	10	22.0%	30.0%	49.7%	49.7%	52.5%	\$210	\$0	\$55,895				
		X_H27_P-3568	253	8	10	18.8%	25.8%	42.0%	42.0%	44.0%	\$210	\$0	(a) \$53,171				
		U_H26_P-3574	308	8	10	20.8%	30.9%	56.9%	56.9%	60.0%	\$210	\$0	\$64,597				
		U_H26_P-3592	34	8	10	16.9%	24.8%	43.2%	43.2%	45.0%	\$210	\$0	(a) \$7,055				
		U_H26_P-3593	351	8	10	18.4%	27.1%	47.8%	47.8%	49.9%	\$210	\$0	(a) \$73,801				
		U_H26_P-3596	351	8	10	18.9%	27.9%	49.2%	49.2%	51.2%	\$210	\$0	\$73,747				
		X_G26_P-3598	166	8	10	22.4%	30.5%	50.4%	50.4%	52.9%	\$210	\$0	\$34,796				
		X_G26_P-3599	138	8	10	24.3%	32.8%	51.7%	51.7%	53.5%	\$210	\$0	\$28,971				
		X_H26_P-680	159	8	10	17.7%	26.5%	52.2%	52.2%	53.9%	\$210	\$0	\$33,369				
		X_H27_P-9	315	8	10	27.0%	38.1%	65.9%	65.8%	69.4%	\$210	\$0	\$66,126				
Subtotal U202			4,503.5									\$82,731	\$868,324				
U203		S_H24_P-2768	313	10	12	23.7%	34.8%	58.5%	58.5%	59.5%	\$230	\$0	\$71,928				
		S_H24_P-2775	162	10	12	20.5%	30.2%	52.0%	52.0%	52.9%	\$230	\$0	\$37,243				Y
Figure		S_H24_P-2805	319	10	12	23.3%	34.2%	57.2%	57.2%	58.2%	\$230	\$0	\$73,282				
5-8e		S_H25_P-2931	33	12	15	23.6%	34.2%	51.9%	51.9%	54.4%	\$260	\$0	\$8,583				
		S_H24_P-2932	294	12	15	22.8%	32.9%	50.1%	50.1%	52.7%	\$260	\$0	\$76,513				Y
		S_I25_P-2941	284	8	10	23.4%	35.0%	67.6%	67.6%	72.0%	\$210	\$59,597	\$0				
		S_H25_P-2965	266	15	18	24.7%	35.4%	51.4%	51.4%	53.2%	\$680	\$180,934	\$0			Y	
		S_H24_P-2966	301	10	12	24.0%	35.3%	59.3%	59.3%	60.3%	\$230	\$0	\$69,205				
		S_H25_P-2970	186	10	12	24.2%	35.5%	59.3%	59.3%	60.2%	\$230	\$0	\$42,751				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm	
				(Existing) Diameter (in)													Invert Elevations	
		S_H25_P-2971	237	10	12	24.0%	35.2%	58.7%	58.7%	59.6%	\$230	\$0	\$54,459					
		T_H25_P-2993	370	15	18	25.9%	37.3%	54.4%	54.4%	56.3%	\$290	\$0	\$107,173	54	Y			Y
		T_G25_P-3055	356	15	18	24.3%	34.9%	50.4%	50.4%	52.1%	\$290	\$0	\$103,298	54	Y			Y
		T_G25_P-3056	367	15	18	23.8%	34.1%	49.2%	49.2%	50.8%	\$290	\$0	\$106,554	54	Y			
		S_H25_P-574	179	8	12	33.1%	48.4%	76.8%	76.8%	80.7%	\$230	\$41,124	\$0					
		S_H25_P-578	181	12	15	22.4%	32.4%	50.2%	50.2%	52.5%	\$260	\$0	\$47,019					
		S_H25_P-579	83	12	15	13.8%	19.6%	29.3%	29.3%	30.5%	\$260	\$0	(a) \$21,681					
		S_H25_P-580	89	12	15	23.6%	34.2%	51.9%	51.9%	54.4%	\$260	\$0	\$23,205	65				
		S_H25_P-581	173	12	15	22.1%	32.3%	51.2%	51.2%	53.8%	\$260	\$0	\$44,931					
		S_H25_P-582	267	12	15	21.7%	31.4%	48.0%	48.0%	50.0%	\$260	\$0	\$69,382					
		T_G25_P-3016	172.3	15	18	32.6%	47.7%	73.5%	73.5%	77.2%	\$290	\$49,957	\$0					Y
		T_G25_P-3049	290.0	15	18	29.4%	42.7%	63.6%	63.6%	66.2%	\$290	\$84,088	\$0		Y			
		T_G25_P-3050	200.2	8	18	19.6%	27.8%	39.3%	39.3%	40.5%	\$290	\$58,057	\$0					Y
Subtotal U203			5,121.5									\$473,757	\$957,206					
U204		F_E12_P-4492	342	10	12	18.3%	26.9%	47.2%	47.2%	50.0%	\$230	\$0	\$78,766					
		F_E12_P-4493	245	10	12	17.7%	26.0%	45.3%	45.3%	48.0%	\$230	\$0	(a) \$56,285					
Figure		F_E12_P-4494	264	10	12	18.0%	26.4%	45.9%	45.9%	48.5%	\$230	\$0	(a) \$60,609					
5-8b		F_E12_P-4495	250	10	12	19.2%	28.2%	49.3%	49.3%	52.0%	\$230	\$0	\$57,541					
		F_E12_P-4506	204	8	10	20.5%	30.4%	55.7%	55.7%	60.2%	\$210	\$0	\$42,808					
		F_D12_P-4507	268	8	10	19.3%	28.5%	51.9%	51.9%	56.0%	\$210	\$0	\$56,343					
		F_E11_P-4539	206	8	10	21.3%	31.8%	60.8%	60.8%	62.5%	\$210	\$0	\$43,251					
		F_E11_P-4540	54	8	10	12.7%	18.6%	32.6%	32.6%	33.3%	\$210	\$0	(a) \$11,443					
		F_E11_P-4575	202	8	10	17.3%	25.8%	48.5%	48.5%	50.1%	\$210	\$0	\$42,407					
		F_E11_P-4956	188	10	15	25.4%	37.7%	66.4%	66.4%	71.6%	\$260	\$48,981	\$0					
		F_E11_P-4958	180	10	12	13.1%	19.0%	30.9%	30.9%	32.7%	\$230	\$0	(a) \$41,492					
		F_E11_P-4960	195	10	15	24.9%	36.8%	64.4%	64.4%	69.0%	\$260	\$0	\$50,639					
		F_E12_P-4961	264	10	12	19.2%	28.2%	49.2%	49.2%	51.9%	\$230	\$0	\$60,786					
		F_E12_P-4966	287	10	12	18.1%	26.5%	45.6%	45.6%	48.0%	\$230	\$0	(a) \$66,105	34				
Subtotal U204			3,150.7									\$48,981	\$668,473					
U205		F_G10_P-5357	35	6	8	17.4%	25.8%	48.1%	48.8%	55.5%	\$200	\$0	\$6,909					
		F_G10_P-5360	293	10	12	12.5%	18.7%	36.9%	38.3%	50.3%	\$230	\$0	\$67,302					
Figure		F_G10_P-5363	346	10	15	15.4%	23.1%	46.8%	48.7%	66.2%	\$260	\$0	\$89,874					
5-8b		F_G10_P-5364	262	10	12	12.2%	18.2%	35.8%	37.2%	48.7%	\$230	\$0	(a) \$60,287					
		F_G9_P-5651	140	4	8	17.0%	26.1%	60.8%	60.8%	100.0%	\$200	\$0	\$27,977					Y
Subtotal U205			1,074.8									\$0	\$252,348					
U206		P_E18_P-1885	59	6	8	24.8%	39.2%	100.0%	100.0%	100.0%	\$200	\$11,727	\$0					Y
		P_E18_P-1896	67	4	8	0%	0%	0%	0%	100.0%	\$200	\$0	\$13,326					Y
Figure		P_E18_P-1902	182	4	8	0%	0%	0%	0%	100.0%	\$200	\$0	\$36,460					Y
5-8c		P_E18_P-1906	115	8	10	0%	0%	0%	0%	16.8%	\$210	\$0	(a) \$24,212					Y
		P_E18_P-1907	156	4	8	0%	0%	0%	0%	100.0%	\$200	\$0	\$31,172					Y
		P_E18_PC-10	62	8	10	0%	0%	0%	0%	100.0%	\$210	\$0	\$13,031					Y
		P_E18_PC-11	85	8	10	0%	0%	0%	0%	100.0%	\$210	\$0	\$17,760					Y
		P_E18_PC-12	56	4	8	0%	0%	0%	0%	100.0%	\$200	\$0	\$11,135					Y
		P_E18_PC-13	53	8	10	0%	0%	0%	0%	100.0%	\$210	\$0	\$11,196					Y
Subtotal U206			834.3									\$11,727	\$158,291					
U207		E_I9_P-5795	187	6	8	19.6%	28.8%	50.0%	50.0%	68.7%	\$200	\$0	\$37,469					Y
		E_I9_P-5796	48	6	8	16.1%	23.7%	42.3%	42.3%	63.3%	\$200	\$0	\$9,564					
Figure		E_I9_P-5797	252	6	8	12.8%	18.7%	32.7%	32.7%	47.1%	\$200	\$0	(a) \$50,316					
5-8b		E_I9_P-5801	38	6	10	20.1%	29.7%	53.4%	53.4%	100.0%	\$210	\$0	\$8,018					Y
		E_I9_P-5802	379	6	10	23.6%	35.1%	65.7%	65.7%	100.0%	\$210	\$0	\$79,583					Y
		E_I9_P-5803	135	6	10	20.1%	29.7%	53.4%	53.4%	100.0%	\$210	\$0	\$28,268					Y
		E_I9_P-5804	260	6	8	18.2%	26.6%	45.7%	45.7%	61.4%	\$200	\$0	\$52,038					Y

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		E_I9_P-5809	58	6	8	11.4%	16.6%	28.1%	28.1%	40.3%	\$200	\$0	(a)	\$11,621			
		E_I9_P-5813	206	6	8	20.3%	29.8%	50.9%	50.9%	71.1%	\$200	\$0		\$41,170			Y
		E_I9_P-5814	236	6	8	20.5%	30.1%	51.4%	51.4%	71.7%	\$200	\$0		\$47,288			Y
		E_I9_P-5889	217	6	8	16.1%	23.8%	43.4%	43.4%	77.3%	\$200	\$0		\$43,437			Y
		E_I9_P-5890	40	6	8	6.1%	8.9%	15.6%	15.6%	24.8%	\$200	\$0	(a)	\$8,019			Y
		E_I9_P-5899	30	6	10	20.1%	29.7%	53.4%	53.4%	100.0%	\$210	\$0		\$6,241			Y
		E_I9_P-992	12	6	10	20.1%	29.7%	53.4%	53.4%	100.0%	\$210	\$0		\$2,502			Y
Subtotal U207			2,098.0									\$0	\$425,536				
U208		P_B17_P-3755	317	33	36	34.5%	49.4%	63.4%	73.6%	100.0%	\$580	\$0		\$183,635			
Figures		P_B17_P-3756	287	33	36	35.2%	50.5%	65.1%	75.9%	100.0%	\$580	\$0		\$166,636			
5-8b, 5-8c		P_B15_P-3762	213	33	36	33.4%	47.7%	60.9%	70.1%	100.0%	\$580	\$0		\$123,540			Y
Subtotal U208			816.9									\$0	\$473,811				
U209		X_I28_P-3389	464	10	12	17.2%	25.2%	42.3%	44.4%	54.4%	\$230	\$0		\$106,660			
		X_H28_P-3391	392	10	12	17.5%	25.7%	44.5%	47.6%	62.1%	\$230	\$0		\$90,215			
Figure		X_H28_P-3393	237	10	12	14.7%	21.5%	37.0%	37.6%	49.8%	\$230	\$0	(a)	\$54,586			
5-8e		X_H27_P-3394	377	10	12	16.5%	24.1%	41.9%	42.6%	54.3%	\$230	\$0		\$86,700			
		X_H28_P-3395	140	12	12	63.4%	100.0%	100.0%	100.0%	100.0%	\$230	\$32,238		\$0			Y
		X_H27_P-3479	199	8	10	18.9%	27.9%	50.1%	50.1%	65.8%	\$210	\$0		\$41,830			
		X_I27_P-687	58	8	10	16.5%	25.2%	57.5%	100.0%	100.0%	\$210	\$0		\$12,129			Y
Subtotal U209			1,867.4									\$32,238	\$392,120				
U210		X_G28_P-138	258	15	18	21.5%	30.6%	47.3%	47.3%	57.7%	\$290	\$0		\$74,756			
		X_G28_P-139	266	15	18	22.4%	32.0%	49.8%	49.8%	61.2%	\$290	\$0		\$77,087			
Figure		X_G28_P-140	309	15	18	20.0%	28.4%	43.7%	43.7%	53.1%	\$290	\$0		\$89,594			
5-8e		X_G28_P-141	243	12	15	15.7%	22.1%	33.9%	33.9%	36.1%	\$260	\$0	(a)	\$63,125			
		X_G28_P-142	268	12	15	22.1%	31.4%	49.7%	49.7%	53.3%	\$260	\$0		\$69,716			
		X_G28_P-516	151	8	12	19.3%	28.6%	51.6%	51.6%	74.9%	\$230	\$0		\$34,708			
		X_G28_P-517	317	8	12	20.8%	30.9%	56.7%	56.7%	100.0%	\$230	\$0		\$72,859			
		X_G28_P-518	338	8	12	19.9%	29.5%	53.7%	53.7%	79.4%	\$230	\$0		\$77,740			
		X_G28_P-519	337	8	12	19.3%	28.5%	51.5%	51.5%	77.3%	\$230	\$0		\$77,510			
		X_G28_P-520	222	8	12	19.4%	28.7%	52.0%	52.0%	78.3%	\$230	\$0		\$51,038			
		X_G28_P-521	142	8	12	19.8%	29.3%	53.2%	53.2%	100.0%	\$230	\$0		\$32,591			
		X_G28_P-522	301	8	12	19.9%	29.4%	53.5%	53.5%	100.0%	\$230	\$0		\$69,318			
		X_G28_P-617	204	8	10	13.8%	20.4%	37.3%	37.3%	51.0%	\$210	\$0		\$42,849			
		X_G29_P-618	245	8	10	13.4%	19.7%	36.4%	36.4%	51.5%	\$210	\$0		\$51,550			
		X_H29_P-618_2	260	8	10	12.8%	18.9%	35.0%	35.0%	48.4%	\$210	\$0	(a)	\$54,550			
		X_H29_P-618_3	154	8	12	16.2%	24.2%	47.6%	47.6%	79.3%	\$230	\$0		\$35,511			
		X_G28_P-621	230	8	10	13.1%	19.3%	35.4%	35.4%	49.5%	\$210	\$0	(a)	\$48,343			
Subtotal U210			4,245.0									\$0	\$1,022,844				
U211		S_I23_P-183	339	8	10	18.2%	26.8%	47.2%	47.2%	51.0%	\$210	\$0		\$71,291			Y
		S_I22_P-186	341	8	10	100.0%	100.0%	100.0%	100.0%	100.0%	\$210	\$71,572		\$0			Y
Figure		S_I22_P-204	190	8	10	18.8%	27.7%	48.9%	48.9%	50.9%	\$210	\$0		\$39,986			Y
5-8e		S_I22_P-223	107	8	10	18.6%	27.5%	49.1%	49.1%	50.9%	\$210	\$0		\$22,508			
		S_I22_P-224	115	8	10	20.2%	29.9%	54.1%	54.1%	56.2%	\$210	\$0		\$24,077			
		S_I23_P-642	311	8	10	18.1%	27.2%	54.1%	54.1%	54.3%	\$210	\$0		\$65,384			
Subtotal U211			1,403.9									\$71,572	\$223,247				
U212		R_E21_P-2073	277	8	10	17.5%	25.9%	46.7%	46.7%	56.9%	\$210	\$0		\$58,137	53		
		R_E21_P-2077	203	8	10	13.2%	19.3%	33.1%	33.1%	38.3%	\$210	\$0	(a)	\$42,674			
Figure		R_E21_P-2078	193	8	10	22.4%	33.3%	60.6%	60.6%	72.6%	\$210	\$0		\$40,619	82		
5-8d		R_E22_P-2079	215	8	10	12.5%	18.1%	30.4%	30.4%	34.2%	\$210	\$0	(a)	\$45,071			
		R_E22_P-2080	481	8	10	22.1%	32.7%	58.6%	58.6%	68.4%	\$210	\$0		\$100,955			
Subtotal U212			1,368.8									\$0	\$287,456				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled	Proposed	Existing	Existing	Existing	Near-Term	Ultimate	Unit	Existing	Future System	Priority	Roots	Freeways	Confirm
				(Existing)													
				(in)	(in)	d/D Ratio	d/D Ratio	Ratio	Ratio	d/D Ratio	(\$/ft)	Capital Cost	Capital Cost	Area	Roots	Freeways	Elevations
U213		P_D18_P-1832	341	15	15	12.5%	18.2%	31.2%	31.2%	50.4%	\$260	\$0	\$88,558				
		P_E18_P-1833	344	12	15	14.7%	21.5%	37.4%	37.4%	62.5%	\$260	\$0	\$89,484				
Figure		P_E18_P-1834	345	12	15	13.5%	19.7%	34.1%	34.1%	55.5%	\$260	\$0	\$89,696				
5-8c		P_E18_P-1835	92	12	15	13.6%	19.8%	34.3%	34.3%	55.4%	\$260	\$0	\$23,896				
		P_E18_P-1874	313	8	10	12.6%	18.7%	35.0%	35.0%	55.9%	\$210	\$0	\$65,681				
		P_F18_P-492	125	8	10	0.0%	0.0%	0.0%	0.0%	57.6%	\$210	\$0	\$26,250				
		P_E19_P-1847	317.5	8	10	11.7%	23.2%	41.5%	41.5%	50.0%	\$210	\$66,673	\$0 (a)				
		P_E19_P-1848	178.5	8	10	13.2%	26.3%	47.8%	47.8%	58.2%	\$210	\$0	\$37,476				
		P_E19_P-1849	63.8	8	10	12.4%	24.6%	44.3%	44.3%	53.7%	\$210	\$0	\$13,392				
		P_E18_P-1850	420.7	8	10	12.9%	25.9%	47.3%	47.3%	57.7%	\$210	\$0	\$88,347				
		P_E18_P-1858	227.1	10	12	16.4%	24.2%	44.2%	44.2%	79.9%	\$230	\$0	\$52,242				
Subtotal U213			2,767.0									\$66,673	\$575,023				
U214		A_K7_P-6146	171	6	8	19.9%	29.8%	57.9%	57.9%	80.2%	\$200	\$0	\$34,152				
		A_K7_P-6147	35	6	8	17.7%	27.7%	76.0%	76.0%	100.0%	\$200	\$6,953	\$0				Y
Figure		A_K7_P-6148	191	6	8	17.2%	25.6%	48.1%	48.1%	66.2%	\$200	\$0	\$38,142				
5-8a		A_J7_P-6153	43	12	15	38.3%	61.2%	100.0%	100.0%	100.0%	\$260	\$11,095	\$0				Y
		A_J7_P-6154	648	6	8	15.6%	23.2%	44.0%	44.0%	54.4%	\$200	\$0	\$129,647				Y
		A_J6_P-6335	29	6	8	17.6%	26.2%	50.0%	50.0%	59.1%	\$200	\$0	\$5,725				
		A_I6_P-6336	26	6	8	8.9%	13.2%	24.1%	24.1%	28.1%	\$200	\$0	\$5,259 (a)				Y
		A_I6_P-6337	212	6	8	12.0%	17.8%	33.8%	33.8%	41.2%	\$200	\$0	\$42,329 (a)				Y
		A_I6_P-6338	20	6	8	7.4%	11.0%	20.3%	20.3%	24.2%	\$200	\$0	\$3,946 (a)				Y
		A_I6_P-6339	478	6	8	14.4%	21.5%	41.6%	41.6%	50.5%	\$200	\$0	\$95,688				Y
		A_J6_P-6373	202	6	8	16.3%	24.3%	45.8%	45.8%	53.6%	\$200	\$0	\$40,413				Y
	U43	A_K6_P-6674	370	15 (12)	15	50%	50%	50%	50%	50%	\$260	\$0	\$96,152 (b)				
Subtotal U214			2,423.8									\$18,048	\$491,454				
U215	U33	B_I6_P-6166	261	24	27	22.2%	31.7%	45.6%	47.8%	52.9%	\$1,080	\$0	\$282,354				Y
		B_H6_P-6167	201	18	21	24.4%	34.1%	50.0%	49.3%	56.0%	\$770	\$0	\$154,425				Y
Figure	E4	B_H6_P-6205	195	18	21	32.7%	46.6%	73.2%	71.7%	100.0%	\$330	\$0	\$64,400				Y
5-8a	U33	B_H6_P-6207	199	24	27	22.6%	32.2%	46.4%	48.6%	53.9%	\$1,080	\$0	\$215,303				Y
		B_H6_P-6209	91	24	27	22.6%	32.2%	46.4%	48.6%	53.9%	\$410	\$0	\$37,413 (a)				
		B_H6_P-6212	170	24	27	23.0%	32.8%	47.3%	49.7%	55.1%	\$1,080	\$0	\$183,088				Y
	U35	B_I6_P-6256	489	18	21	27.0%	37.9%	56.5%	55.6%	63.8%	\$770	\$376,190	\$0				Y
	U34	A_I5_P-6323	203	18	21	24.1%	33.7%	49.6%	48.9%	55.8%	\$770	\$0	\$155,949				Y
	U36	A_I6_P-6254	356	18	21	75%	75%	75%	75%	75%	\$330	\$0	\$117,397 (c)				
	U34	A_I5_P-6324	157	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$45,551 (b)				
	U34	A_I5_P-6325	383	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$110,967 (b)				
	U34	A_I5_P-6360	57	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$16,673 (b)				
	U34	A_I5_P-6361	125	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$36,234 (b)				
	U34	A_I5_P-6362	240	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$69,456 (b)				
	U34	A_J5_P-6364	106	18 (15)	18	50%	50%	50%	50%	50%	\$290	\$0	\$30,648 (b)				
	U34	A_J5_P-6365	410	18	21	75%	75%	75%	75%	75%	\$770	\$0	\$315,408 (c)				Y
Subtotal U215			3,641.1									\$376,190	\$1,835,266				
U216		O_G17_P-1382	231	12	15	23.8%	34.4%	52.0%	52.0%	55.6%	\$260	\$0	\$59,992				
		O_G17_P-1383	234	12	15	22.4%	32.2%	48.3%	48.3%	51.5%	\$260	\$0	\$60,777				
Figure		O_G17_P-1400	282	12	15	24.8%	35.9%	54.6%	54.6%	58.6%	\$260	\$0	\$73,405				
5-8c		O_F17_P-1401	279	12	15	23.5%	33.9%	51.2%	51.2%	54.8%	\$260	\$0	\$72,535				
		O_F17_P-1402	258	12	15	23.9%	34.4%	52.0%	52.0%	55.8%	\$260	\$0	\$67,126				
		O_F17_P-1403	351	12	15	23.9%	34.5%	51.9%	51.9%	55.4%	\$260	\$0	\$91,283				
		O_F16_P-1404	352	12	15	23.7%	34.3%	51.6%	51.6%	55.0%	\$260	\$0	\$91,461				
		O_F16_P-1405	350	12	15	24.3%	35.1%	53.1%	53.1%	56.7%	\$260	\$0	\$91,111				
		O_F16_P-1406	351	12	15	24.0%	34.6%	52.2%	52.2%	55.8%	\$260	\$0	\$91,358				
		K_F16_P-3938	364	12	15	25.0%	36.1%	54.4%	54.4%	57.9%	\$260	\$0	\$94,511				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
				(Existing) Diameter (in)													
		K_F16_P-3939	352	12	15	28.0%	40.6%	61.2%	61.2%	65.9%	\$260	\$0	\$91,441				
		K_F15_P-3959	182	15	18	27.3%	39.5%	59.2%	59.2%	63.6%	\$290	\$0	\$52,697				
		K_F16_P-3960	298	12	15	20.1%	28.7%	41.5%	41.5%	44.0%	\$260	\$0	\$77,393	(a)			
		K_F15_P-3961	312	18	21	38.2%	57.4%	100.0%	100.0%	100.0%	\$330	\$102,917	\$0				Y
		K_F15_P-3968	396	8	10	17.6%	25.9%	45.7%	45.7%	51.6%	\$210	\$0	\$83,161				Y
		K_F15_P-3971	52	6	21	100.0%	100.0%	100.0%	100.0%	100.0%	\$330	\$17,113	\$0				Y
		K_F15_P-3972	76	18	21	32.1%	46.9%	70.6%	70.6%	80.2%	\$330	\$0	\$24,988				Y
		K_F15_P-3973	212	18	21	32.1%	46.9%	70.6%	70.6%	79.2%	\$330	\$0	\$69,986				Y
		K_F15_P-3977	100	15	18	29.3%	42.3%	61.5%	61.5%	68.7%	\$290	\$0	\$29,000				Y
		K_F15_P-3978	252	15	18	28.4%	41.1%	59.8%	59.8%	66.1%	\$290	\$0	\$73,135				Y
		K_F15_P-3979	284	15	18	28.9%	41.8%	60.5%	60.5%	67.5%	\$290	\$0	\$82,490				
Subtotal U216			5,567.4									\$120,031	\$1,377,848				
	U217	O_G19_P-1048	88	10	12	20.4%	29.7%	48.5%	48.5%	51.4%	\$230	\$0	\$20,299				
		O_G19_P-1049	295	10	12	21.0%	30.6%	50.1%	50.1%	53.2%	\$230	\$0	\$67,812				
	Figures	O_G19_P-1053	219	10	12	21.5%	31.4%	51.5%	51.5%	54.7%	\$230	\$0	\$50,315				Y
	5-8c	O_G18_P-1054	131	10	12	22.5%	32.9%	53.9%	53.9%	57.2%	\$230	\$0	\$30,227				Y
	5-8d	O_G18_P-1057	258	12	15	20.2%	29.4%	47.3%	47.3%	50.1%	\$260	\$0	\$67,063				
		O_G18_P-1061	20	8	12	27.4%	40.3%	68.0%	68.0%	73.7%	\$230	\$4,591	\$0				
		O_G17_P-1071	273	12	15	20.7%	30.0%	49.4%	49.4%	53.4%	\$260	\$0	\$71,068				
		O_G18_P-1072	274	12	15	20.9%	30.2%	50.0%	50.0%	54.1%	\$260	\$0	\$71,348				
		O_G18_P-1073	282	12	15	20.6%	29.8%	49.2%	49.2%	53.2%	\$260	\$0	\$73,443				
		O_G18_P-1075	254	10	12	22.9%	33.3%	53.6%	53.6%	57.1%	\$230	\$0	\$58,322				
		O_G18_P-1076	320	10	12	23.5%	34.3%	55.6%	55.6%	59.4%	\$230	\$0	\$73,503				
		O_G20_P-1085	345	10	15	24.2%	35.9%	65.1%	65.1%	70.7%	\$260	\$0	\$89,584				
		O_G20_P-1086	321	10	15	23.8%	35.3%	63.4%	63.4%	68.5%	\$260	\$0	\$83,345				
		O_G20_P-1088	26	10	15	12.8%	18.6%	30.9%	30.9%	32.8%	\$260	\$0	\$6,717	(a)			
		O_G19_P-1091	344	10	12	21.6%	31.5%	51.8%	51.8%	54.8%	\$230	\$0	\$79,212				
		O_G19_P-1092	254	10	12	20.6%	30.0%	49.1%	49.1%	51.9%	\$230	\$0	\$58,430				
		O_G19_P-1093	267	10	12	20.7%	30.1%	49.3%	49.3%	52.1%	\$230	\$0	\$61,503				
		O_G19_P-1094	344	10	12	22.0%	32.2%	53.2%	53.2%	56.3%	\$230	\$0	\$79,194				
		O_G19_P-1095	135	10	12	22.0%	32.2%	53.1%	53.1%	56.5%	\$230	\$0	\$31,034				
		O_H19_P-1102	261	8	12	25.4%	38.0%	74.6%	74.6%	100.0%	\$230	\$59,979	\$0				
		O_H19_P-1105	146	8	10	21.5%	31.9%	58.6%	58.6%	63.0%	\$210	\$0	\$30,601				
Subtotal U217			4,857.1									\$64,569	\$1,103,020				
	U218	Q_F19_P-1741	350	8	10	16.1%	23.6%	41.7%	41.7%	55.3%	\$210	\$0	\$73,467				Y
		Q_F19_P-1742	197	8	10	16.1%	23.7%	41.8%	41.8%	56.0%	\$210	\$0	\$41,332				Y
	Figure	Q_G19_P-963	175	8	10	11.2%	17.0%	37.3%	37.2%	63.6%	\$210	\$0	\$36,782				Y
	5-8d	Q_G19_P-964	184	8	15	25.4%	38.9%	100.0%	100.0%	100.0%	\$260	\$47,914	\$0				Y
		Q_F19_P-965	146	8	15	34.0%	53.4%	100.0%	100.0%	100.0%	\$260	\$37,933	\$0				Y
		Q_F19_P-966	225	8	18	35.0%	55.0%	100.0%	100.0%	100.0%	\$290	\$65,246	\$0				Y
		Q_F19_P-967	207	8	18	42.0%	68.5%	100.0%	100.0%	100.0%	\$290	\$59,992	\$0				Y
		Q_F19_P-968	256	8	10	14.5%	21.3%	37.9%	37.9%	45.7%	\$210	\$0	\$53,841	(a)			Y
		Q_F19_P-969	196	8	10	14.9%	21.9%	38.9%	38.9%	49.1%	\$210	\$0	\$41,203	(a)			Y
		Q_F19_P-970	243	8	10	19.6%	29.1%	52.9%	52.9%	70.9%	\$210	\$0	\$51,075				Y
Subtotal U218			2,179.7									\$211,085	\$297,700				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled	Proposed	Existing	Existing	Existing	Near-Term	Ultimate	Unit	Existing	Future System	Priority	Roots	Freeways	Confirm
				(Existing) Diameter (in)													
U219		X_E24_P-229	354	18	21	29.6%	42.4%	60.9%	68.4%	100.0%	\$330	\$0	\$116,820				
		U_E24_P-2902	234	18	21	25.4%	36.3%	50.5%	52.0%	55.8%	\$330	\$0	(a) \$77,077				
Figure		U_E25_P-2903	348	18	21	32.3%	47.1%	68.5%	71.2%	78.6%	\$330	\$0	\$114,923				
5-8e		U_E25_P-2905	348	18	21	32.4%	47.3%	68.9%	71.6%	79.1%	\$330	\$0	\$114,916				
		U_E24_P-2912	352	18	24	45.7%	71.2%	100.0%	100.0%	100.0%	\$380	\$133,728	\$0				
		U_E24_P-2913	357	18	21	32.5%	47.5%	69.2%	71.9%	79.6%	\$330	\$0	\$117,862				
		U_E24_P-2914	352	18	21	32.4%	47.3%	68.8%	71.5%	79.0%	\$330	\$0	\$116,119				
		U_E24_P-2915	353	18	21	32.4%	47.3%	68.9%	71.6%	79.1%	\$330	\$0	\$116,580				
		U_E24_P-2916	354	18	21	32.5%	47.3%	69.0%	71.7%	79.2%	\$330	\$0	\$116,851				
		X_D24_P-2917	382	18	21	33.1%	48.4%	71.0%	73.9%	100.0%	\$330	\$0	\$125,918				
Subtotal U219			3,433.9									\$133,728	\$1,017,065				
U220		I_G14_P-4140	292	10	12	24.4%	35.8%	59.2%	59.2%	59.6%	\$230	\$0	\$67,268				
		I_G14_P-4776	72	6	8	21.4%	32.1%	63.0%	63.0%	63.3%	\$200	\$0	\$14,473				
Figure		I_G14_P-4813	237	8	10	20.3%	30.1%	53.8%	53.8%	54.2%	\$210	\$0	\$49,852				
5-8b		I_G14_P-4814	331	8	10	20.2%	29.6%	50.4%	50.4%	50.7%	\$210	\$0	\$69,582				
		I_G14_P-4828	62	8	12	30.0%	44.7%	100.0%	100.0%	100.0%	\$230	\$14,308	\$0				Y
Subtotal U220			995.8									\$14,308	\$201,176				
U221		E_I10_P-5483	224	6	8	0.0%	0.0%	0.0%	0.0%	0.0%	\$200	\$0	(a) \$44,734				Y
		E_I11_P-5484	315	6	8	22.1%	32.6%	59.3%	59.3%	62.4%	\$200	\$0	\$62,918				
Figure		E_I11_P-5485	631	6	8	21.1%	30.7%	50.4%	50.4%	52.9%	\$200	\$0	\$126,162				
5-8b		E_I10_P-5486	174	6	8	22.3%	33.5%	64.8%	64.8%	66.4%	\$200	\$0	\$34,776				
		E_I10_P-5489	39	6	8	9.7%	14.2%	24.9%	24.9%	25.3%	\$200	\$0	(a) \$7,824				Y
		E_I10_P-5490	119	6	8	10.5%	15.4%	27.2%	27.2%	27.7%	\$200	\$0	(a) \$23,897				Y
		E_I11_P-5531	151	6	8	19.7%	29.3%	55.2%	55.2%	56.4%	\$200	\$0	\$30,270			Y	
Subtotal U221			1,652.9									\$0	\$330,581				
U222		E_H14_P-4710	522	6	8	20.5%	30.3%	53.1%	53.1%	53.3%	\$200	\$0	\$104,437			Y	
		E_H14_P-4711	520	6	8	21.8%	32.2%	57.2%	57.2%	57.3%	\$200	\$0	\$104,029			Y	
Figure		E_H14_P-4712	60	6	8	21.7%	32.1%	57.1%	57.1%	57.2%	\$200	\$0	\$11,910			Y	
5-8b		E_I13_P-4921	338	6	8	16.9%	25.0%	46.7%	46.7%	57.3%	\$200	\$0	\$67,581				
Subtotal U222			1,439.8									\$0	\$287,957				
U223		K_G16_P-1374	307	8	10	20.9%	30.7%	52.2%	52.2%	53.0%	\$210	\$0	\$64,544	48			
Figure		K_G16_P-1393	215	8	10	20.5%	30.2%	52.8%	52.8%	54.0%	\$210	\$0	\$45,254				
5-8c		K_G16_P-1394	164	8	10	15.6%	22.6%	36.5%	36.5%	37.1%	\$210	\$0	(a) \$34,469				
Subtotal U223			687.0									\$0	\$144,268				
U224		X_E26_P-3247	416	8	10	21.2%	31.5%	57.6%	57.6%	62.2%	\$210	\$0	\$87,290				
		X_E26_P-3248	261	8	10	20.0%	29.6%	53.9%	53.9%	57.7%	\$210	\$0	\$54,894				
Figure		X_E26_P-3251	254	8	10	19.5%	28.8%	52.4%	52.4%	56.2%	\$210	\$0	\$53,257				
5-8e		X_E26_P-3253	319	8	10	18.5%	27.5%	50.1%	50.1%	53.3%	\$210	\$0	\$67,038				
Subtotal U224			1,249.9									\$0	\$262,479				
U225		P_C20_P-2227	196	21	24	35.3%	48.8%	66.5%	69.4%	75.3%	\$380	\$0	\$74,493				
Figure		P_C18_P-2240	334	24	27	33.3%	48.3%	68.3%	70.7%	100.0%	\$410	\$0	\$136,858				
5-8c		P_C18_P-339	311	24	27	32.7%	47.3%	66.6%	68.8%	81.4%	\$410	\$0	\$127,624				
Subtotal U225			841.1									\$0	\$338,975				
U226		Q_E20_P-1787	259	8	10	19.1%	28.0%	48.1%	48.1%	50.6%	\$210	\$0	\$54,364				
		Q_E20_P-1788	257	8	10	20.5%	30.1%	52.0%	52.0%	54.9%	\$210	\$0	\$53,928				
Figure		Q_E20_P-1789	258	8	10	24.8%	36.8%	66.0%	66.0%	70.3%	\$210	\$0	\$54,145				
5-8d		R_F21_P-1956	201	8	10	19.3%	28.4%	49.3%	49.3%	50.4%	\$210	\$0	\$42,287				
		R_E21_P-1957	279	8	10	21.1%	31.1%	53.9%	53.9%	55.4%	\$210	\$0	\$58,622				
		R_E21_P-1958	309	8	10	22.5%	33.3%	58.8%	58.8%	60.6%	\$210	\$0	\$64,859				
		R_E21_P-1959	228	8	12	30.4%	46.0%	100.0%	100.0%	100.0%	\$230	\$52,449	\$0				
		R_E21_P-1960	118	8	10	19.9%	29.3%	51.0%	51.0%	52.5%	\$210	\$0	\$24,748				
		R_E21_P-2094	242	8	12	24.4%	36.1%	63.9%	63.9%	74.2%	\$230	\$0	\$55,752				

Project Number	2005 Downtown/ Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADWF d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
		R_E21_P-2096	266	8	12	24.5%	36.3%	64.8%	64.8%	75.8%	\$230	\$0	\$61,237				
		R_E21_P-2101	305	8	10	23.4%	34.6%	61.2%	61.2%	63.1%	\$210	\$0	\$64,132				
		R_E21_P-2106	282	8	10	22.1%	32.6%	57.0%	57.0%	58.7%	\$210	\$0	\$59,151				
Subtotal U226			3,004.5									\$52,449	\$593,224				
U227		P_B20_P-1019	171	10	15	16.6%	24.3%	42.4%	73.4%	77.9%	\$260	\$0	\$44,540				
		P_B20_P-1020	339	10	12	6.7%	9.9%	18.8%	22.1%	29.8%	\$230	\$0	(a) \$78,081				
Figure		P_B20_P-1031	237	8	10	14.7%	21.8%	40.5%	50.1%	54.2%	\$210	\$0	\$49,673				
5-8d		P_B20_P-1032	342	8	10	11.9%	17.5%	32.0%	39.0%	42.2%	\$210	\$0	(a) \$71,750				
		P_B20_P-1033	270	8	10	12.0%	17.7%	32.2%	39.2%	42.3%	\$210	\$0	(a) \$56,754				
		P_B20_P-1045	259	10	12	15.4%	23.6%	54.1%	54.0%	100.0%	\$230	\$0	\$59,465				Y
		P_B20_P-278	25	10	12	13.7%	19.9%	33.0%	57.0%	59.3%	\$230	\$0	\$5,845				
		P_B20_P-294	369	8	10	10.3%	15.1%	27.3%	52.0%	53.7%	\$210	\$0	\$77,549				
Subtotal U227			2,012.5									\$0	\$443,656				
U228		K_E17_P-4450	155	8	10	10.0%	14.8%	28.0%	52.9%	52.9%	\$210	\$0	\$32,446				
		K_F16_P-4451	262	8	10	10.6%	15.7%	29.6%	56.6%	56.6%	\$210	\$0	\$55,065				
Figure		K_F17_P-777	201	8	10	18.9%	28.0%	52.3%	52.3%	63.0%	\$210	\$0	\$42,257				
5-8c		K_F17_P-778	202	8	10	17.2%	25.2%	42.8%	42.8%	51.1%	\$210	\$0	\$42,523				
		K_F17_P-779	139	8	10	17.6%	25.8%	44.0%	44.0%	52.3%	\$210	\$0	\$29,096				
		K_F17_P-780	79	8	10	17.4%	25.5%	43.4%	43.4%	51.5%	\$210	\$0	\$16,658				
		K_F17_P-781	54	8	10	17.5%	25.5%	43.6%	43.6%	51.8%	\$210	\$0	\$11,374				
		K_F17_P-973	406	8	10	22.7%	33.3%	57.1%	57.1%	70.2%	\$210	\$0	\$85,361				
Subtotal U228			1,499.0									\$0	\$314,780				
U229		A_M7_P-6498	244	8	10	17.8%	26.3%	48.0%	48.0%	57.6%	\$210	\$0	\$51,260				
		A_M8_P-6508	289	8	10	17.2%	25.5%	46.5%	46.5%	54.5%	\$210	\$0	\$60,621				
Figure		A_M8_P-6512	295	8	10	16.7%	24.7%	45.0%	45.0%	52.8%	\$210	\$0	\$61,992				
5-8a		A_M8_P-6513	301	8	10	16.9%	25.0%	45.7%	45.7%	51.6%	\$210	\$0	\$63,196				
		A_N8_P-6554	316	8	10	16.6%	24.5%	44.1%	49.3%	52.7%	\$210	\$0	\$66,264			Y	
Subtotal U229			1,444.4									\$0	\$303,333				
U230		Q_G21_P-1686	180	8	10	13.8%	20.9%	45.6%	45.6%	55.7%	\$210	\$0	\$37,868				Y
		Q_G22_P-1699	407	10	12	25.7%	37.8%	64.3%	64.3%	68.2%	\$230	\$0	\$93,651				Y
Figure		Q_G21_P-1700	359	10	12	25.6%	37.7%	63.9%	63.9%	68.4%	\$230	\$0	\$82,654				
5-8d		Q_G21_P-1701	355	10	12	25.5%	37.5%	63.6%	63.6%	68.3%	\$230	\$0	\$81,606				
		Q_G22_P-2579	168	10	12	24.4%	35.9%	60.2%	60.2%	62.5%	\$230	\$0	\$38,619				Y
Subtotal U230			1,469.6									\$0	\$334,398				
U231	U31	E_I8_P-128	211	6	8	9.9%	14.5%	25.5%	25.5%	40.3%	\$200	\$0	(a) \$42,150				
	U31	E_I8_P-4438	14	6	8	10.5%	15.3%	27.1%	27.1%	42.7%	\$200	\$0	(a) \$2,720				
Figure	U31	E_I8_P-5825	256	6	8	11.8%	17.5%	32.9%	32.9%	52.7%	\$200	\$0	\$51,204				
5-8a	U31	E_I8_P-5827	233	6	8	11.7%	17.3%	32.3%	32.3%	50.2%	\$200	\$0	\$46,514				
	U31	E_I8_P-5831	164	6	8	15.5%	23.1%	43.7%	43.7%	70.0%	\$200	\$0	\$32,790				
	U31	E_I8_P-5836	66	6	8	10.8%	16.0%	29.3%	29.3%	43.7%	\$200	\$0	(a) \$13,210				Y
	U31	E_I8_P-5870	227	6	8	11.6%	17.0%	30.4%	30.4%	50.3%	\$200	\$0	\$45,387				
	U31	E_I8_P-5871	72	6	8	12.5%	18.5%	33.5%	33.5%	57.9%	\$200	\$0	\$14,333				
	U39	E_I8_P-6050	197	6	8	13.9%	20.6%	38.8%	38.8%	50.6%	\$200	\$0	\$39,318				
	U39	E_H8_P-5746	90	6	8	17.3%	25.5%	46.4%	46.5%	63.6%	\$200	\$0	\$18,003				Y
	U38	E_H7_P-5992	37	10	12	50%	50%	50%	50%	50%	\$230	\$0	(c) \$8,513				
	U39	E_I8_P-6052	455	6	8	50%	50%	50%	50%	50%	\$200	\$0	(c) \$90,973				
	U39	E_H8_P-6011	142	10 (6)	10	50%	50%	50%	50%	50%	\$210	\$0	(b) \$29,812				
	U31	E_I8_P-5887	194	8 (6)	8	50%	50%	50%	50%	50%	\$200	\$0	(b) \$38,754				
	U31	E_I8_P-5872	67	6	8	50%	50%	50%	50%	50%	\$200	\$0	(c) \$13,380				Y
	U31	E_I8_P-5866	69	6	8	50%	50%	50%	50%	50%	\$200	\$0	(c) \$13,811				
	U31	E_I8_P-5832	58	6	8	50%	50%	50%	50%	50%	\$210	\$0	(c) \$12,107				
	U31	E_H8_P-5706	367	15 (6)	15	50%	50%	50%	50%	50%	\$260	\$0	(b) \$95,402				

Project Number	2005 Downtown/Westside Study Project Number	Pipe ID	Length (ft)	Modeled (Existing) Diameter (in)	Proposed Diameter (in)	Existing ADFW d/D Ratio	Existing PDWF d/D Ratio	Existing PWWF d/D Ratio	Near-Term PWWF d/D Ratio	Ultimate PWWF d/D Ratio	Unit Cost (\$/ft)	Existing System Capital Cost	Future System Capital Cost	Priority Area	Roots	Freeways	Confirm Invert Elevations
	U31	E_H8_P-5709	61	15 (6)	15	50%	50%	50%	50%	50%	\$260	\$0	(b)	\$15,954			
	U31	E_H8_P-5700	382	15 (8)	15	50%	50%	50%	50%	50%	\$260	\$0	(b)	\$99,230	64		
	U31	E_I9_P-5795	187	21 (8)	21	50%	50%	50%	50%	50%	\$330	\$0	(b)	\$61,824			Y
	U31	E_H8_P-5743	94	15 (6)	15	50%	50%	50%	50%	50%	\$260	\$0	(b)	\$24,384			
	U31	E_I8_P-5787	379	15 (6)	15	50%	50%	50%	50%	50%	\$260	\$0	(b)	\$98,608			
	U31	E_I8_P-5840_2	69	6	8	50%	50%	50%	50%	50%	\$200	\$0	(c)	\$13,890			Y
Subtotal U231			4,089.2									\$0	\$922,273				
	U232	N_H19_P-1204	1000	12	15	20.8%	30.3%	48.9%	48.9%	53.4%	\$260	\$0		\$260,051			
		J_H17_P-1241	309	10	12	18.3%	26.7%	44.3%	44.9%	51.9%	\$230	\$0		\$70,983			
	<i>Figures</i>	J_H17_P-1242	332	10	12	20.7%	30.3%	50.9%	51.6%	59.9%	\$230	\$0		\$76,327			
	<i>5-8c</i>	N_H18_P-1243	288	12	15	21.5%	31.3%	50.5%	50.5%	55.0%	\$260	\$0		\$74,925			
	<i>5-8d</i>	J_H18_P-1248	289	10	12	20.8%	30.6%	53.2%	53.9%	61.1%	\$230	\$0		\$66,362			
		J_H18_P-1249	283	10	12	18.5%	27.2%	46.6%	47.2%	53.2%	\$230	\$0		\$65,178			
		N_H19_P-1259	214	12	15	20.2%	29.7%	51.0%	51.0%	54.6%	\$260	\$0		\$55,698			
		N_H19_P-1298	282	12	15	22.0%	32.2%	54.4%	54.4%	58.2%	\$260	\$0		\$73,386			
		N_H19_P-1306	298	12	15	21.5%	31.3%	50.8%	50.8%	55.4%	\$260	\$0		\$77,459			
Subtotal U232			3,295.2									\$0	\$820,368				
	U233	M_J21_P-65	210	8	10	20.7%	30.6%	55.2%	55.2%	58.3%	\$210	\$0		\$44,110			
		M_J21_P-65_2	153	8	10	19.2%	28.3%	50.2%	50.2%	53.0%	\$210	\$0		\$32,078			
	<i>Figure 5-8d</i>																
Subtotal U233			362.8									\$0	\$76,188				
	U234	S_I23_P-2699	256	8	10	19.8%	29.0%	50.0%	50.0%	53.2%	\$210	\$0		\$53,790			
	<i>Figure</i>	S_I24_P-2705	236	8	10	21.4%	31.5%	54.5%	54.5%	57.8%	\$210	\$0		\$49,580			
	<i>5-8e</i>	S_I24_P-2706	195	8	10	21.7%	31.8%	53.2%	53.2%	55.5%	\$210	\$0		\$40,945			
Subtotal U234			687.2									\$0	\$144,314				
	U235	E_H11_P-5074	471	8	10	17.6%	26.2%	47.1%	47.7%	50.7%	\$210	\$0		\$98,925			Y
		E_H11_P-5077	166	8	10	18.0%	26.8%	48.2%	48.7%	51.8%	\$210	\$0		\$34,803			
	<i>Figure 5-8b</i>																
Subtotal U235			636.8									\$0	\$133,728				
	U236	P_D19_P-1840	73.0	15	18	17.0%	31.4%	56.1%	56.1%	74.6%	\$290	\$0		\$96,966			
		P_D19_P-2136	325.4	15	18	15.3%	28.1%	49.3%	49.3%	63.4%	\$290	\$0		\$94,363			
		P_D19_PC-217	409.9	15	18	16.1%	29.8%	52.7%	52.7%	68.7%	\$290	\$0		\$118,871			
	<i>Figure</i>	P_D19_P-2137	39.4	15	18	16.3%	30.3%	57.2%	57.2%	78.0%	\$290	\$0		\$11,426			
	<i>5-8c</i>	P_C19_P-2147	70.1	15	18	17.9%	32.6%	58.2%	59.0%	78.6%	\$290	\$0		\$20,318			
Subtotal U236			917.8									\$0	\$341,944				

Notes:

- (a) Pipe was not found deficient.
- (b) Modeled assuming improvements from 2005 Study were implemented. Actual existing diameter is in parenthesis. Existing d/D ratio is assumed to be 50% for D<15" and 75% for D>15".
- (c) Not found deficient, but was in the 2005 Study. Pipe should be evaluated for improvements. d/D ratio is assumed to be 50% for D<15" and 75% for D>15".
- (d) City Staff indicate that permanent deposits have reduced the pipeline capacity; pipe should be considered for improvement.

5.5.5 Ultimate Collection System Improvement Recommendations

The ultimate development condition capital improvement recommendations were based on the results of the system evaluation and hydraulic analysis as described in Section 5.3. These capital improvement recommendations are identified in Table 5-15 and are shown in Figures 5-8a to 5-8e. Exhibit 5 presents the recommendations for the entire collection system. Table 5-15 provides a cost summary for all sewer pipeline ultimate projects. Prior to implementing any near-term projects it is recommended that local flow monitoring be conducted to confirm the dry weather and peak wet weather flows.

In addition to sewer pipeline improvement, the existing Topaz Lift Station was identified as having insufficient pumping capacity for ultimate peak wet weather flows. The estimated cost for replacing the existing pumps and motors with larger capacity pumps and motors was approximately \$31,500. Anticipated improvements include replacing the two existing pumps and motors and upgrading electrical equipment and appurtenances. The new pumps would be sized for ultimate peak wet weather flows, assuming one pump operates on standby.

5.5.6 Collection System Recommendations in Perspective

The previous sections summarized the recommended improvements to the City's collection system. While these recommendations collectively encompass significant improvements, they are only a portion of the total collection system. Table 5-16 summarizes the recommended improvements in terms of length and estimated probable cost.

**TABLE 5-16
SUMMARY OF COLLECTION SYSTEM RECOMMENDATIONS**

Project	Length (miles)	Total
Existing Projects	23.0	\$36,400,000
Near-Term Projects	12.5	\$16,400,000
Ultimate Projects	15.7	\$21,500,000
TOTAL	51.2	\$74,300,000

The collection system recommendations consist of improvements to approximately 50 miles of collection system pipelines. In perspective, this represents approximately 18 percent of the City's total collection system. However, roughly half of the improvements are recommended due to future development.

The total value of the existing assets is difficult to obtain. The value is a function of the buried asset parameters (ex., pipeline diameter), but also of the typical lifespan of the asset and its age. Specific information related to age and material for all pipes was not available and, therefore, the total value of the existing assets was not determined. However, based on the estimated unit costs presented in Section 5.5.1, the recommended improvements represent approximately 18 percent of the replacement value of the existing collection system (pipes and manholes). These are very broad estimates and more information is needed to fully put these improvements into perspective.



Section 6: Wastewater System Recommendations and Capital Improvement Program

This section presents a summary of recommendations resulting from this study of the wastewater collection and treatment systems, including a suggested capital improvement program.

6.1 Recommended Further Studies and Investigations

The following summarizes recommendations for further studies and investigations resulting from this Study:

- The City's collection system exhibits relatively high peak flows during rain events. A system-wide infiltration and inflow (I/I) assessment is recommended to quantify the City's I/I rates and to provide direction to further mitigation measures. This effort would include conducting additional wet weather flow monitoring throughout the City's wastewater collection system. The City may wish to use the same locations as those used in the previous flow monitoring efforts. This would allow the flow monitoring results of the different time periods to be compared and the I/I amounts quantified within each flow monitoring tributary area. By quantifying I/I rates by area, the City can focus subsequent efforts on those portions of the collection system exhibiting the highest infiltration/inflow rates, with the aim of identifying mitigation measures that provide that highest return on investment.
- City crews have video taped the conditions of the sewer lines for many portions of the City's collection system using a remote-operated camera and closed-circuit television system. Given the age of its sewer infrastructure, the City should consider conducting a condition assessment program utilizing these videos as a source of information. The Pipeline Assessment Certification Program provides a standardized approach for condition assessments which the City could utilize to standardize its condition assessment program. Using a standardized approach could streamline the assessment and be used to develop a ranking system. Software programs are also available to link the condition assessment information to a GIS (or similar) database. Condition assessment information could be coupled with the hydraulic analysis results of this study to refine the capital improvements needs presented herein.
- The City should continue cleaning and documenting root intrusions and "Priority Areas" in the collection system. Records should include dates of cleaning and noted problems as part of the City's tracking system.
- Invert elevations for recommended projects should be confirmed as part of future preliminary design work. This work may also include conducting local flow monitoring to confirm dry weather and peak wet weather flows relative to the model results.

- Although alternatives to increase the VWRF capacity to 14 MGD AAF were discussed in Section 4 of this report, the scope of this Study did not include every potential limitation. Many of the facilities at the VWRF were determined to be operating beyond typical design lives. Thus, assessing the state of these facilities would be critical to developing an appropriate improvement plan.
 - An overall plant condition assessment is recommended to collect this information. If the results of this assessment indicate that many structures, connective piping, or equipment are not in adequate condition to operate reliably, the City should consider evaluating options beyond the recommendations for improvements made in this report.
- Recommended alternatives discussed in this report for increasing the VWRF capacity were based upon information provided by VWRF Staff. The scope of this evaluation is limited and does not include all potential deficiencies. There were several recommendations for further studies and investigation which could modify the need for the recommended alternatives presented in this report. Recommended alternatives and associated costs are tabulated below in Section 6.3. Further studies that the VWRF should consider are below:
 - Influent flow measurement capacity: Determine whether the facility layout and hydraulic conditions are conducive to installing magnetic flow meters on the discharge piping of the influent pumps (Section 4.3.1.1.4).
 - Grit removal redundancy: Verify that mechanical redundancy is provided in the existing grit removal unit; if further reliability is desired, assess the feasibility of subdividing the existing unit (Section 4.3.1.2.2).
 - Primary clarifier redundancy: Pilot test Enhanced Primary Treatment (EPT) to explore the feasibility of implementing EPT in lieu of building a third clarifier (Section 4.3.2.1.4).
 - Aeration basins: Review adequacy of aerations improvements recommended by Brown and Caldwell (B&C) in their TM No. 1. Modeling and/or pilot testing of the proposed system is recommended before full-scale implementation (Section 4.2.3.3.2).
 - Secondary Clarifiers: Review adequacy of the proposed Waste Activated Sludge (WAS) improvements recommended by B&C TM No. 1 to ensure that they allow for a comfortable level of operational flexibility under a maximum month loading scenario (Section 4.2.3.4.2).
 - Anaerobic digestion capacity: Consider enhancing the ability to receive fats, oils, and grease (FOG) with the construction of a new digester (Section 4.3.6.1.4).
- In addition to the above recommended studies, the City should also work to complete the studies required by the Regional Water Quality Control Board related to the Estuary and recycled water.

6.2 Collection System Improvements

The following sections summarize the costs associated with the recommended improvements to the City's collection system for the existing, near-term, and ultimate development conditions. As presented in Section 5, these costs have an assumed level of accuracy for conceptual-level design of +50 percent to -30 percent. Estimates of probable cost reflect March 2008 construction costs and incorporate a 20 percent allowance for engineering, administration, and project contingencies.

Timing of the project implementation may be dependent upon development within the City. Existing projects are assumed to be the most critical, until near-term and future development/redevelopment occurs. Should the anticipated near-term or ultimate development not occur, the City should consider improvements to existing deficiencies that have been grouped with near-term or ultimate projects. Prior to preliminary design, recommended facilities should undergo further evaluations to confirm the flow, connectivity, invert elevations, length, material requirements, costs, etc.

6.2.1 Existing Collection System Improvement Recommendations

Hydraulic analysis of the existing collection system under existing average dry, peak dry, and peak wet weather conditions resulted in the recommendation of 42 gravity sewer projects and three (3) lift station projects. These projects, presented in detail in Section 5 are summarized in Table 6-1. Table 6-1 assigns the costs to either existing system users or future system users depending on whether the need for the improvement was due to an existing or future deficiency.

**TABLE 6-1
SUMMARY OF ESTIMATES OF PROBABLE COST FOR EXISTING PROJECTS**

Project	Length (ft)	Existing System Capital Cost	Future System Capital Cost	Total
Sewerline E1	4,570	\$1,319,261	\$0	\$1,319,000
Sewerline E2	2,294	\$633,674	\$81,977	\$716,000
Sewerline E3	311	\$19,750	\$0	\$20,000
Sewerline E4	1,668	\$254,304	\$137,555	\$392,000
Sewerline E5	6,151	\$1,377,266	\$13,134	\$1,390,000
Sewerline E6	3,876	\$882,418	\$52,260	\$935,000
Sewerline E7	3,184	\$1,424,412	\$269,977	\$1,694,000
Sewerline E8	4,460	\$1,020,861	\$170,534	\$1,191,000
Sewerline E9	893	\$358,064	\$0	\$358,000
Sewerline E10	1,245	\$190,550	\$110,502	\$301,000
Sewerline E11	3,217	\$809,912	\$243,325	\$1,053,000
Sewerline E12	1,301	\$204,827	\$92,370	\$297,000
Sewerline E13	3,449	\$804,998	\$110,304	\$915,000
Sewerline E14	1,739	\$266,705	\$237,668	\$504,000
Sewerline E15	6,085	\$999,685	\$492,232	\$1,492,000
Sewerline E16	4,739	\$1,465,857	\$357,666	\$1,824,000
Sewerline E17	5,646	\$947,141	\$379,086	\$1,326,000

Project	Length (ft)	Existing System Capital Cost	Future System Capital Cost	Total
Sewerline E18	346	\$91,917	\$0	\$92,000
Sewerline E19	1,041	\$270,645	\$0	\$271,000
Sewerline E20	2,741	\$721,315	\$0	\$721,000
Sewerline E21	2,038	\$378,576	\$90,103	\$469,000
Sewerline E22	972	\$146,216	\$78,913	\$225,000
Sewerline E23	2,014	\$426,202	\$54,615	\$481,000
Sewerline E24	3,672	\$685,464	\$141,778	\$827,000
Sewerline E25	988	\$752,529	\$0	\$753,000
Sewerline E26	3,632	\$565,943	\$185,949	\$752,000
Sewerline E27	6,268	\$957,861	\$763,316	\$1,721,000
Sewerline E28	1,405	\$137,769	\$171,608	\$309,000
Sewerline E29	3,473	\$757,373	\$0	\$757,000
Sewerline E30	883	\$221,180	\$0	\$221,000
Sewerline E31	475	\$321,454	\$0	\$321,000
Sewerline E32	231	\$48,533	\$0	\$49,000
Sewerline E33	107	\$22,464	\$0	\$22,000
Sewerline E34	4,175	\$954,785	\$159,020	\$1,114,000
Sewerline E35	1,820	\$339,560	\$255,037	\$595,000
Sewerline E36	3,815	\$624,705	\$279,984	\$905,000
Sewerline E37	5,215	\$895,577	\$332,766	\$1,228,000
Sewerline E38	853	\$221,804	\$0	\$222,000
Sewerline E39	2,667	\$464,621	\$130,048	\$595,000
Sewerline E40	2,962	\$594,837	\$264,013	\$859,000
Sewerline E41	1,255	\$254,965	\$29,761	\$285,000
Sewerline E42	1,382	\$227,420	\$51,161	\$279,000
Seaside Transfer Station		\$315,000	\$0	\$315,000
Seaside Force Main	16,619	\$6,320,000	\$0	\$6,320,000
Total	121,309	\$30,698,399	\$5,736,660	\$36,440,000

6.2.2 Near Term Collection System Improvement Recommendations

The near-term development condition is a modification of the existing condition where specific near-term developments are contributing flow, as presented in Section 2. Hydraulic analysis of the near-term development condition under peak wet weather conditions resulted in the recommendation of the 21 gravity sewer projects and one lift station project. These projects, presented in detail in Section 5, are summarized in Table 6-2. Table 6-2 assigns the costs to existing system users for improvements due to existing deficiencies and to future system users for improvements necessary due to future development.

**TABLE 6-2
SUMMARY OF ESTIMATES OF PROBABLE COST FOR NEAR TERM PROJECTS**

Project	Length (ft)	Existing System Capital Cost	Future System Capital Cost	Total
Sewerline N101	2,893	\$112,124	\$578,916	\$691,000
Sewerline N102	4,665	\$13,674	\$1,287,135	\$1,301,000
Sewerline N103	6,106	\$263,714	\$1,044,448	\$1,308,000
Sewerline N104	2,825	\$0	\$805,377	\$805,000
Sewerline N105	1,882	\$0	\$376,426	\$376,000
Sewerline N106	746	\$0	\$156,647	\$157,000
Sewerline N107	6,416	\$125,449	\$1,561,897	\$1,687,000
Sewerline N108	1,253	\$0	\$250,561	\$251,000
Sewerline N109	2,115	\$0	\$571,414	\$571,000
Sewerline N110	3,257	\$0	\$1,073,177	\$1,073,000
Sewerline N111	7,382	\$0	\$1,850,307	\$1,850,000
Sewerline N112	4,054	\$10,751	\$1,056,663	\$1,067,000
Sewerline N113	6,601	\$119,015	\$1,442,734	\$1,562,000
Sewerline N114	1,996	\$0	\$419,252	\$419,000
Sewerline N115	714	\$0	\$149,985	\$150,000
Sewerline N116	1,748	\$55,842	\$332,968	\$389,000
Sewerline N117	3,299	\$0	\$956,667	\$957,000
Sewerline N118	2,988	\$45,379	\$574,082	\$619,000
Sewerline N119	819	\$0	\$215,601	\$216,000
Sewerline N120	3,022	\$0	\$644,648	\$645,000
Sewerline N121	1,062	\$0	\$223,009	\$223,000
North Bank Lift Station			\$0	\$63,000
Total	65,843	\$745,947	\$15,634,910	\$16,380,000

6.2.3 Ultimate Collection System Improvement Recommendations

The ultimate development condition assumes vacant parcels develop to the land-use designation of the *City of San Buenaventura's Comprehensive Plan* and consistent with the *City's Downtown Specific Plan* and assumes 10 percent redevelopment within the City. Hydraulic analysis of the ultimate development condition resulted in the recommendation of 35 gravity sewer projects and one lift station project, summarized in Table 6-3. Table 6-3 assigns the costs to existing system users for improvements due to existing deficiencies and to future system users for improvements necessary due to future development.

**TABLE 6-3
SUMMARY OF ESTIMATES OF PROBABLE COST FOR ULTIMATE PROJECTS**

Project	Length (ft)	Existing System Capital Cost	Future System Capital Cost	Total
Sewerline U201	5,285	\$177,529	\$1,074,636	\$1,252,000
Sewerline U202	4,503	\$82,731	\$868,324	\$951,000
Sewerline U203	5,122	\$473,757	\$957,206	\$1,431,000
Sewerline U204	3,151	\$48,981	\$668,473	\$717,000
Sewerline U205	1,075	\$0	\$252,348	\$252,000
Sewerline U206	834	\$11,727	\$158,291	\$170,000
Sewerline U207	2,098	\$0	\$425,536	\$426,000
Sewerline U208	817	\$0	\$473,811	\$474,000
Sewerline U209	1,867	\$32,238	\$392,120	\$424,000
Sewerline U210	4,245	\$0	\$1,022,844	\$1,023,000
Sewerline U211	1,404	\$71,572	\$223,247	\$295,000
Sewerline U212	1,369	\$0	\$287,456	\$287,000
Sewerline U213	2,767	\$66,673	\$575,023	\$642,000
Sewerline U214	2,424	\$18,048	\$491,454	\$510,000
Sewerline U215	3,641	\$376,190	\$1,835,266	\$2,211,000
Sewerline U216	5,567	\$120,031	\$1,377,848	\$1,498,000
Sewerline U217	4,857	\$64,569	\$1,103,020	\$1,168,000
Sewerline U218	2,180	\$211,085	\$297,700	\$509,000
Sewerline U219	3,434	\$133,728	\$1,017,065	\$1,151,000
Sewerline U220	996	\$14,308	\$201,176	\$215,000
Sewerline U221	1,653	\$0	\$330,581	\$331,000
Sewerline U222	1,440	\$0	\$287,957	\$288,000
Sewerline U223	687	\$0	\$144,268	\$144,000
Sewerline U224	1,250	\$0	\$262,479	\$262,000
Sewerline U225	841	\$0	\$338,975	\$339,000
Sewerline U226	3,004	\$52,449	\$593,224	\$646,000
Sewerline U227	2,012	\$0	\$443,656	\$444,000
Sewerline U228	1,499	\$0	\$314,780	\$315,000
Sewerline U229	1,444	\$0	\$303,333	\$303,000
Sewerline U230	1,470	\$0	\$334,398	\$334,000
Sewerline U231	4,089	\$0	\$922,273	\$922,000
Sewerline U232	3,295	\$0	\$820,368	\$820,000
Sewerline U233	363	\$0	\$76,188	\$76,000
Sewerline U234	687	\$0	\$144,314	\$144,000
Sewerline U235	637	\$0	\$133,728	\$134,000
Sewerline U236	918	\$0	\$341,944	\$342,000
Topaz Lift Station			\$31,500	\$32,000
Total	82,925	\$1,955,616	\$19,526,808	\$21,480,000

6.3 Treatment Facility Improvements

This section summarizes the costs associated with the recommended improvements to the VWRf. As presented in Section 4, these costs have an assumed level of accuracy for conceptual-level design of +50 percent to -30 percent. Estimates of probable cost assume March 2008 construction costs and incorporate a 20 percent allowance for project contingencies.

6.3.1 Treatment Facility Improvement Recommendations

The evaluation outlined in Section 4 was intended to assess limitations of the existing VWRf to treat projected flows and loads in compliance with anticipated NPDES effluent permit limits for continued discharge to the Estuary and production of recycled water.

Additionally, in consideration of a proposed stepped reduction in discharge to the Estuary (NPDES No. CA0053651, Order No. R4-2007-XXXX, Paragraphs III.A and B), options were explored for future discharge of wastewater at other permitted or permissible locations. Specifically, one feasible potential alternative to address the discharge prohibition to the Estuary includes construction, permitting, and discharge of treated effluent through an ocean outfall.

Table 6-4 summarizes estimates of probable costs of construction for two scenarios, specifically continued discharge to the Estuary and an ocean outfall discharge. Table 6-4 also provides the cost differential between the two (2) scenarios.

**TABLE 6-4
WRF COMPARATIVE COST MODEL FOR TWO DIFFERENT DISCHARGE SCENARIOS**

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge	
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)
Headworks and Influent Pumping Station	Influent flow measurement capacity	Install magnetic flow meters on discharge piping of each influent pump	\$300,000	Install magnetic flow meters on discharge piping of each influent pump	\$300,000
Primary Clarifiers	Primary effluent pump capacity. No clarifier redundancy.	Construct a third primary clarifier and addition of 4th pump	\$6,300,000	Construct a third primary clarifier and addition of 4th pump	\$6,300,000
Aeration Basins and RAS/WAS Pumping	BNR pump capacity. Insufficient SRT for nitrification.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$18,800,000 ^(c)	Construct additional aeration basin volume (similar to that required for Estuary Discharge, but without RAS pump and blower improvements).	\$16,100,000 ^(d)

Unit Process	Expected Limitations ^(a)	Continued Estuary Discharge		Ocean Outfall Discharge	
		Recommended Alternative	Capital Cost ^(b)	Recommended Alternative	Capital Cost ^(b)
Aeration Blowers	Aeration capacity.	See Brown and Caldwell's TM No. 1 and the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$4,500,000 ^(e)	No improvements recommended	\$0
Mixed Media Filters	Hydraulic loading rate criteria	Replace existing mixed media system with a cloth media filtration system	\$8,500,000	Abandon existing mixed media filters; install 2 MGD cloth media filter system for RW production	\$3,200,000
Chlorine Contact Tanks	Chlorine residual limitations. "Nitrite Lock" during cold weather periods	Replace existing chlorine system with UV disinfection	\$11,200,000	No improvements recommended	\$0
Effluent Pumping and Flow Measurement	Effluent pump and flow metering capacity	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000	Install two magnetic flow meters on the discharge piping of the effluent transfer pumps	\$1,200,000
Thickening	Solids loading rate criteria. No thickener redundancy.	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000	See the Preliminary Design Report for Ventura WRF Upgrade Project, Phase II (Brown and Caldwell, December 2006)	\$2,900,000
Anaerobic Digesters	Detention Time	Construct a fourth digester	\$3,900,000	Construct a fourth digester	\$3,900,000
Filter Press	Filter press capacity / availability of operational time	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(f)	See Brown and Caldwell's Sludge Dewatering Alternatives Evaluation	\$12,800,000 ^(f)
Ocean Outfall		Not Applicable	\$0	Construct ocean outfall	\$26,300,000
Engineers Estimate of Probable Cost of Construction			\$70,400,000		\$73,000,000

Notes:

- (a) See Figure 4-2 for a flow-based timeline for the expected limitations.
- (b) Estimate accuracy is +50% to -30%.
- (c) Capital costs were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II and exclude blower improvements. Phase II had a total estimated cost of \$24 million. Costs were escalated from December 2006 to October 2008 using the ENR- Construction Cost Index for Los Angeles.
- (d) Capital costs assume the similar process basin expansion as that required for the Estuary Discharge (costs of which were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II). Ocean outfall costs do not include RAS pump improvements.
- (e) Capital costs were estimated from Brown and Caldwell's Preliminary Design Report for Ventura WRF Upgrade Project, Phase II. Phase II had a total estimated cost of \$24 million, costs for the blowers were estimated from this total. Costs were escalated from December 2006 to October 2008 using the ENR- Construction Cost Index for Los Angeles.
- (f) Capital costs were presented in Brown and Caldwell's Sludge Dewatering Alternatives Evaluation. Cost was assumed for Alternative 10 (3 centrifuges, 7 shifts). Costs were escalated from April 2002 to October 2008 using the ENR- Construction Cost Index for Los Angeles.

Section 7: References

In addition to the documents included as Appendices, the following documents were referenced in the completion of this report:

City of San Buenaventura's Comprehensive Plan Update to the Year 2010, City of San Buenaventura Planning Division, Community Development Department, adopted August 28, 1989.

City of San Buenaventura Ventura Water Renovation Facility Master Plan, Montgomery Watson, September 1993.

City of San Buenaventura, 1997 Design Standards.

City of San Buenaventura Water Renovation Facility Master Plan Update, dated August 1997.

City of San Buenaventura's Midtown/Westside Sewer System Study Dry Weather Temporary Flow Monitoring, MGD Technologies, Incorporated, October 7, 2003.

City of San Buenaventura's Midtown/Westside Sewer System Study Wet Weather Temporary Flow Monitoring, MGD Technologies, Inc., May 10, 2004.

City of San Buenaventura Downtown/Westside Sewer System Study, Kennedy/Jenks Consultants, August 2005.

City of San Buenaventura 2005 Ventura General Plan. Adopted August 8, 2005.

City of San Buenaventura's Sewer Flow Monitoring of Eastside Ventura Wastewater Flow by Downstream services, Inc. dated November 2005.

City of San Buenaventura Final Draft Downtown Specific Plan, December 2006. Approved by the City's Planning Commission in February 2007.

City of San Buenaventura Flow Report by MRC Technologies, Inc. dated December 2007.

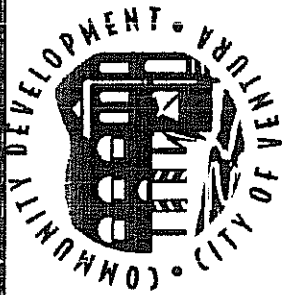
Metcalf and Eddy. 2003. Wastewater Engineering Treatment and Reuse, Fourth Edition.

Preliminary Design Report Ventura WRF Upgrade Project, Phase II. 2006. Brown and Caldwell.

Water Environment Federation (WEF). 1998. Design of Municipal Wastewater Treatment Plants (Manual of Practice No. 8), Fourth Edition.

Appendix A

Near-Term Development Projects



**CITY OF SAN BUENAVENTURA
COMMUNITY DEVELOPMENT DEPARTMENT
Pending Project Status¹
January 2006**



SUMMARY

	Building Permits Issued/Under Construction		In Plan Check		All Planning Approvals		In Planning Process		Total	
	Number Of Units	Projected Population	Number Of Units	Projected Population	Number Of Units	Projected Population	Number Of Units	Projected Population	Number Of Units	Projected Population
RESIDENTIAL										
Building Type:										
Single Family	124	310	172	430	42	105	578	1,445	916	2,290
Condominiums	414	1,035	76	190	215	538	630	1,575	1,335	3,338
Apartments	17	43	29	73	75	188	471	1,178	592	1,480
Totals*	555	1,388	277	693	332	830	1,679	4,198	2,843	7,108
COMMERCIAL										
Number of Projects (Square Feet of Building Area)	9	93,876	6	28,768	6	24,051	12	393,108	33	539,803
INDUSTRIAL										
Number of Projects (Square Feet of Building Area)	2	315,488	7	156,859	2	111,030	4	222,156	15	805,533
INSTITUTIONAL										
Number of Projects (Square Feet of Building Area)	2	99,949	1	593	1	19,000	1	22,470	5	142,012

¹ Project status between January 2005 to December 2005

*Totals do not include completed units.

Pending Project Report
Prepared by the City of San Buenaventura

DEFINITIONS OF APPROVAL STATUS CATEGORIES

- Step 1:** "IN PLANNING PROCESS" - Project application has been filed for one or more discretionary planning approvals (Planned Development Permit, Change of Zone, Tentative Tract Map, etc.). Residential projects of fewer than four units are not included unless Planning Commission approval is required, nor are non-residential projects that do not result in new development (e.g., new church use in an existing building).
- Step 2:** "ALL PLANNING APPROVALS" - The project has received all major discretionary and planning approvals from the City, with no appeals pending.
- Step 3:** "IN PLAN CHECK" - The project has received all planning approvals; final plans have been submitted to the Inspection Services Division.
- Step 4:** "BUILDING PERMITS ISSUED" - The project has received all planning approvals; final plans approved; building and other permits have been issued; may be under construction.

POPULATION IS CALCULATED AT 2.5 PERSONS PER UNIT UNDER THE CITY'S RESIDENTIAL GROWTH MANAGEMENT PROGRAM

NOTE: Information contained in this report is intended to provide general information to the City Council, Planning Commission, and public on the types of development being processed. This report is not intended for commercial use. Information on "Approval Status" is based on the best available information, and shall in no way be construed to affect approval status or legal requirements of any project.

In compliance with the Americans with Disabilities Act, if any individual needs special assistance in understanding this document, please contact the Planning Division office at (805) 654-7893 or through the (TDD), California Relay Service. Notification in advance will enable the City to make reasonable arrangements to accommodate your needs.

PENDING RESIDENTIAL PROJECTS SINGLE FAMILY

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	DATE FILED	DEVELOPER	PROJECT LOCATION	PROJECT NAME	DU* ACRES DU/JAC POP	STATUS	CASE NO.
RS-87 ME Also See RC-60	136-0-020-495 & 605	R-P-D-13U Neighborhood Medium	04/02/01	Westwood Communities 134 S Gunston Dr Los Angeles, CA 90049 (805) 650-8991	Northwest corner of Hill Rd & Moon Dr Montalvo	Island View	120 DU 26.85 Acres 8.34 DU/JAC 300 POP	Building Permits Issued	PCN-2528 EIR-2356 Z-881 S-4129 DA-29 PD-799 ARB-2808
RS-88 MT	075-0-201-085	C-1 Neighborhood Low	07/16/02	The Matthey Group 1757 Mesa Verde Av #240 Ventura, CA 93003-6531 (805) 652-2115	3091 Porter Ln Preble		4 DU .43 Acres 9.3 DU/JAC 10 POP	Building Permits Issued	PCN-2416 EIR-2376 Z-892 LD-888 PD-812 ARB-2835
RS-90 FE	090-0-081-220 & 240	R-P-D-8U Neighborhood Low	06/11/03	The Matthey Group 1757 Mesa Verde Av #240 Ventura, CA 93003-6531 (805) 652-2115	North of Darling Rd, East of Wells Rd Saticoy	Alede Hermosa <i>now 59 DU</i>	64 DU 7.39 Acres 8.6 DU/JAC 160 POP	In Planning Process	PCN-3031 EIR-2401 Z-900 S-5433 PD-827
RS-91 FE	089-0-032-096	R-1-6 Neighborhood Low	06/11/03	The Matthey Group 1757 Mesa Verde Av #240 Ventura, CA 93003-6531 (805) 652-2115	Southwest corner of Henderson & Saticoy Av Saticoy	The Cottages	38 DU 6.2 Acres 4.6 DU/JAC 95 POP	All Planning Approvals	PCN-2866
RS-92 FE Also See RC-70	087-0-040-205 087-0-075-015	R-P-D Neighborhood Low	07/17/03	The Olson Company 333 Lantana #277 Camarillo, CA 93010 (805) 384-0100	Henderson Rd, West of Montgomery Serra	Halls <i>now 150 DU</i>	172 DU 40.11 Acres 5.8 DU/JAC 430 POP	In Plan Check	

*DU = Dwelling Units; DU/JAC = Approximate Gross Density; POP = Projected Population

**PENDING RESIDENTIAL PROJECTS
SINGLE FAMILY**

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP	STATUS	CASE NO.
RS-94 ✓ WS Also See RA-105	069-0-020-050	R-P-D Proposed Neighborhood Medium	04/30/04	Centex Homes 27200 Tourney Rd #200 Valencia, CA 91355 (661) 288-5777	2686 N Ventura Av Avenue	The Renaissance	113 DU ✓ 27.3 Acres 6 DU/AC 283 POP	In Planning Process	PCN-4154 EIR-2428 A-322 Z-906 S-5489-1 PD-840 ARB-2922
RS-95 ✓ NE	078-0-050-320	R-P-D Proposed Neighborhood Low	04/27/05	Renaissance Holdings 233 Wlshire Bl. #800 Santa Monica, CA 90410 Michael Faulconer (805) 648-2394	4949 Foothill Rd Arroyo Verde		4 DU ✓ 2.57 Acres 1.6 DU/AC 10 POP	All Planning Approvals	PCN-1109 Z-912 LD-957 PD-856
RS-96 ✓ FE Also See RC-80 RA-116	090-0-250-275 090-0-022-125	R-P-D Proposed Neighborhood Low	05/23/05	Island Coast, LLC 1833 Portola Rd. Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	East Ventura corner of Citrus Dr & Peach Av Wells	Citrus Place	64 DU ✓ 23.3 Acres 7.9 DU/AC 160 POP	In Planning Process	PCN-3232 A-325 Z-913 LD-958 EIR-2451
RS-97 ✓ NE	067-0-060-120	R-P-D Proposed Neighborhood Low	07/14/05	La Barranca Company P. O. Box 31197 Santa Barbara, CA 93130 Tom Condon (805) 302-5991	5533 Foothill Rd Arroyo Verde		10 DU ✓ 3.82 Acres 2.6 DU/AC 25 POP	In Planning Process	PCN-4291 EIR-2453 Z-914 S-5631
RS-98 NE Also See RC-84 RA-114	079-0-240-035	R-P-D Proposed Neighborhood Medium	08/11/05	John S. Broome 3319 Telegraph Rd. #201 Ventura, CA 93003 Kioren Moss (805) 339-0613	Copland Dr & Telephone Rd Thille	The Grove	75 DU 25.6 Acres 8.1 DU/AC 188 POP	In Planning Process	PCN-723 PD-860 A-326 Z-915 S-5626 ARB-2983 DA-37 EIR-2457

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

**PENDING RESIDENTIAL PROJECTS
SINGLE FAMILY**

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP	STATUS	CASE NO.
RS-99	089-0-012-045	R-P-D	08/12/05	Westwood Communities 1263 Westwood Blvd. #120 Los Angeles, CA 90024 John Ashkar (805) 676-1533	Southwest corner of Wells Rd & Telegraph Rd South to 126 Freeway Wells	Parklands	252 DU 66.7 Acres 7.3 DU/AC 630 POP	In Planning Process	PCN-3829 SP-6 PD-861 A-327 Z-916 LD-5632 ARB-2985 DA-38 EIR-2459
FE	089-0-012-140	Proposed							
Also See	089-0-012-160								
RC-85	089-0-012-185	Neighborhood Medium							
	089-0-012-195								
	089-0-012-200								
	089-0-012-080								

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP	STATUS	CASE NO.
RC-60 ME Also See RS-87	135-0-020-495 & 605	R-P-D-13U Neighborhood Medium	04/02/01	Westwood Communities Corp 134 S Gunston Dr Los Angeles, CA 90049 (310) 479-3300	Northwest corner of Hill Rd & Moon Dr Montalvo	Bella Vista 10 LOW- INCOME UNITS (SENIOR)	104 DU 26.85 Acres 8.34 DU/AC 260 POP	Building Permits Issued	PCN-2528 EIR-2356 Z-881 S-4129 DA-29 PD-799 ARB-2808
RC-61 NE	083-0-050-340	R-P-D-12U Neighborhood High	05/11/01	Lennar Communities 25129 The Old Road #316 Stevenson Ranch, CA 91381 (888) 514-9392	South of Thille Rd @ Ringo St Thille	Harmony 10 MODERATE- INCOME UNITS	182 DU 15.8 Acres 11.5 DU/AC 455 POP	Building Permits Issued	PCN-3088 EIR-2359 Z-882 S-5313 PD-801 ARB-2812
RC-64 NE	083-0-050-630	R-P-D-16U Neighborhood High	02/19/03	Lennar Communities 25129 The Old Road #316 Stevenson Ranch, CA 91381 (888) 514-9392	Northwest corner of Telephone Rd & Saratoga AV Thille	Melody 7 MODERATE- INCOME UNITS	74 DU 4.7 Acres 15.7 DU/AC 185 POP	Building Permits Issued	PCN-4130 EIR-2392 Z-896 S-5417 DA-33 PD-822
RC-66 DT	073-0-142-270	CR DTSP	06/09/03	Joe Risi 1224 Coast Village Ci #20 Montecito, CA 93108 (805) 565-2288	Northeast corner of Ash St & Front St Downtown		6 DU .17 Acres 35.3 DU/AC 15 POP	All Planning Approvals	PCN-4110 EIR-2400 AM-4611 CDP-454 ARB-2888
RC-67 DT	073-0-046-080	CR DTSP	11/7/03	Mayfair Property, LLC P. O. Box 43 Ventura, CA 93002 www.mayfairlofts.com	793 E Santa Clara St Downtown	Mayfair Lofts 2 VERY LOW- INCOME 1 MODERATE- INCOME UNIT	18 DU .42 Acres 42.9 DU/AC 45 POP	Building Permits Issued	PCN-2832 DP-29 AM-4678 CDP-462 LD-918 ARB-2903

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP	STATUS	CASE NO.
RC-69 MT	076-0-021-040	R-P-D-20U Neighborhood Medium	5/17/04	John T. Chamberlain 930 La Vuelta Pl Santa Paula, CA 93060 (805) 708-0364	1525 Vista Del Mar Dr Catalina		4 DU .25 Acres 16 DU/AC 10 POP	Building Permits Issued	PCN-839 LD-924 PD-849 CDP-477 ARB-2912
RC-70 FE Also See RS-92	087-0-040-205 087-0-075-015	R-P-D-6U Neighborhood Low	07/17/03	The Olson Company 333 Lantana #277 Camarillo, CA 93010 (805) 384-0100	Henderson Rd, West of Montgomery Serra	Hails <i>How 82 DU</i>	60 DU 40.11 Acres 5.8 DU/AC 150 POP	In Plan Check	PCN-4196 RGMP-193 EIR-2404 MP-145 A-321 Z-901 S-5447 PD-829
RC-71 FE	090-0-290-075	M-X-D Neighborhood Medium	2/24/04	MJ Land LLC 4171 Market St, Ste 4A Ventura, CA 93003 Don Jensen (805) 654-6977	Southeast corner of Snapdragon & Janquil Saticoy	Chapel Lane Courtyards (Phase 1)	16 DU .83 Acres 19.3 DU/AC 40 POP	All Planning Approvals	PCN-1189 LD-939 ADD 9046 A
RC-72 ME	136-0-020-625	R-P-D Proposed Commerce	05/28/04	Ventura Heritage Corp 134 S Gunston Dr Los Angeles, CA 90049 John Ashkar (310) 479-3300	East of Alameda Av @ 8th St (within Montalvo Shopping Center) Montalvo		72 DU 3.91 Acres 18.4 DU/AC 180 POP	In Planning Process	F E Z S P A
RC-73 WS Also See C-387	071-0-180-380 & 390	M-X-D DTSP	10/03/02	Harvey Champlin 333 Kolorama St Ventura, CA 93001 Curtis Cormane (805) 652-2115	285 N Ventura Av Avenue		32 DU .57 Acres 56.1 DU/AC 80 POP	Building Permits Issued	PI PI AI LL

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP	STATUS	CASE NO.
RC-74 WS Also See C-397	069-0-111-225	C-2 Commerce	06/19/03	1150 N Ventura, L.P. 333 N Kalorama Dr Ventura, CA 93001 Kara Davis (805) 652-2115	1150 N Ventura Av Avenue		12 DU .34 Acres 35.3 DU/AC 30 POP	In Plan Check	PCN-767 PD-828 ARB-2890 LD-920
RC-78 MT Also see C-405	073-0-212-270	C-2 Commerce	05/12/04	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	1625 E Thompson Bl Catalina		4 DU .15 Acres 26.7 DU/AC 10 POP	In Plan Check	PCN-1786 AM-4709 ARB-2925 LD-945
RC-75 DT Also See C-411	071-0-194-405 071-0-194-415	DC DTSP	07/22/04	Palm & Poli Associates 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	Southwest corner of Palm St & Poli St Downtown	1 VERY LOW- INCOME 2 MODERATE- INCOME	22 DU .4 Acres 55 DU/AC 55 POP	In Planning Process	PCN-3676 EIR-2438 AM-4730 CDP-475 ARB-2936 LD-932
RC-77 DT Also See C-419	073-0-111-160	DR DTSP	11/15/04	Santa Clara Street Urban Renewal Partners 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	72 W Santa Clara St Downtown	1 VERY LOW- INCOME 2 MODERATE- INCOME	21 DU .43 Acres 48.8 DU/AC 53 POP	All Planning Approvals	PCN-4263 AM-4764 CDP-485 ARB-2950 LD-943
RC-79 FE	090-0-290-685 090-0-290-695 090-0-290-705	M-X-D Neighborhood Medium	05/04/05	MJ Land LLC 4171 Market St, Site 4A Ventura, CA 93003 Don Jensen (805) 654-6977	Southwest corner of Snapdragon & Jonquil Saticoy	Chapel Lane Courtyard (Phase II)	15 DU .64 Acres 23.4 DU/AC 38 POP	In Planning Process	PCN-4420 PD-265 ARB-2965

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/AC POP*	STATUS	CASE NO.
RC-80 FE Also See RS-96 RA-116	090-0-250-275 090-0-022-125	R-P-D Proposed Neighborhood Low	05/23/05	Island Coast, LLC 1833 Portola Rd. Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	East Ventura corner of Citrus Dr & Peach Av Wells	Citrus Place	60 DU 23.3 Acres 7.9 DU/AC 150 POP	In Planning Process	PCN-3232 A-325 Z-913 LD-958 EIR-2451
RC-81 MT	075-0-070-040 075-0-070-050	C-2 Commerce	0720/05	V2V Ventures 2212 Elise Way Santa Barbara, Ca 93109 Leon Bidlow (805) 901-8021	1570 East Thompson Bl Catalina		29 DU (5 Live/ Work Units) 1.11 Acres 26.1 DU/AC 73 POP	In Planning Process	PCN-1520 PD-859 CDP-500 LD-970 ARB-2976
RC-82 DT	073-0-116-010	DR DTSP	08/02/05	The Olson Company 333 N. Lantana #277 Camarillo, CA 93010 Paul Dashevsky (805) 384-0136	120 E. Santa Clara St Downtown	Renaissance Walk 11 Very Low 15 Moderate	172 DU 3.6 Acres 47.8 DU/AC 430 POP	All Planning Approvals	PCN-4356 EIR-2456 S-5660 AM-4797 ACDP-474 ARB-2980
RC-83 DT Also See C-425	073-0-114-080 073-0-114-115	DR DTSP	08/09/05	Ventura Coast Partnership 116 N. Oak St Ventura, CA 93001 Jeff Becker (805) 653-6794	24 E Santa Clara Downtown	13 Live-Work Units 3 Very Low 6 Moderate	56 DU 1.15 Acres 48.7 DU/AC 140 POP	In Planning Process	PCN-823 ARB-2982 LD-975

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/JAC POP	STATUS	CASE NO.
RC-84 NE Also See RS-98 RA-114	079-0-240-035	R-P-D Proposed Neighborhood Medium		08/11/05	John S. Broome 3319 Telegraph Rd. #201 Ventura, CA 93003 Kioren Moss (805) 339-0613	Copland Dr & Telephone Rd Thille	The Grove	88 DU 25.6 Acres 8.1 DU/JAC 220 POP	In Planning Process	PCN-723 EIR-2457 A-326 DA-37 Z-915 S-5626 PD0860 ARB-2983
RC-85 FE Also See RS-99	089-0-012-045 089-0-012-140 089-0-012-165 089-0-012-185 089-0-012-195 089-0-012-200 089-0-012-080	R-P-D Proposed Neighborhood Low		08/12/05	Westwood Communities 1263 Westwood Bl #120 Los Angeles, CA 90024 John Ashkar (805) 676-1533	Southwest corner of Wells Rd & Telegraph Rd Wells	Parklands	235 DU 66.7 Acres 7.3 DU/JAC 588 POP	In Planning Process	PCN-3829 EIR-2459 A-327 Z-916 DA-38 SP-6 S-5632 ARB-2985 PD-861
RC-86 DT Also See C-427	073-0-123-130 & 230	DC DTSP		10/11/05	Buena Ventura Homes 721 Buena Vista St Ventura, CA 93001 Phil Naumoff (805) 653-1345	Northwest corner of Thompson Bl & S Oak St Downtown <i>now 37 DU</i>	Thompson Oak Court 3 Very Low 3 Moderate	38 DU 7.3 Acres 52.1 DU/JAC 95 POP	In Planning Process	PCN-3528 AM-4804 CDP-502 LD-974 ARB-2990
RC-87 MT	077-0-072-010	C-2 Commerce		10/03/05	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	3065 E Main St Main/Central <i>now 14 DU</i>	Main/Central Condos	15 DU .62 Acres 24.2 DU/JAC 38 POP	In Planning Process	

Dwelling Units; AC = Acres; DU/JAC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS

APARTMENTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION	PROJECT NAME	DU* ACRES DU/AC POP	STATUS	CASE NO.
RA-97 DT RC-93 Also See C-379	073-0-142-030	CR DTSP		07/30/02	Mark Draganchuck 1509 E. Main St Ventura, CA 93001 James Armstrong (805) 644-8180	828-836 E Thompson Bl Downtown		12 DU .39 Acres 30.8 DU/AC 30 POP	Building Permits Issued	PCN-3444 DP-14 AM-4456 ARB-2813 CDP-426 LD-946
RA-96 WS	068-0-112-020 & 030	C-2 Commerce		01/15/03	Bob Bronson 1155 N Olive St Ventura, CA 93001 Steve Bovee (805) 649-9104	1155 N Olive St Avenue		5 DU .18 Acres 27.8 DU/AC 13 POP	Building Permits Issued	PCN-4120 PD-820 ARB-2861
RA-97 WS RC-92	071-0-180-170 & 180	M-X-D DTSP		01/23/03	Matlilja Investment Property P. O. Box 23277 Ventura, CA 93002 (805) 653-6794	221 N Garden St Avenue		14 DU .88 Acres 15.9 DU/AC 35 POP	In Plan Check	
RA-98 MT RC-88	075-0-013-020	R-1-7 Neighborhood Low		02/27/03	Mark Sussman 322 Walnut Dr Ventura, CA 93003 Ted Temple (805) 653-5071	Coronado St Catalina		7 DU .42 Acres 16.7 DU/AC 18 POP	All Planning Approvals	
RA-99 FE RC-90	089-0-080-360	R-P-D Neighborhood Low		09/19/03	Raul Orozco 312 Camarillo Dr Camarillo, CA 93010 Mark Shellnut (805) 649-2056	10980 Henderson Rd Saticoy		4 DU .53 Acres 7.5 DU/AC 10 POP	All Planning Approvals	Z-903 PD-833 ARB-2898
RA-101 DT DEAD	073-0-021-200	DR DTSP		09/22/03	Spriggs & Company 3585 Telegraph Rd #B Ventura, CA 93003 Bill/Martha Spriggs (805) 644-5503	44 S Garden St Downtown	1 VERY LOW-INCOME 1 MODERATE-INCOME	11 DU 2.1 Acres 5.2 DU/AC 28 POP	In Plan Check	PCN-1176 DP-27 ACDP-458 ARB-2900

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS APARTMENTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/JAC POP	STATUS	CASE NO.
RA-103 MT Also See C-404 <i>RC-89</i>	075-0-012-225	C-1 Commerce	02/24/04	Stagen Properties 4478 Market Street #4A Ventura, CA 93003 Don Jensen (805) 654-6977	2170 E Main St Catalina		10 DU .49 Acres 20.4 DU/JAC 25 POP	All Planning Approvals	PCN-687 ARB-2915 PD-800 LD-950
RA-105 WS Also See RS-94	069-0-020-050	R-P-D Neighborhood Medium	04/30/04	Centex Homes 27200 Tourney Rd #200 Valencia, CA 91355 (661) 288-5777	2686 N Ventura Av Avenue	The Renaissance AFFORDABLE UNITS (SENIOR)	50 DU 27.3 Acres 6 DU/JAC 125 POP	In Planning Process	PCN-4154 EIR-2428 A-322 Z-906 S-5489-1 PD-840 ARB-2922
RA-107 HK Also See C-412	080-0-240-125 & 245	HC Commerce	07/22/04	Sondermann Ring Partners 14160 Panay Wy Marina del Rey, CA 90292 Michael B. Sondermann (310) 827-6714	Ventura Harbor adjacent to Anchors Wy & Navigator Dr Parcels 15, 16 & 18 Pierpont Keys		300 DU 26.9 Acres 11.2 DU/JAC 750 POP	In Planning Process	PCN-4326 EIR-2436 MP-148 PD-844 CDP-473
RA-108 MT Also See C-417	074-0-154-220 & 230	C-1 Commerce	10/22/04	Dove Properties LLC 301 E Colorado Bl #714 Pasadena, CA 91101 Michael Faulconer (805) 648-2394	2991 Loma Vista Rd Loma Vista	Mixed Use 4 Residential Apartments with Commercial	4 DU .35 Acres 11.4 DU/JAC 10 pop	In Plan Check	
RA-110 WS <i>DEAD</i>	068-0-122-065	C-2 Commerce	06/06/05	Exceptional Properties 3911 N. Ventura Ventura, CA 93001 Mark Judson (805) 643-9306	901 Olive St Avenue		4 DU .18 Acres 22.2 DU/JAC 10 POP	In Planning Process	

*DU = Dwelling Units; DU/JAC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS APARTMENTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT NAME AFFORDABLE STATUS	DU* ACRES DU/JAC POP	STATUS	CASE NO.
RA-111 WS DEAD	068-0-172-055	C-2	Commerce	06/06/05	Exceptional Properties 3911 N. Ventura Ventura, CA 93001 Mark Judson (805) 643-9306	943 Olive St Avenue		4 DU 18 Acres 22.2 DU/JAC 10 POP	In Planning Process	PCN-4430 AM-4788 ARB-2972
RA-112 NE	078-0-202-250	C-1	Commerce	06/28/05	Rasmussen & Associates 248 S. Mills Rd Ventura, CA 93003 L. Rasmussen (805) 644-7347	3585 Telegraph Rd Loma Vista		4 DU .53 Acres 7.5 DU/JAC 10 POP	In Planning Process	PCN-694 ARB-1551
RA-113 DT	073-0-111-120 073-0-111-130 073-0-111-140	DR DTSP		08/11/05	Artspace Projects, Inc. 250 3 rd Ave North Ste 500 Minneapolis, MN 55401 Chris Velasco (612) 333-9012	Northwest corner of Ventura Av and Thompson Bl <i>now 69 DU</i>	Artspace 48 Affordable Units	54 DU .98 Acres 55.1 DU/JAC 135 POP	All Planning Approvals	PCN-4445 AM-4798 CDP-499 ARB-2984 DIR-134 EIR-2458
Also See C-426	073-0-111-090 073-0-111-100 073-0-111-110									
RA-114 NE	079-0-240-035	R-P-D	Proposed	08/11/05	John S. Broome 3319 Telegraph Rd #201 Ventura, CA 93003 Kloren Moss (805) 339-0613	Copland Dr & Telephone Rd Thille	The Grove	45 DU 25.6 Acres 8.1 DU/JAC 113 POP	In Planning Process	PCN-723 PD-860 A-326 Z-915 S-5626 ARB-2983 DA-37 EIR-2457
Also See RS-98 RC-84		Neighborhood Medium								
RA-115 WS DEAD	071-0-040-170 071-0-270-165	R-P-D	Proposed	10/14/05	Riverside Properties 633 E Ventura Bl Oxnard, CA Brady Roark (805) 641-0815	751 Riverside St Avenue		4 DU .208 Acres 19.2 DU/JAC 10 POP	In Planning Process	PCN-162
RA-116 FE	090-0-250-275 090-0-022-125	R-P-D	Proposed	05/23/05	Island Coast, LLC 1833 Portola Rd. Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	East Ventura corner of Citrus Dr & Peach Av Wells	Citrus Place 100% Affordable	60 DU 23.3 Acres 7.9 DU/JAC 150 POP	In Planning Process	
Also See RS-96 RC-80		Neighborhood Low								

*DU = Dwelling Units; DU/JAC = Approximate Gross Density; POP = Projected Population

PENDING COMMERCIAL PROJECTS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet) LOT AREA	STATUS	CASE NO.
C-350 DT	073-0-240-040, 050, 065, 130	C-T-O DTSP	10/30/98	Dominion Equity 1106 N Highway 360 Grand Prairie, TX 75050 (972) 641-6641	Southeast corner of Harbor Bl & Figueroa St Downtown	162 Room, 4-Story Hotel with Restaurant (Hilton)	150,000 2.76 Acres	In Planning Process	PCN-3253 EIR-2278 PD-755 CDP-391 ALD-829 ARB-2737
C-379 DT Also See RA-91	073-0-142-030	CR DTSP	07/30/02	Mark Draganchuck 1509 E. Main St Ventura, CA 93001 James Armstrong (805) 644-8180	844 E Thompson Bl Downtown	Mixed Use Commercial/Apartments	1,072 .4 Acres	Building Permits Issued	PCN-3444 DP-14 AM-4456 ARB-2813 CDP-426
C-387 WS Also See RC-73	071-0-180-380 & 390	M-X-D DTSP	10/03/02	Harvey Champiin 333 Kalorama St Ventura, CA 93001 Curlis Cormane (805) 652-2115	285 N Ventura Av Avenue	Commercial/Residential Condominiums - Mixed Use	2,330 .57 Acres	Building Permits Issued	PCN-4036 PD-815 ARB-2844
C-388 FE	090-0-250-285	C-P-D Commerce	10/24/02	SSA Enterprises Inc 2664 Kirsten Lee Dr Westlake Village, CA 91361 Leon Felus (310) 821-2725	11008 Citrus Dr Wells	Carwash Addition (1,440 sq.ft.) Addition to Existing Service Station Building (420 sq.ft.)	1,860 .79 Acres	Building Permits Issued	PCN-3422 PD-1 CUP-1093 ARB-300
C-397 WS Also see RC-74	069-0-111-225	C-2 Commerce	6/19/03	1150 N Ventura, L.P. 333 N Kalorama Dr Ventura, CA 93001 Kara Davis (805) 652-2115	1150 N Ventura Av Avenue	Commercial/ Residential Condominiums - Mixed Use	1,430 .34 Acres	In Plan Check	PCN-767 PD-828 ARB-2890
C-402 ME	138-0-042-030	C-2 Commerce	11/26/03	Jim & Nancy Saizer 5801 Valentine Rd Ventura, CA 93003 David Bury (805) 646-4817	5840 Valentine Rd Olivas	2-Story Office/ Warehouse Building	8,574 .37 Acres	Building Permits Issued	PCN-176 ARB-2907

PENDING COMMERCIAL PROJECTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet)	STATUS	CASE NO.
C-403 ME	083-0-270-195	C-P-D Commerce		12/04/03	Ventura Professionals 101 Hodencamp Rd #200 Thousand Oaks, CA 91360 John Muller (805) 983-7411	855 Partridge Dr Montalvo	3-Story Office Building	54,785 2.8 Acres	Building Permits Issued	PCN-1932 ARB-2909
C-404 MT Also see RA-103	075-0-012-225	C-1 Commerce		02/24/04	Stagen Properties 4478 Market Street #4A Ventura, CA 93003 Don Jensen (805) 654-6977	2170 E Main St Catalina	Mixed Use Commercial/Apartments	5,368 .49 Acres	All Planning Approvals	PCN-687 ARB-2915
C-405 MT Also see RC-78	073-0-212-270	C-2 Commerce		05/12/04	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	1625 E Thompson Bl Catalina	Mixed Use Commercial/Apartments	374 .15 Acres	In Plan Check	PCN-1786 AM-4709 ARB-2925
C-406 ME DEAD	135-0-062-095	C-P-D Commerce		03/26/04	Allan Ghitteman 610 Anacapa St Santa Barbara, CA 93101 Chad Henderson (805) 652-0824	1900 S Victoria Av Montalvo	2-Story Commercial Office Building	4,400 .17 Acres	Building Permits Issued	PCN-4282 EIR-2421 Z-905 PD-838 ARB-2918
C-407 FE	089-0-011-175	P-O Public & Institutional		04/19/04	DesignARC, Inc 27231 Burbank #201 Foothill Ranch, CA 92610 Scott Holland (949) 581-3241	10180 Telegraph Rd Wells	Commercial Office Addition for Southern California Edison	5,560 18.9 Acres	Building Permits Issued	PCN-4289 EIR-2426 PD-839 ARRB-195
C-408 NE	078-0-050-360	R-1-7 Public & Institutional		05/24/04	Gyzen & Associates 4 Park Plaza #200 Irvine, CA 92614 Jeffrey Gyzen (949) 252-8178	65 Day Road Arroyo Verde	New Community Access Center Building	8,849 .841 Acres	Building Permits Issued	
C-409 ME	138-0-230-340	C-P-D Auto Center S.P.		06/23/04	Ventura Toyota 6360 Leland St Ventura, CA 93003 Karen Winttingham (805) 650-0510	Northeast corner of Hofer Dr & King Dr Olivas	New Auto Dealership	7,160 2.2 Acres	All Planning Approvals	

PENDING COMMERCIAL PROJECTS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet) LOT AREA	STATUS	CASE NO.
C-410 MT	073-0-072-110	C-1 Commerce	05/07/04	James Beatty 1529 E Main St Ventura, CA 93001 (805) 653-5033	1529-1535 E Main St Catalina	Mixed Use Commercial/Apartments (3)	801 .11 Acres	All Planning Approvals	PCN-4305 AM-4707 ARB-2924
C-411 DT Also See RC-75	071-0-194-405	DC DTSP	07/22/04	Palm & Poli Associates 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	SWC Palm St & Poli St Downtown	Mixed Use Commercial/Residential Condominiums	1,200 .23 Acres	In Planning Process	PCN-3676 EIR-2438 AM-4730 CDP-475 ARB-2936 LD-932
C-412 HK Also See RA-107	080-0-240-125 & 245	HC Neighborhood Medium	07/22/04	Sondermann Ring Partners 14160 Panay Wy Marina del Rey, CA 90292 Michael B. Sondermann (310) 827-6714	Ventura Harbor adjacent to Anchors Wy & Navigator Dr Parcels 15, 16 & 18 Pierpont Keys	Mixed Use Marina Retail, 104 Boat Slips and 300 Residential Apartments	20,000 26.9 Acres	In Planning Process	PCN-4326 EIR-2436 MP-148 PD-844 CDP-473 ARB-2931
C-413 FE	087-0-152-020	C-1A Commerce	08/03/04	Petite Enterprises LLC 1525 S Sepulveda Bl #G Los Angeles, CA 90025 Mitch Bramlitt (901) 495-8714	9459 Telephone Rd Serra	1-Story Commercial Building	6,446 .61 Acres	Building Permits Issued	PCN-777 ARB-2939
C-414 FE	087-0-153-015	C-1A Commerce	10/04/04	9493 LLC 3653 E Thousand Oaks Bl Thousand Oaks, CA 91362 Jason Schmetz (805) 413-1040	9493 Telephone Rd Serra	Commercial Addition	4,666 .92 Acres	In Plan Check	PCN-2171 ARB-2226
C-415 NE	137-0-030-385	C-P-D Commerce	10/07/04	Cal Coast Motorsports 5455 Walker St Ventura, CA 93003 Craig Adams (805) 340-1389	5455 Walker St Thille	Commercial Addition	12,000 .99 Acres	In Plan Check	PCN-4341 PD-795A ARB-2664

PENDING COMMERCIAL PROJECTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet)	STATUS	CASE NO.
C-416 MAP ZONE NE	084-0-081-245	M-P-D Industry	10/15/04	F-2 Development P. O. Box 6025 Woodland Hills, CA 91365 Roy Colbert (805) 650-9590	4628 Telephone Rd Arundell	New Automotive Repair Building	5,198 .92 Acres	In Plan Check	PCN-4098 PD-817A CUP-1169 ARB-2846
C-417 MAP ZONE MT Also See RA-108	074-0-154-220 & 230	C-1 Commerce	10/22/04	Dove Properties LLC 301 E Colorado Bl #714 Pasadena, CA 91101 Michael Faulconer (805) 648-2394	2991 Loma Vista Rd Loma Vista	Mixed Use 4 Residential Apartments with Commercial	5,100 .35 Acres	In Plan Check	PCN-4371 ARB-2948
C-419 MAP ZONE DT Also See RC-77	073-0-111-160	DR DTSP	11/15/04	Santa Clara Street Urban Renewal Partners 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	72 W Santa Clara St Downtown	Mixed Use 21 Residential Condominiums with Commercial	3,000 .43 Acres	All Planning Approvals	PCN-4263 AM-4764 CDP-485 ARB-2950 LD-943
C-420 MAP ZONE DT	073-0-042-210	DC DTSP	03/21/05	60 California LLC 2151 Alessandro Dr, Ste 100 Ventura, CA 93001 Dan Frederickson (805) 648-6448 x 103	60 California St Downtown	Four story multi-use commercial/retail building <i>now 27,393 SF</i>	21,295 .14 Acres	In Planning Process <i>1652 re. 14</i> <i>231</i>	PCN-4408 ARB-2959 EIR-2449
C-421 MAP ZONE DT	073-0-141-120	DR DTSP	05/17/05	Tender Life 844 East Thompson Blvd Ventura, CA 93001 Jim De Arklund (805) 650-1967	871 E Thompson Bl Downtown <i>now 2090 SF</i>	New accessory quarters consisting of 4 bedrooms, living room, office and cooking area	6,400 .14 Acres	In Planning Process	PCN-699
C-422 MAP ZONE NE <i>DEAD</i>	079-0-010-385	C-1A Commerce	05/19/05	Ventura All Hand Carwash 1489 Stubbing Tr. Los Angeles, CA 90069 Steve Fishman (310) 801-2841	Southeast corner of S Mills Rd & Dean Dr Camino Real	Construction of a retail/carwash building on a prepared pad site.	4,712 13.35 Acres	In Planning Process	
C-423 MAP ZONE NE	079-0-010-385	C-1A Commerce	05/26/05	MJL Capital Partners, LLC 2659 Townsgate Dr., #246 Westlake Village, CA 91361 Steve Oishan (310) 458-9868	Southeast corner of S Mills Rd & Dean Dr Camino Real <i>now 14,581 SF</i>	Proposed two one-story buildings	14,000 13.35 Acres	In Planning Process	

PENDING COMMERCIAL PROJECTS

PROJECT ASSESSOR'S PARCEL NO.	ZONE	DATE FILED	DEVELOPER	PROJECT LOCATION	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet)	STATUS	CASE NO.
MAP ZONE C-424	LAND USE C-1A	07/01/05	Loyal Order of Moose #1394 P.O. Box 4517 Ventura, CA 93007-0517	10269 Telephone Rd Saticoy	One story addition of recreation room	LOT AREA 1,087	All Planning Approvals	PCN-4437 ARB-2973
FE	Commerce		Larry Graves (805) 659-4017					
C-425	DR	08/09/05	Ventura Coast Partnership, LLC 116 N. Oak St Ventura, CA 93001	24 E Santa Clara Downtown	Mixed-Use project with 750 sq ft of commercial space.	750 1.15 Acres	In Planning Process	PCN-823 ARB-2982
DT	DTSP		Jeff Becker (805) 653-6794					
Also See RC-83								
C-426	DR	08/11/05	Artspace Projects, Inc. 250 3 rd Ave. North Suite 500 Minneapolis, MN 55401	Northwest corner of Ventura Ave and Thompson Blvd Downtown	Mixed-Use Project	6,635 1.6 Acres	All Planning Approvals	PCN-4445 AM-4798 CDP-499 ARB-2984 DIR-134 EIR-2458
DT	DTSP		Chris Velasco (612) 333-9089					
Also see RA-113								
C-427	DC	10/11/05	Buenaventura Homes 721 Buena Vista St Ventura, CA 93001	Northwest corner of E Thompson Bl & S Oak St Downtown	Mixed-Use Project	3,474 0.55 Acres	In Planning Process	PCN-3528 AM-4804 CDP-502 LD-974 ARB-2990
DT	DTSP		Phil Naumoff (805) 653-1345					
Also See RC-86								
C-428	C-1A	10/13/05	Wal-mart Stores, Inc. 2001 SE 10 th Street Bentonville, AR 72716-0550	1739 S Victoria Av Thille	New retail building with garden center (7,700 sq.ft.)	101,200 with 12.41 Acres	In Planning Process	PCN-2759
NE	Commerce		Brian Anderson (714) 560-8200					
C-429	C-2	11/16/05	VOOV, LLC 660 Rose Ave #4 Venice, CA 90291	4107 E Main St Arundell	New 2-Story Commercial Office/Condo	6,400 sq.ft. .57 Acres	In Planning Process	
MT	Commerce		D. Joshua Staub (310) 576-7770					
C-430	C-T-O	11/28/05	Extended Stay Hotels 12819 SE 38 th St Bellevue, WA 98006	770 S Seaward Av Preble	New 4-Story Hotel	63,627 sq.ft. 130 rooms 3.71 Acres	In Planning Process	
MT	Commerce		Allen Wyttenback/LPN Architects (206) 230-6648					

★

★

★

PENDING INDUSTRIAL PROJECTS

PROJECT NO.	ASSESSOR'S PARCEL NO.	ZONE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet)	STATUS	CASE NO.
IND-184	071-0-180-170 & 180	M-X-D	01/23/03	Matlilja Investment Property P. O. Box 23277 Ventura, CA 93002 Neal Subic (805) 644-7340	221 N Garden Av Avenue	14 Mixed-Use (Industrial/ Residential) Units	LOT AREA 27,000 approx .88 Acres	In Plan Check	PCN-3865 PD-821 CDP-444 ARB-2863
WS Also see RA-97		DTSP							
IND-199	138-0-170-240	M-1	07/24/03	Sally Crain 1595 S Arundell Av Ventura, CA 93003 Ed Campbell (805) 648-1859	3660 Arundell Ci Arundell	Warehouse Building	40,000 2.51 Acres	In Plan Check	PCN-1009 ARB-2170
NE		Industry							
IND-186	138-0-230-520	M-P-D	09/29/03	MBL Golf Course LLC 7204 1/2 Melrose Los Angeles, CA 90046 Vincent Dyer (818) 882-5250	3200 Golf Course Dr 6050 King Dr Olivas	2 Warehouse/ Manufacturing Buildings	276,445 14.6 Acres	Building Permits Issued	PCN-3742 EIR-2408 LD-908 PD-834 ARB-2901
ME		Industry							
IND-187	084-0-051-105	M-P-D	06/24/04	J.T. Rogers 1880 Teal Club Rd Oxnard, CA 93030 Vincent Dyer (818) 882-5250	2359 Knoll Dr Arundell	New One-Story Industrial Building	14,780 .09 Acres	In Plan Check	PCN-4321 EIR-2435 PD-843 ARB-2930
NE		Industry							
IND-188	135-0-290-175	M-1	07/20/04	Karim Gorbanov 3700 Dean Dr #2101 Ventura, CA 93003 Brad Beckham (805) 984-3372	6508 Beene Rd Montalvo	New Two-Story Industrial Building	3,241 .39 Acres	In Plan Check	PCN-4333 ARB-2933
ME		Industry							
IND-189	138-0-243-045 & 055	M-P-D	08/03/04	Grigor Eddie Atoian P. O. Box 8926 Calabasas, CA 91302 Vincent Dyer (818) 882-5250	3000 Bunsen Av Olivas	New One-Story Industrial Building	39,043 2.38 Acres	Building Permits Issued	
ME		Industry							
IND-190	138-0-250-125	M-P-D	07/29/04	David Gregory 22 N Ventura Av Ventura, CA 93001 James A. Lichty (913) 341-2356	2900 Golf Course Dr Olivas	New One-Story Industrial Building	13,810 0.80 14,066 SF 1.78 Acres	In Plan Check 1360	
ME		Industry							

PENDING INDUSTRIAL PROJECTS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet) LOT AREA	STATUS	CASE NO.
★ IND-191 NE	084-0-083-075	M-P-D Industry	08/04/04	Las Palmas Industrial 4864 Market St Ventura, CA 93003 (805) 642-4773	1601 Eastman Av Arundell	New Two-Story Industrial-Building <i>new 21,000</i>	20,528 .52 Acres	In Plan Check	PCN-2281 PD-848 ARB-2940
★ IND-192 NE	084-0-142-035 & 045	M-P-D Industry	09/02/04	458 No Hayworth Apt LLC 7204 1/2 Melrose Av #A Los Angeles, CA 90046 Vince Dyer (818) 882-5250	1834 Palma Dr Arundell	Two New One-Story Industrial Buildings	37,500 2.66 Acres	In Plan Check	PCN-4350 PD-850 ARB-2943
★ IND-193 ME	138-0-241-035	M-P-D Industry	11/02/04	Bill Gerard P. O. Box 1296 Buelton, CA 93427 (805) 886-9453	NWC of Nicolle St & Golf Course Dr Olivas	Six New Industrial Buildings Including Self-Storage <i>new 176,552</i>	191,249 19.56 Acres	In Planning Process	PCN-3202 PD-852 ARB-2949
★ IND-194 NE	084-0-102-065	M-P-D Industry	01/13/05	Hart Ventures LLC 159 E Manchester Av Los Angeles, CA Vince Dyer (818) 882-5250	NWC Transport St & Donlon St Arundell	New Two-Story Industrial Building	20,640 1.13 Acres	In Planning Process	PCN-4399 PD-853 ARB-2956
★ IND-195 ME	138-0-230-520	M-P-D Industry	01/20/05	Vincent Dyer 10761 Eton Ave Chatsworth, CA 91311 (818) 882-5250	Olivas Park Dr Olivas	Five new one story industrial buildings <i>new 69,086</i>	67,850 20.48 Acres	All Planning Approvals	PCN-3742 PD-854 ARB-2955
★ IND-196 DT DEAD	073-0-107-115	M-X-D DTSP	03/28/05	Nature's Purebody Inst. 230 S Olive St Ventura, CA 93001 Tamara Frazier (805) 797-3782	230 S Olive St Downtown	Temporary-steel structures for wholesale space	1,500 .14 Acres	In Planning Process	PCN-3311 PD-855 CUP-1200 COP-504
★ IND-197 NE	084-0-144-295	M-P-D Industry	05/10/05	Vincent Dyer 10761 Eton Ave Chatsworth, CA 91311 (818) 882-5250	4880 Colt St Arundell	Addition to existing industrial building	43,180 7.41 Acres	All Planning Approvals	
★ IND-198 WS	068-0-150-405	M-X-D Commerce	11/18/05	Ventura Ave Self Storage 4864 Market St #B Ventura, CA 93003 W. Kendall (805) 642-4773	2261 N Ventura Av Avenue	New Personal Storage Building	8,767 1.65 Acres	In Planning Process	

PENDING INSTITUTIONAL PROJECTS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet) LOT AREA	STATUS	CASE NO.
INS-101 ME	087-0-030-060	P Parks & Open Space	04/02/04	City of Ventura 501 Poli St Ventura, CA 93001 Greg Gilmer (805) 658-4727	901 S Kimball Rd Serra	Ventura Community Park, Aquatics Complex, 3 Soccer Fields, Bathroom, Pool Equipment Building, Restrooms and Storage Building	9,550 94.98 Acres	Building Permits Issued	PCN-3904 MP-141 EIR-2334 A-319 AM-4511 ARB-2815
INS-103 DT	073-0-022-200	P DTSP	12/02/04	AC Martin Partners, Inc. 444 S Flower, Ste 1200 Los Angeles, CA 90071 Carey McLeod (213) 614-6149	100 E Main St Downtown	Expansion of Ventura County Museum of History and Art	19,000 5 Acres	All Planning Approvals	PCN-1195 EIR-2386 PD-819 CDP-442 ARB-2854
INS-104 ME	138-0-212-105	P Parks & Open Space	02/03/04	City of Ventura Buena Ventura Golf Course 501 Poli St Ventura, CA 93001 Greg Gilmer (805) 658-4727	5882 Olivas Park Dr Olivas	Construction of a new maintenance building and restroom and addition to the existing pro shop building	22,450 92 Acres	Building Permits Issued	PCN-1471 CUP-1176 FP-20 ARB-2866
INS-105 HK	138-0-050-050	P & R-1-7 Parks & Open Space	02/03/04	City of Ventura Olivas Golf Course 501 Poli St Ventura, CA 93001 Greg Gilmer(805) 658-4727	3750 Olivas Park Dr Olivas	Construction of a new clubhouse, maintenance building and restroom	26,586 253.5 Acres	Building Permits Issued	PCN-2211 CUP-1174 FP-21C DP-449 ARB-2867
INS-106 NE	137-0-014-015	R-3-5 Neighborhood Medium	04/03/04	Ventura Baptist Church 5415 Ralston St Ventura, CA 93003 Mark Craig (805) 644-7191	5415 Ralston St Thille	Auditorium Addition	13,270 4.19 Acres	Building Permits Issued	PCN-4151 CUP-1179 ARB-2880
INS-107 MT	072-0-181-150 & 090	R-1-7 Neighborhood Low	10/13/03	Community Presbyterian Church 1555 Poli St Ventura, CA 93001 Ted Temple (805) 653-5071	1555 Poli St Catalina	Multipurpose Auditorium	5,180 4 Acres	All Planning Approvals	PCN-3682 CUP-214 ARB-1195

PENDING INSTITUTIONAL PROJECTS

PROJECT NO. MAP ZONE	ASSESSOR'S PARCEL NO.	ZONE LAND USE	DATE FILED	DEVELOPER	PROJECT LOCATION COMMUNITY	PROJECT DESCRIPTION	BLDG. SIZE SQ. FT. (Square feet) LOT AREA	STATUS	CASE NO.
INS-108 FE	131-0-060-145	R-1-1AC Neighborhood Low	11/03/04	First Assembly of God of Ventura 346 N Kimball Rd Ventura, CA 93004 Judy Hoffman (805) 647-2004	1184 Bristol Rd Serra	Recreational Fields	25.6 Acres LOT AREA	In Planning Process	PCN-1191 EIR-2385 A-320 CUP-1183 ARB-2904
INS-109 WS	063-0-040-025	R-1-1AC Industry	05/21/04	City of Ventura 501 Poli St Ventura, CA 93001 Joe McDermott (805) 654-7828	5895 N. Ventura Av North Avenue	3 New Buildings at Water Treatment Plant	18,619 12.54 Acres	Building Permits Issued	PCN-3056 ARB-373
INS-100 FE	086-0-020-815	C-1A Neighborhood High	08/01/00	Holiday Retirement Corporation P. O. Box 14111 Salem, OR 97309 Michael Fuller (805) 671-9700	111 N. Wells Rd Wells	New Assisted Living Facility (97 rooms)	81,330 9.38 Acres	Building Permits Issued	PCN-2138 EIR-2345 PD-802 CUP-1143 ARB-2796
INS-110 MT	068-0-191-070 & 080	C-1 Commerce	06/01/05	Keystone Schools 11980 Mt Vernon Av Grand Terrace, CA 92313	1718 E Main St Catalina	New Classroom Building	593 (net increase) .19 Acres	All Planning Approvals	PCN-305 CUP-1195 ARB-2970
INS-111 WS	068-0-082-115	C-P-D Commerce	07/20/05	Ventura Unified School District 359 S. Victoria Ave Ventura, CA 93003 Paul Sheehan (805) 653-8100	255 W. Stanley Ave Avenue	Construction of new education operation support center	41,470 2.83 Acres	In Planning Process	PCN-1847 PD-858 CUP-1196 ALD-966 ARB-2975

CITY OF VENTURA

COMMUNITY DEVELOPMENT

PENDING PROJECTS STATUS¹ JANUARY 2007

SUMMARY

	Building Permits Issued/Under Construction		In Plan Check		All Planning Approvals		In Planning Process		Total	
	Units	Projected Population	Units	Projected Population	Units	Projected Population	Units	Projected Population	Units	Projected Population
RESIDENTIAL										
Building Type:										
Single Family	308	770	4	10	0	0	564	1,410	876	2,190
Condominiums	216	545	259	648	122	305	558	1,395	1,157	2,893
Apartments	9	23	0	0	4	10	524	1,310	537	1,343
Totals	535	1,338	263	658	126	315	1646	4,115	2,570	6,425
COMMERCIAL										
Number of Projects (Square Feet of Building Area)	6	30,276	8	56,656	6	39,977	12	390,802	32	517,711
INDUSTRIAL										
Number of Projects (Square Feet of Building Area)	4	143,195	6	134,444	2	63,820	2	187,232	14	528,691
INSTITUTIONAL										
Number of Projects (Square Feet of Building Area)	3	67,655	2	42,063	1	19,000	1	0	7	128,718

¹ Project status between July 2006 to December 2006

Pending Project Report
Prepared by the City of San Buenaventura

DEFINITIONS OF APPROVAL STATUS CATEGORIES

- Step 1:** "IN PLANNING PROCESS" - Project application has been filed for one or more discretionary planning approvals (Planned Development Permit, Change of Zone, Tentative Tract Map, etc.). Residential projects of fewer than four units are not included unless Planning Commission approval is required, nor are non-residential projects that do not result in new development (e.g., new church use in an existing building).
- Step 2:** "ALL PLANNING APPROVALS" - The project has received all major discretionary and planning approvals from the City, with no appeals pending.
- Step 3:** "IN PLAN CHECK" - The project has received all planning approvals; final plans have been submitted to the Inspection Services Division.
- Step 4:** "BUILDING PERMITS ISSUED" - The project has received all planning approvals; final plans approved; building and other permits have been issued; may be under construction.

NOTE: Population is calculated at 2.5 persons per unit as established by the City's 2005 General Plan information. Report provides general information to the City Council, Planning Commission, and public on the types of development being processed. This report is not intended for commercial use. Information on "Approval Status" is based on the best available information, and shall in no way be construed to affect approval status or legal requirements of any project.

In compliance with the Americans with Disabilities Act, if any individual needs special assistance in understanding this document, please contact the Planning Division office at (805) 654-7893 or through the (TDD), California Relay Service. Notification in advance will enable the City to make reasonable arrangements to accommodate your needs.

PENDING RESIDENTIAL PROJECTS SINGLE FAMILY

RS-87 Montalvo Also See RC-60	136-0-020-495 & 605	R-P-D-13U Neighborhood Medium	04/02/01	Westwood Communities 134 S Gunston Dr Los Angeles, CA 90049 (805) 650-8991	Northwest corner of Hill Rd & Moon Dr	Island View	120 DU 23.63 Acres 5 DU/AC 300 POP	Building Permits Issued	PCN-2528 EIR-2356 Z-881 S-4129 PD-799 ARB-2808
RS-90 Saticoy	090-0-081-220 & 240	R-P-D-8U Neighborhood Low	06/11/03	The Matthey Group 1757 Mesa Verde Av#240 Ventura, CA 93003-6531 (805) 652-2115	North of Darling Rd, East of Wells Rd	Aldea Hermosa	50 DU + 9 residential 2 nd units 7.39 Acres 6.8 DU/AC 125 POP	In Planning Process	PCN-3031 EIR-2401 Z-900 S-5433 PD-827
RS-91 Saticoy	089-0-032-095	R-1-6 Neighborhood Low	06/11/03	Henderson Cottage, LLC 4183 State Street Santa Barbara, CA 93110 (805) 886-1573	Southwest corner of Henderson & Saticoy AV	The Cottages	38 DU 6.2 Acres 4.6 DU/AC 95 POP	Building Permits Issued	PCN-2666 EIR-2402 Z-902 S-5427 PD-830 ARB-2962
RS-92 Serra Also See RC-70	087-0-040-205 087-0-075-015	R-P-D Neighborhood Low	07/17/03	The Olson Company 333 Lantana #277 Camarillo, CA 93010 (805) 981-6840	Henderson Rd, West of Montgomery	Citrus Walk	150 DU 40.11 Acres 6 DU/AC 375 POP	Building Permits Issued	PCN-4196 RGMP-193 EIR-2404 MP-145 A-321 Z-901 S-5447 PD-829
RS-94 Westside Also See RA-105	069-0-020-050	R-P-D Proposed Neighborhood Medium	04/30/04	Centex Homes 27200 Tourney Rd #200 Valencia, CA 91355 (661) 288-5777	2666 N Ventura Av	The Renaissance	113 DU 27.3 Acres 6 DU/AC 283 POP	In Planning Process	PCN-4154 EIR-2428 A-322 Z-906 S-5489-1 PD-840 ARB-2922

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

**PENDING RESIDENTIAL PROJECTS
SINGLE FAMILY**

RS-95 College	078-0-050-320	R-P-D Proposed Neighborhood Low	04/27/05	Renaissance Holdings 233 Wilshire Bl. #800 Santa Monica, CA 90410 Michael Faulconer (805) 648-2394	4881, 4949 Foothill Rd	4 DU 2.57 Acres 1.6 DU/AC 10 POP	In Plan Check	PCN-1109 Z-912 LD-957 PD-856
RS-96 Wells Also See RC-80 RA-116	090-0-250-275 090-0-022-125	R-P-D Proposed Neighborhood Low	05/23/05	Island Coast, LLC 1833 Portola Rd. Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	East Ventura corner of Citrus Dr & Peach AV	64 DU 23.3 Acres 7.9 DU/AC 160 POP	In Planning Process	PCN-3232 A-325 Z-913 LD-958 EIR-2451
RS-97 College	067-0-060-120	R-P-D Proposed Neighborhood Low	07/14/05	La Barranta Company P. O. Box 31197 Santa Barbara, CA 93130 Tom Condon (805) 302-5991	5533 Foothill Rd	10 DU 3.82 Acres 2.6 DU/AC 25 POP	In Planning Process	PCN-4291 EIR-2453 Z-914 S-5631
RS-98 Thille Also See RC-84 RA-114	079-0-240-035	R-P-D Proposed Neighborhood Medium	08/11/05	John S. Broome 3319 Telegraph Rd. #201 Ventura, CA 93003 Kloren Moss (805) 339-0613	Copland Dr & Telephone Rd	75 DU 25.6 Acres 8.1 DU/AC 188 POP	In Planning Process	PCN-723 PD-860 A-326 Z-915 S-5626 ARB-2983 DA-37

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

**PENDING RESIDENTIAL PROJECTS
SINGLE FAMILY**

RS-99	089-0-012-045	R-P-D	08/12/05	Westwood Communities 1263 Westwood Blvd. #120 Los Angeles, CA 90024 John Ashkar (805) 676-1533	Southwest corner of Wells Rd & Telegraph Rd South to 126 Freeway	Parklands	252 DU 66.7 Acres 7.3 DU/AC 630 POP	In Planning Process	PCN-3829 SP-6 PD-861 A-327 Z-916 LD-5632 ARB-2985 DA-38 EIR-2459
Wells	089-0-012-140	Proposed							
Also See	089-0-012-160	Neighborhood							
RC-85	089-0-012-185	Medium							
C-440	089-0-012-195								
	089-0-012-200								
	089-0-012-080								

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS

CONDOMINIUMS

PROJECT	APPLICANT	DATE	NEIGHBORHOOD	ADDRESS	DESCRIPTION	STATUS	CASE
RC-60 Montalvo Also See RS-87	135-0-020-495 & 605 Westwood Communities Corp 134 S Gunston Dr Los Angeles, CA 90049 (310) 479-3300	04/02/01	R-P-D-13U Neighborhood Medium	Northwest corner of Hill Rd & Moon Dr	Bella Vista 10 LOW- INCOME UNITS (SENIOR)	104 DU 3.21 Acres 32.4 DU/AC 260 POP	Building Permits Issued PCN-2528 Z-881 S-4129 DA-29 PD-799 ARB-2808
RC-66 Downtown	073-0-142-270 Joe Risi 1224 Coast Village Ci #20 Montecito, CA 93108 (805) 565-2288	06/09/03	CR DTSP	Northeast corner of Ash St & Front St		6 DU .17 Acres 35.3 DU/AC 15 POP	In Plan Check PCN-4110 EIR-2400 AM-4611 CDP-454 ARB-2888
RC-70 Serra Also See RS-92	087-0-040-205 087-0-075-015 The Olson Company 333 Lantana #277 Camarillo, CA 93010 (805) 981-6840	07/17/03	R-P-D-6U Neighborhood Low	Henderson Rd, West of Montgomery	Citrus Walk	82 DU (54 Triplex/28 Duplex) 40.11 Acres 6 DU/AC 205 POP	Building Permits Issued PCN-4196 MP-145 A-321 Z-901 S-5447 PD-829
RC-71 Saticoy	090-0-290-075 Larwin Company 16633 Ventura Bl, Ste 1300 Encino, CA 91436 Gloria Buenrostro (818) 986-8890	2/24/04	M-X-D Neighborhood Medium	11212 Snapdragon St	Chapel Lane Courtyards (Phase 1)	16 DU .83 Acres 19.3 DU/AC 40 POP	Building Permits Issued PCN-1189 LD-939 ARB-2916 AM-4643
RC-72 Montalvo	136-0-020-625 Ventura Heritage Corp 134 S Gunston Dr Los Angeles, CA 90049 John Ashkar (310) 479-3300	05/28/04	R-P-D Proposed Commerce	East of Alameda Av @ 8th St (within Montalvo Shopping Center)		72 DU 3.91 Acres 18.4 DU/AC 180 POP	In Planning Process PCN-4032 Z-908 S-5512 PD-841 ARB-2921

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

RC-74 Westside Also See C-397	069-0-111-225	C-2 Commerce	06/19/03	1150 N Ventura, L.P. 333 N Kolorama Dr Ventura, CA 93001 Kara Davis (805) 652-2115	1150 N Ventura Av	SOHO West	12 DU .34 Acres 35.3 DU/JAC 30 POP	In Plan Check	PCN-767 PD-828 ARB-2890 LD-920
RC-75 Downtown Also See C-411	071-0-194-405 071-0-194-415	DC DTSP	07/22/04	Palm & Poli Associates 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	Southwest corner of Palm St & Poli St	1 VERY LOW- INCOME 2 MODERATE- INCOME UNITS	22 DU .4 Acres 55 DU/JAC 55 POP	In Planning Process	PCN-3876 EIR-2438 AM-4730 CDP-475 ARB-2936 LD-932
RC-77 Downtown Also See C-419	073-0-111-160	DR DTSP	11/15/04	Santa Clara Street Urban Renewal Partners 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	72 W Santa Clara St	1 VERY LOW- INCOME 2 MODERATE- INCOME UNITS	21 DU .43 Acres 48.8 DU/JAC 53 POP	In Plan Check	PCN-4263 AM-4764 CDP-485 ARB-2950 LD-943
RC-78 Midtown Also see C-4D5	073-0-212-270	C-2 Commerce	05/12/04	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	1625 E Thompson Bl		4 DU .15 Acres 26.7 DU/JAC 10 POP	In Plan Check	PCN-1786 AM-4709 ARB-2925 LD-945
RC-79 Saticoy	090-0-290-725	M-X-D Neighborhood Medium	05/04/05	MJ Land LLC 4171 Market St, Ste 4A Ventura, CA 93003 Don Jensen (805) 654-6977	11170 Snapdragon St	Chapel Lane Courtyard (Phase II)	15 DU .64 Acres 23.4 DU/JAC 38 POP	In Plan Check	PCN-4420 AM-4818 LD-976 ARB-2965

*DU = Dwelling Units; DU/JAC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT	APPLICANT	DATE	NEIGHBORHOOD	ZONING	ADDRESS	DESCRIPTION	STATUS	PERMITS
RC-80 Wells Also See RS-96 RA-116	Island Coast, LLC 1833 Portola Rd. Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	05/23/05	R-P-D Proposed Neighborhood Low		East Ventura corner of Citrus Dr & Peach AV	Citrus Place	60 DU 23.3 Acres 7.9 DU/AC 150 POP	In Planning Process PCN-3232 A-325 Z-913 LD-958 EIR-2451
RC-81 Midtown Also See C-441	V2V Ventures 2212 Elise Way Santa Barbara, Ca 93109 Leon Bidlow (805) 901-8021	0720/05	C-2 Commerce		1570 E Thompson Bl	Paseo Mariposas	29 DU (5 Live/ Work Units) 1.11 Acres 26.1 DU/AC 73 POP	All Planning Approvals PCN-1520 PD-859 CDP-500 S-5646 ARB-2976
RC-82 Downtown	The Olson Company 333 N. Lantana #277 Camarillo, CA 93010 Paul Dashevsky (805) 981-6840	08/02/05	DR DTSP		120 E Santa Clara St	Renaissance Walk 11 VERY LOW 15 MODERATE UNITS	172 DU 3.6 Acres 47.8 DU/AC 430 POP	In Plan Check PCN-4356 EIR-2456 S-5660 AM-4797 ACDP-474 ARB-2980
RC-83 Downtown Also See C-425	Ventura Coast Partnership 116 N. Oak St Ventura, CA 93001 Jeff Becker (805) 653-6794	08/09/05	DR DTSP		24 E Santa Clara St	Mar y Cel 7 Live-Work Units 3 VERY LOW 6 MODERATE UNITS	56 DU 1.28 Acres 43.8 DU/AC 140 POP	All Planning Approvals PCN-823 ARB-2982 S-5666 CDP-507 AM-4820

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT NAME	ADDRESS	DATE	NEIGHBORHOOD	STATUS	DEVELOPER	LOCATION	TYPE	DU	ACRES	POP	STATUS	CASE
RC-84 Thille Also See RS-98 RA-114	079-0-240-035	08/11/05	R-P-D Proposed Neighborhood Medium	John S. Broome 3319 Telegraph Rd. #201 Ventura, CA 93003 Kloren Moss (805) 339-0613	Copland Dr & Telephone Rd	The Grove	88 DU 25.6 Acres 8.1 DU/JAC 220 POP				In Planning Process	PCN-723 EIR-2457 A-326 DA-37 Z-915 S-5626 PD0860 ARB-2983
RC-85 Wells Also See RS-99 C-440	089-0-012-045 089-0-012-140 089-0-012-165 089-0-012-185 089-0-012-195 089-0-012-200 089-0-012-080	08/12/05	R-P-D Proposed Neighborhood Low	Westwood Communities 1263 Westwood Bl #120 Los Angeles, CA 90024 John Ashkar (805) 676-1533	Southwest corner of Wells Rd & Telegraph Rd	Parklands	235 DU 66.7 Acres 7.3 DU/JAC 588 POP				In Planning Process	PCN-3829 EIR-2459 A-327 Z-916 SP-6 S-5632 ARB-2985 PD-861
RC-86 Downtown Also See C-427	073-0-123-130 & 230	10/11/05	DC DTSP	Encanto del Mar, LLC 721 Buena Vista St Ventura, CA 93001 Phil Naumoff (805) 653-1345	Northwest corner of E Thompson Bl & S Oak St	Encanto del Mar	37 DU .73 Acres 50.7 DU/JAC 93 POP				All Planning Approvals	PCN-3528 EIR-2465 AM-4804 CDP-502 S-5661 ARB-2990
RC-87 Midtown	077-0-072-010	10/03/05	C-2 Commerce	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	3005 E Main St	Main/Central Condos	14 DU .62 Acres 22.6 DU/JAC 35 POP				In Planning Process	PCN-4284 PD-866 LD-983 ARB-3005

Dwelling Units; AC = Acres; DU/JAC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

RC-88 Midtown	075-0-013-020	R-1-7 Neighborhood Low	02/27/03	Mark Sussman 322 Walnut Dr Ventura, CA 93003 Ted Temple (805) 653-5071	74 Coronado St	5 DU (1 Single Family + detached 2 nd unit also approved as a part of this project) .42 Acres 16.7 DU/AC 13 POP	In Plan Check	PCN-4034 Z-897 PD-823 LD-897 ARB-2872
RC-89 Midtown	075-0-012-225	C-1 Commerce	02/24/04	Stagen Properties 4478 Market Street #4A Ventura, CA 93003 Don Jensen (805) 654-6977	2170 E Main St	10 DU .49 Acres 20.4 DU/AC 25 POP	In Plan Check	PCN-687 ARB-2810 S-5521 PD-800B
Also See C-104 RC-90 Downtown NEW	073-0-046-050 073-0-046-060	CR DTSP	01/13/06	Matilija Investment Properties 40 S. Ash Street Ventura, CA 93001 Jeff Becker (805) 653-6794	11 S Ash St	15 DU .63 Acres 23.8 DU/AC 38 POP 2 AFFORDABLE UNITS	In Planning Process	PCN-4315 AM-4616 CDP-505 ARB-2997 LD-978
RC-91 Midtown NEW	073-0-214-110	C-2 Commerce	4/22/05	Gary Goldberg 5008 Pacific Village Drive Carpinteria, CA 93013 Ted Temple (805) 653-5071	1837 E Thompson Bl	5 DU .19 Acres 26.3 DU/AC 13 POP	In Planning Process	PCN-4206
RC-92 Westside	071-0-180-170 & 180	M-X-D DTSP	01/23/03	Matilija Investment Property P. O. Box 23277 Ventura, CA 93002 (805) 653-6794	221 N Garden St	14 DU .88 Acres 15.9 DU/AC 35 POP	In Plan Check	
Also See IND-184								

Dwelling Units; AC = Acres; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS CONDOMINIUMS

PROJECT	PLANNING	DATE	CONTACT	ADDRESS	STATUS	UNITS	ACRES	POPULATION	PROJECT NUMBER
RC-93 New Downtown Also See C-456	DC DTSP	12/19/06	V2V Ventures 2212 Elise Way Santa Barbara, CA 93109 William Growden (805) 652-0824	Southeast corner of Santa Clara St & Palm St	1 VERY LOW 2 LOW 2 MODERATE UNITS	34 DU 1.2 Acres 28.3 DU/AC 85 POP		PCN-3614 AM-4853 CDP-518 S-5715 ARB-3004	
RC-94 New Downtown Also See RA-113 C-426	DR DTSP	08/11/05	PLACE - WAV 300 Lumber Exchange Minneapolis, MN 55401 Chris Velasco (612) 309-3889	Northwest corner of Ventura Av & Thompson Bl	The WAV	13 4.74 Acres 47.1 DU/AC 33 POP		PCN-4445 AM-4798 CDP-489 ARB-2984 DIR-134 EIR-2458	
RC-95 Downtown Also See C-379	CR DTSP	07/30/02	Mark Draganchuck 1509 E. Main St Ventura, CA 93001 James Armstrong (805) 644-8180	828-836 E Thompson Bl		12 DU .39 Acres 30.8 DU/AC 30 POP		PCN-3444 DP-14 AM-4456 ARB-2813 CDP-426 LD-946	
RC-96 Saticoy	R-P-D Neighborhood Low	09/19/03	Raul Orozco 312 Camarillo Dr Camarillo, CA 93010 Mark Shellnut (805) 649-2056	10980 Henderson Rd		4 DU .53 Acres 7.5 DU/AC 10 POP		PCN-4214 Z-803 PD-833	

Dwelling Units; AC = Acres; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS APARTMENTS

PROJECT ID	PROJECT NAME	ADDRESS	CONTACT	DATE	ZONING	NEIGHBORHOOD	STATUS	PERMITS	PCN
RA-96 Westside	068-0-112-020 & 030	C-2 Commerce	01/15/03 Bob Bronson 1155 N Olive St Ventura, CA 93001 Steve Bovee (805) 649-9104	1155 N Olive St	5 DU .18 Acres 27.8 DU/AC 13 POP	Building Permits Issued	PCN-4120 PD-820 ARB-2861		
RA-105 Westside Also See RS-94	069-0-020-050	R-P-D Neighborhood Medium	04/30/04 Centex Homes 27200 Tourney Rd #200 Valencia, CA 91355 (661) 288-5777	2686 N Ventura Av	50 DU 27.3 Acres 6 DU/AC 125 POP	In Planning Process	PCN-4154 EIR-2428 A-322 Z-906 S-5488-1 PD-840 ARB-2922		
RA-107 Pierpoint Also See C-412	080-0-240-125 & 245	HC Commerce	07/22/04 Sondermann Ring Partners 14160 Panay Wy Marina del Rey, CA 90292 Michael B. Sondermann (310) 827-6714	Ventura Harbor adjacent to Anchors Wy & Navigator Dr Parcels 15, 16 & 18	300 DU 26.9 Acres 11.2 DU/AC 750 POP	In Planning Process	PCN-4326 EIR-2436 MP-148 PD-844 CDP-473 ARB-2931		
RA-108 Midtown Also See C-417	074-0-154-220 & 230	C-1 Commerce	10/22/04 Dove Properties LLC 301 E Colorado Bl #714 Pasadena, CA 91101 Michael Faulconer (805) 648-2394	2991 Loma Vista Rd	4 DU .35 Acres 11.4 DU/AC 10 pop	Building Permits Issued	PCN-4371 ARB-2948		
RA-112 College	078-0-202-250	C-1 Commerce	06/28/05 Rasmussen & Associates 248 S. Mills Rd Ventura, CA 93003 L. Rasmussen (805) 644-7347	3585 Telegraph Rd	4 DU .53 Acres 7.5 DU/AC 10 POP	All Planning Approvals	PCN-694 AM-4834 ARB-1551		

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING RESIDENTIAL PROJECTS APARTMENTS

PROJECT NAME	ADDRESS	DATE	DR	NEIGHBORHOOD	DEVELOPER	LOCATION	STATUS	PERMITS
RA-113	073-0-111-120 073-0-111-130 073-0-111-140 073-0-111-090 073-0-111-100 073-0-111-110	08/11/05	DR DTSP		PLACE - WAV 300 Lumber Exchange Minneapolis, MN 55401 Chris Velasco (612) 309-3889	Northwest corner of Ventura Av & Thompson Bl	The WAV 69 AFFORDABLE	69 DU 1.74 Acres 47.1 DU/AC 173 POP PCN-4445 AM-4798 CDP-498 ARB-2984 DIR-134 EIR-2458
RA-114	079-0-240-035	08/11/05	R-P-D Proposed	Neighborhood Medium	John S. Broome 3319 Telegraph Rd #201 Ventura, CA 93003 Kioren Moss (805) 339-0613	Copland Dr & Telephone Rd	The Grove	45 DU 25.6 Acres 8.1 DU/AC 113 POP PCN-723 PD-860 A-326 Z-915 S-5626 ARB-2983 DA-37 EIR-2457
RA-116	090-0-250-275 090-0-022-125	05/23/05	R-P-D Proposed	Neighborhood Low	Island Coast, LLC 1833 Portola Rd, Ste. A2 Ventura, CA 93003 Tom Crozier (805) 639-0350	East Ventura corner of Citrus Dr & Peach AV	Citrus Place 100% AFFORDABLE	60 DU 23.3 Acres 7.9 DU/AC 150 POP PCN-3232 A-325 Z-913 LD-958 EIR-2451

*DU = Dwelling Units; DU/AC = Approximate Gross Density; POP = Projected Population

PENDING COMMERCIAL PROJECTS

PROJECT ID	PROJECT TYPE	DATE	OWNER	ADDRESS	ACRES	STATUS	PERMITS
C-350 Downtown	C-T-O DTSP	10/30/98	Dominion Equity 1106 N Highway 360 Grand Prairie, TX 75050 (972) 641-8641	Southeast corner of Harbor Bl & Figueroa St	150,000 2.76 Acres	In Planning Process	PCN-3253 EIR-2278 PD-755 CDP-391 ALD-829 ARB-2737
C-379 Downtown Also See RC-95	CR DTSP	07/30/02	Mark Draganchuck 1509 E. Main St Ventura, CA 93001 James Armstrong (805) 644-8180	844 E Thompson Bl	1,072 .4 Acres	Building Permits Issued	PCN-3444 DP-14 AM-4456 ARB-2813 CDP-426
C-388 Wells	C-P-D Commerce	10/24/02	SSA Enterprises Inc 2664 Kirsten Lee Dr Westlake Village, CA 91361 Leon Feius (310) 821-2725	11008 Citrus Dr		Building Permits Issued	PCN-3422 PD-1 CUP-1093 ARB-300
C-397 Westside Also see RC-74	C-2 Commerce	6/19/03	1150 N Ventura, L.P. 333 N Kalorama Dr Ventura, CA 93001 Kara Davis (805) 652-2115	1150 N Ventura Av		In Plan Check	PCN-767 PD-828 ARB-2890
C-404 Midtown Also see RC-89	C-1 Commerce	02/24/04	Stagen Properties 4478 Market Street #4A Ventura, CA 93003 Don Jensen (805) 654-6977	2170 E Main St	.58 .49 Acres	In Plan Check	PCN-687 PCN-687 ARB-2810 S-5521 PD-800B

PENDING COMMERCIAL PROJECTS

PROJECT NO.	PROJECT NAME	PROJECT TYPE	DATE	CONTACT	ADDRESS	ACRES	STATUS	CASE NO.
C-405 Midtown Also see RC-78	073-0-212-270	C-2 Commerce	05/12/04	Patrick McCarthy 633 E Ventura Blvd Oxnard, CA 93030 (805) 485-4646	1625 E Thompson Blvd	374 .15 Acres	In Plan Check	PCN-1786 AM-4709 ARB-2925
C-409 North Bank	138-0-230-340	C-P-D Auto Center S.P.	06/23/04	Ventura Toyota 6360 Leland St Ventura, CA 93003 Karen Wintringham (805) 650-0510	6151 King Dr	7,160 2.2 Acres	Building Permits Issued	PCN-4320 EIR-2434 PD-842 ARB-2929
C-410 Midtown	073-0-072-110	C-1 Commerce	05/07/04	James Beatty 1529 E Main St Ventura, CA 93001 (805) 653-5033	1529-1535 E Main St	801 .11 Acres	In Plan Check	PCN-4305 AM-4707 ARB-2924
C-411 Downtown Also See RC-75	071-0-194-405	DC DTSP	07/22/04	Palm & Poli Associates 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	SWC Palm St & Poli St	1,200 .23 Acres	In Planning Process	PCN-3676 EIR-2438 AM-4730 CDP-475 ARB-2936 LD-932
C-412 Pierpont Also See RA-107	080-0-240-125 & 245	HC Neighborhood Medium	07/22/04	Sondermann Ring Partners 14160 Panay Wy Marina del Rey, CA 90292 Michael B. Sondermann (310) 827-6714	Ventura Harbor adjacent to Anchors Wy & Navigator Dr Parcels 15, 16 & 18	20,000 26.9 Acres	In Planning Process	PCN-4326 EIR-2436 MP-148 PD-844 CDP-473 ARB-2931
C-415 Thille	137-0-030-385	C-P-D Commerce	10/07/04	Cal Coast Motorsports 5455 Walker St Ventura, CA 93003 Craig Adams (805) 340-1389	5455 Walker St	12,000 .99 Acres	In Plan Check	PCN-4341 PD-795A ARB-2654

PENDING COMMERCIAL PROJECTS

Project ID	City	Map	Industry	Date	Developer	Address	Use	Acres	Status	Permit/Reference
C-416	Arundell	084-0-081-245	M-P-D Industry	10/15/04	F-2 Development P. O. Box 6025 Woodland Hills, CA 91365 Roy Colbert (805) 650-8590	4628 Telephone Rd	New Automotive Repair Building	5,198 .92 Acres	In Plan Check	PCN-4098 PD-817A CUP-1169 ARB-2846
C-417	Midtown Also See RA-108	074-0-154-220 & 230	C-1 Commerce	10/22/04	Dove Properties LLC 301 E Colorado Bl #714 Pasadena, CA 91101 Michael Faulconer (805) 648-2394	2991 Loma Vista Rd	Mixed Use 4 Residential Apartments with Commercial	5,100 .35 Acres	Building Permits Issued	PCN-4371 ARB-2848
C-419	Downtown Also See RC-77	073-0-111-160	DR DTSP	11/15/04	Santa Clara Street Urban Renewal Partners 750 W Gonzales Rd #110 Oxnard, CA 93036 Lee Sehon (805) 983-8674	72 W Santa Clara St	Mixed Use 21 Residential Condominiums with Commercial	3,000 .43 Acres	In Plan Check	PCN-4263 AM-4764 CDP-485 ARB-2850 LD-943
C-420	Downtown	073-0-042-210	DC DTSP	03/21/05	60 California LLC 2151 Alessandro Dr Ventura, CA 93001 Tim McLoughlin (805) 443-3773	60 California St	Four story multi-use commercial/retail building	27,393 .14 Acres	All Planning Approvals	PCN-4408 ARB-2959 EIR-2449
C-421	Downtown	073-0-141-120	DR DTSP	05/17/05	Tender Life 844 East Thompson Blvd Ventura, CA 93001 Jim De Arklund (805) 650-1967	871 E Thompson Bl	New accessory quarters consisting of 4 bedrooms, living room, office and cooking area	2,090 .14 Acres	In Planning Process	PCN-699 CUP-963 CDP-198 ARB-2967

PENDING COMMERCIAL PROJECTS

C-423	College	079-0-010-385	C-1A	Commerce	05/26/05	MJL Capital Partners, LLC 2659 Townsgate Dr., #246 Westlake Village, CA 91361 Steve Ojshan (310) 458-9868	480 & 488 S Mills Rd	Proposed two one-story buildings	14,561 13.35 Acres	Building Permits Issued	PCN-829 CUP-1194 ARB-2969
C-425	Downtown Also See RC-83	073-0-114-080 073-0-114-11	DR DTSP		08/08/05	Ventura Coast Partnership 116 N. Oak St Ventura, CA 93001 Jeff Becker (805) 653-6794	24 E Santa Clara St	Mixed-Use project including 56 condos - of which 7 are live-work	750 1.15 Acres	All Planning Approvals	PCN-823 ARB-2982
C-426	Downtown Also see RA-113	073-0-111-120 073-0-111-130 073-0-111-140 073-0-111-080 073-0-111-110	DR DTSP		08/11/05	PLACE - WAV 300 Lumber Exchange Minneapolis, MN 55401 Chris Velasco (612) 309-3889	Northwest corner of Ventura Av & Thompson Bl	Mixed-Use Project	5,637 1.74 Acres	In Planning Process	PCN-4445 AM-4798 CDP-489 ARB-2984 DIR-134 EIR-2458
C-427	Downtown Also See RC-86	073-0-123-230 & 130	DC DTSP		10/11/05	Buena Ventura Homes 721 Buena Vista St Ventura, CA 93001 Phil Naumoff (805) 653-1345	Northwest corner of E Thompson Bl & S Oak St	Mixed-Use Project	2,641 .73 Acres	All Planning Approvals	PCN-3528 AM-4804 CDP-502 LD-974 ARB-2990
C-428	Thille	137-0-021-020	C-1A Commerce		10/13/05	Wal-mart Stores, Inc. 2001 SE 10 th Street Bentonville, AR 72716-0550 Brian Anderson (714) 560-8200	1739 S Victoria Av	New retail building (101,200) with garden center (7,700 sq.ft.) Replacing existing ~84,000 sq.ft. K-Mart building	101,200 12.41 Acres	In Planning Process	PCN-2759 EIR-2463 CUP-614 ARB-2991

PENDING COMMERCIAL PROJECTS

Project No.	Address	City	County	Project Description	Area (Acres)	Project Status	Permit No.
C-429 Arundell	VOOV, LLC 660 Rose Ave #4 Venice, CA 90291 D. Joshua Staub (310) 576-7770	San Diego	San Diego	New 2-Story Commercial Office/Condo	6,400 .57 Acres	All Planning Approvals	PCN-3864 ARB-2894
C-431 Arundell <i>NEW</i>	Roy E. Colbert 1891 Goodyear Av #607 Ventura, CA 93003 Roy E. Colbert (805) 650-9590	San Diego	San Diego	Commercial Addition	503 3.93 Acres	Building Permit Issued	PCN-3099 PD-385 ARB-1989
C-432 Serra <i>NEW</i>	Mohammad Taherizadgan 2870 Camino Dos Rios Newbury Park, CA 9132 Leon Felus (310) 306-2443	San Diego	San Diego	Commercial Addition to Existing Service Station	293 .48 Acres	All Planning Approvals	PCN-918 CUP-867 ARB-2167
C-434 Downtown <i>NEW</i>	Downtown Ventura Properties 928 Carpinteria Street #8 Sana Barbara, CA 93103 Nicole Riggs (805) 644-8180	San Diego	San Diego	Relocation of existing Tap Hat building	847 .14 Acres	In Planning Process	PCN-4513 ARB-3011
C-435 North Bank <i>NEW</i>	Ventura Toyota 610 Newport Center Dr, 4 th Floor Newport Beach, CA 92660 Jennifer Yarr (949) 234-1950	San Diego	San Diego	Addition to existing dealership (7,357 sq.ft.) including addition of service bays (21,128 sq.ft.)	28,485 8.1 Acres	In Plan Check	
C-436 North Bank <i>NEW</i>	Camping World RHLL Design Group 2401 E. Katella Av, Ste 400 Anaheim, CA 92806 David Reynolds (714) 935-0050	San Diego	San Diego	New RV Retail Sales & Service Building	36,955 12 Acres	In Planning Process	

PENDING COMMERCIAL PROJECTS

PROJECT NO.	ADDRESS	ZONE	DATE	DEVELOPER	LOCATION	PROJECT	PLAT ACRES	STATUS	CASE
C-437 Pierpoint <i>NEW</i>	081-0-053-120	C-1A (TO) Commerce	11/01/06	Capital Real Estate 4370 La Jolla Village Dr, Ste 850 San Diego, CA 92121 Scott Boydston (805) 644-7347	1105 S Seaward Av	New timeshare units (10) with ground floor retail (5,325 sq.ft.)	22,473 .51 Acres	In Planning Process	PCN-189 PD-867 UP-1211 CDP-517 ARB-3007
C-438 Downtown Also See RC-93 <i>NEW</i>	073-0-123-250, 260, 270	DC DTSP	12/18/06	V2V Ventures 22-12 Elise Way Santa Barbara, CA 93109 William Growden (805) 652-0824	Southeast corner of Santa Clara St & Palm St	Mixed use development including 34 condos with ground floor retail (5,400 sq.ft.)	5,400 1.2 Acres	In Planning Process	PCN-3614 AM-4853 CDP-518 S-5715 ARB-3004
C-439 Arundell <i>NEW</i>	084-0-091-105	C-P-D Commerce	01/22/07	Target Corporation 1000 Nicollet Mall Minneapolis, MN 55403 Talin Aghazarian/Pacific Land Services (925) 680-6406	4200 E Main St	Addition to existing retail building	30,000 10.5 Acres	In Planning Process	PCN-1270 PD-113 ARB-2243
C-440 Wells Also See RS-99 RC-85 <i>NEW</i>	089-0-012-045 089-0-012-140 089-0-012-165 089-0-012-185 089-0-012-195 089-0-012-200 089-0-012-080	R-P-D Proposed Neighborhood Low	08/12/05	Westwood Communities 1263 Westwood Bl #120 Los Angeles, CA 90024 John Ashkar (805) 676-1533	Southwest corner of Wells Rd & Telegraph Rd	Parklands	15,000 66.7 Acres	In Planning Process	PCN-3829 EIR-2459 A-327 Z-916 SP-6
C-441 Midtown Also See RC-81 <i>NEW</i>	075-0-070-040 075-0-070-050	C-2 Commerce	07/20/05	V2V Ventures 2212 Elise Way Santa Barbara, CA 93109 Leon Bidlow (805) 901-8021	1570 E Thompson Bl	Paseo Mariposas	2,500 26.1 DU/AC	All Planning Approvals	

PENDING INDUSTRIAL PROJECTS

PROJECT NO.	ADDRESS	CITY	DATE	OWNER	ADDRESS	PROJECT	SQ. FT.	STATUS	PAGE
IND-134 Pierpont NEW	080-0-240-075 H-C H-C	H-C Commerce	4/96	Ventura Harbor Storage 63 N Ash St Ventura, CA 93001 William Kendall (805) 642-4773	1414 Angler Ct	Personal Storage Facility	26,316 sq. ft.	In Plan Check	PCN-3351 PD-721 CUP-1090 CDP-361 ARB-2644
IND-184 Downtown Also See RC-92	071-0-180-170 & 180	M-X-D DTSP	01/23/03	Matilija Investment Property P. O. Box 23277 Ventura, CA 93002 Neal Subic (805) 644-7340	221 N Garden St	14 Mixed-Use (Industrial/ Residential) Units	27,000 approx .88 Acres	In Plan Check	PCN-3865 PD-821 CDP-444 ARB-2863
IND-188 Montalvo	135-0-290-175	M-1 Industry	07/20/04	Karim Gorbanov 3700 Dean Dr #2101 Ventura, CA 93003 Brad Beckham (805) 984-3372	6508 Beene Rd	New Two-Story Industrial Building	3,241 .39 Acres	In Plan Check	PCN-4333 ARB-2933
IND-189 Olivas	138-0-243-045 & 055	M-P-D Industry	08/03/04	Grigor Eddie Atoian P. O. Box 8926 Calabasas, CA 91302 Vincent Dyer (818) 882-5250	3000 Bunsen Av	New One-Story Industrial Building	39,043 2.38 Acres	Building Permit Issued	PCN-2011 EIR-2439 PD-847 ARB-2938
IND-190 North Bank	138-0-250-125	M-P-D Industry	07/29/04	David Gregory 22 N Ventura Av Ventura, CA 93001 James A. Lichty (913) 341-2356	2900 Golf Course Dr	New One-Story Industrial Building	14,066 .78 Acres	Building Permit Issued	
IND-191 Arundell	084-0-083-075	M-P-D Industry	08/04/04	Las Palmas Industrial 4864 Market St Ventura, CA 93003 (805) 642-4773	1500 Block of Eastman Av	New Two-Story Industrial Building	21,000 .52 Acres	Building Permits Issued	

PENDING INDUSTRIAL PROJECTS

PROJECT NO.	AGENCY	DATE	INDUSTRY	ADDRESS	PROJECT	ACRES	STATUS	CASE NO.
IND-192 Arundell	084-0-142-035 & 045	09/02/04	M-P-D Industry	458 No Hayworth Apt LLC 7204 1/2 Melrose Av #A Los Angeles, CA 90046 Vince Dyer (818) 882-5250	1834/1868 Palma Dr Two New One-Story Industrial Buildings	37,500 2.66 Acres	In Plan Check	PCN-4350 PD-850 ARB-2943
IND-193 North Bank	138-0-241-035	11/02/04	M-P-D Industry	Bill Gerard P. O. Box 1296 Buelton, CA 93427 (805) 886-9453	NWC of Nicolle St & Golf Course Dr Six New Industrial Buildings Including Self-Storage	105,104 (Industrial) 71,348 (personal storage) 19.56 Acres	In Planning Process	PCN-3202 PD-852 ARB-2949
IND-194 Arundell	084-0-102-065	01/13/05	M-P-D Industry	Hart Ventures LLC 159 E Manchester Av Los Angeles, CA Vince Dyer (818) 882-5250	NWC Transport St & Donlon St New Two-Story Industrial Building	20,640 1.13 Acres	All Planning Approvals	PCN-4399 PD-853 ARB-2956
IND-195 North Bank	138-0-230-810	01/20/05	M-P-D Industry	Vincent Dyer 10761 Eton Ave Chatsworth, CA 91311 (818) 882-5250	5917, 5963, 6019, 6043, 6067 Olivas Park Dr Five new one story industrial buildings	69,086 5.21 Acres	Building Permits Issued	PCN-3742 PD-854 ARB-2955
IND-197 Arundell	084-0-144-295	05/10/05	M-P-D Industry	Vincent Dyer 10761 Eton Ave Chatsworth, CA 91311 (818) 882-5250	4880 Colt St Addition to existing industrial building	43,180 7.41 Acres	All Planning Approvals	PCN-402 PD-361 ARB-1942
IND-199 Arundell	138-0-170-240	07/24/03	M-1 Industry	Sally Crain 1595 S Arundell Av Ventura, CA 93003 Ed Campbell (805) 648-1859	3660 Arundell Ci Warehouse Building	40,000 2.51 Acres	In Plan Check	PCN-1009 ARB-2170

PENDING INDUSTRIAL PROJECTS

PROJECT NO.	APPLICANT	DATE	INDUSTRY	ADDRESS	ACRES	STATUS	PERMIT NO.
IND-200 Arundell <i>NEW</i>	Edward Steed 1717 Palma Drive Ventura, CA 93003 Nicole Riggs (805) 644-8180	06/13/06	M-2 Industry	1717 Palma Drive	387 .91 Acres	In Plan Check	PCN-2459 ARB-1587
IND-201 Montalvo <i>NEW</i>	Pinky's Tire Service 2878 Sherwin Av Ventura, CA 93003 Mark Pettit (805) 988-0912	11/28/06	M-1 Industry	2878 Sherwin Av	10,780 .57 Acres	In Planning Process	PCN-3458 AM-4850 ARB-3024

PENDING INSTITUTIONAL PROJECTS

INS-103	Downtown	073-0-022-200	P	DTSP	12/02/04	AC Martin Partners, Inc. 444 S Flower, Ste 1200 Los Angeles, CA 90071 Carey McLeod (213) 614-6149	100 E Main St	Expansion of Ventura County Museum of History and Art	19,000 5 Acres	All Planning Approvals	PCN-1195 EIR-2386 PD-819 CDP-442 ARB-2854
INS-104	Olivas	138-0-212-105	P	Parks & Open Space	02/03/04	City of Ventura Buena Ventura Golf Course 501 Poli St Ventura, CA 93001 Greg Gilmer (805) 658-4727	5882 Olivas Park Dr	Construction of a new maintenance building and restroom and addition to the existing pro shop building	22,450 92 Acres	Building Permits Issued	PCN-1471 CUP-1176 FP-20 ARB-2866
INS-105	Olivas	138-0-050-050	P & R-1-7	Parks & Open Space	02/03/04	City of Ventura Olivas Golf Course 501 Poli St Ventura, CA 93001 Greg Gilmer (805) 658-4727	3750 Olivas Park Dr	Construction of a new clubhouse, maintenance building and restroom	26,586 253.5 Acres	Building Permits Issued	PCN-2211 CUP-1174 FP-21C DP-449 ARB-2867
INS-108	Serra	131-0-060-145	R-1-1AC	Neighborhood Low	11/03/04	First Assembly of God of Ventura 346 N Kimball Rd Ventura, CA 93004 Judy Hoffman (805) 647-2004	1184 Bristol Rd	Recreational Fields	25.6 Acres	In Planning Process	PCN-1191 EIR-2385 A-320 CUP-1183 ARB-2904
INS-109	North Avenue	063-0-040-025	R-1-1AC	Industry	05/21/04	City of Ventura 501 Poli St Ventura, CA 93001 Joe McDermott (805) 654-7828	5895 N Ventura Av	3 New Buildings at Water Treatment Plant	18,619 12.54 Acres	Building Permits Issued	PCN-3056 ARB-373

PENDING INSTITUTIONAL PROJECTS

INS-110 Midtown	068-0-191-070 & 080	C-1 Commerce	06/01/05	Keystone Schools 11980 Mt Vernon Av Grand Terrace, CA 92313	1718 E Main St	New Classroom Building	593 (net increase) .19 Acres	In Plan Check	PCN-305 CUP-1195 ARB-2970
INS-111 Westside	068-0-082-115	C-P-D Commerce	07/20/05	Ventura Unified School District 359 S. Victoria Ave Ventura, CA 93003 Paul Sheehan (805) 653-8100	255 W Stanley Av	Construction of new education operation support center	41,470 2.83 Acres	In Plan Check	PCN-1847 PD-858 CUP-1196 ALD-966 ARB-2975

Appendix B

Previous NPDES Permit

**State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 00-143
NPDES NO. CA0053651**

**WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF SAN BUENAVENTURA
(Ventura Water Reclamation Facility)**

The California Regional Water Quality Control Board, Los Angeles Region, (hereinafter Regional Board) finds:

BACKGROUND

1. The City of San Buenaventura (City or Discharger) discharges wastes from its Ventura Water Reclamation Facility under waste discharge requirements contained in Order No. 95-074 adopted by this Regional Board on June 12, 1995. This Order also serves as the National Pollutant Discharge Elimination System (NPDES) permit (CA0053651).
2. The City has filed a report of waste discharge and has applied for renewal of its waste discharge requirements and NPDES permit.

DESCRIPTION OF FACILITY

3. The City operates the Ventura Water Reclamation Facility, a publicly owned tertiary wastewater treatment facility with a design capacity of 14 million gallons per day (mgd). The facility is located at 1400 Spinnaker Drive, San Buenaventura, Ventura County, California (Figure 1 shows the location of the plant). The facility treats municipal wastewater from domestic, commercial, and industrial sources. The treated wastewater is discharged into the Santa Clara River Estuary, a water of the United States, at latitude 34° 14' 11", and longitude 119° 15' 31" (Discharge Serial No. 001). The facility is responsible for 375 miles of sewer mains and 12 lift stations in addition to the treatment plant.
4. The City is in the process of renovating and upgrading the existing aeration system and secondary sedimentation tanks of the activated sludge process. The City anticipates that all major structural upgrades which impact the operation of the treatment process will be complete by October 1, 2000.

5. Upon completion of the upgrade, treatment at the facility will consist of grit removal, primary sedimentation, flow equalization, roughing filters, activated sludge, tertiary filters, chlorination / dechlorination, primary sludge thickener, DAF secondary sludge thickener, anaerobic digestion, plate press, and land application or landfill as the final destination. During the completion of the upgrade, the treatment at the facility consists of grit removal, primary sedimentation, flow equalization, activated sludge, tertiary filters, chlorination / dechlorination, primary sludge thickener, anaerobic digestion, plate press, and land application or landfill as the final destination.

Sludge is thickened, anaerobically digested, and dewatered (using filter presses). A portion of the dewatered sludge is composted (Class B), and hauled to various users in Ventura County. The rest of the dewatered sludge is disposed of in the Simi Valley and Chiquita Canyon landfills.

Figures 2 and 3 show the schematic of the current wastewater flow and the wastewater flow upon completion of the construction upgrade.

DESCRIPTION OF WASTE DISCHARGE AND OUTFALL

6. The volume and characteristics of the treated wastewater, based on discharge monitoring reports from January 1995 through December 1999, are as follows:

Annual Average Influent Flow	8.89 mgd
Annual Average Flow to Santa Clara River	7.76 mgd
Highest Monthly Average Flow to Santa Clara River	15.05 mgd

<u>Constituents</u>	<u>Unit</u>	<u>Annual Average Value</u>
BOD ₅ 20°C	mg/L	2.8
Total chlorine residual	mg/L	<0.1
Total dissolved solids	mg/L	1396
Total suspended solids	mg/L	1.74
Settleable solids	ml/L	<0.1
Ammonia (as N)	mg/L	3.34
Nitrate (as N)	mg/L	13.7
Kjeldahl nitrogen	mg/L	4.26

7. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified the discharge from the Ventura Water Renovation Facility as a major discharge.
8. The treated wastewater is discharged into the Santa Clara River Estuary, a water of the United State, at latitude 34° 14' 11", and longitude 119° 15' 31" (Discharge Serial No. 001).

The mouth of the Santa Clara River is sometimes closed off by a sand bar so that a shallow lagoon is created. However, at times when the sand bar is breached, either by floodwaters or by mechanical means, the lagoon empties directly into the Pacific Ocean. The Pacific Ocean is about 2,000 feet west from Discharge Serial No. 001.

The State of California Department of Parks and Recreation has declared McGrath State Beach and the surrounding 160 acres a natural preserve. The preserve includes the main channel of the Santa Clara River and adjacent natural lands of riparian shrubland and saltwater marsh. The purpose of the natural preserve is to protect and perpetuate the river ecosystem at the mouth of the Santa Clara River. Resource values of particular significance include: estuarine waters, which are used extensively by a wide variety of waterfowl and other water-associated birds; nesting habitat of the endangered California least tern; and riparian shrubland and saltwater marsh communities.

The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time. At locations where salinities fall between 1 and 10 ppt, the more stringent of either fresh or marine waters apply. The Santa Clara River Estuary typically experiences more tidal influence during winter and spring when the sand bar is open, while during the summer and fall the bar is closed and less tidal influence occurs. Data obtained from U.S. Fish and Wildlife Service demonstrate that the discharge point is classified as in-between freshwater and saltwater according to the definitions in the CTR.

In order to protect the beneficial uses, the limits for both fresh and salt water were compared, and the more stringent of the two was used to set each effluent limit within this permit. In this manner, the Regional Board is protecting the most sensitive environmental beneficial use.

9. A small portion of the treated wastewater is reused for turf and landscape irrigation. Approximately 1.0 MGD of the treated wastewater percolates into groundwater from the ponds on site at the treatment facility. The reuse of the treated wastewater and the percolation to groundwater are regulated under water reclamation requirements which are contained in a separate order (Order No. 87-45), adopted by this Board on April 27, 1987.
10. In September 1978, the City of San Buenaventura submitted a facilities plan for effluent utilization which included a demonstration of enhancement to the Santa Clara River Estuary based on an average minimum effluent flow of 5.6 mgd. The Regional Board concurred with the findings in the facilities plan that this discharge is not degrading the beneficial uses of the Estuary, and in fact, some of the beneficial uses, such as fish and wildlife habitat and non-contact water recreation, are enhanced by the presence of the discharge.

HISTORY OF DISCHARGE

11. On June 12, 1995, the Regional Board last issued waste discharge requirements for the Ventura Water Reclamation Facility. At that time, it was understood that there were some pollutant limits that the VWRF would not be able to meet. Interim limits were included in the permit until such time as the City completed its study to determine the source of the pollutants, implemented process changes that would minimize the presence of the problem pollutants, determined how to achieve these limits, and completed a characterization of the estuary. The City believed that the estuary is predominantly fresh water and that the effluent limits, if calculated using fresh receiving water data instead of salt water receiving criteria, would be achievable.

12. In May of 1996, the City submitted Phase 1 of the NPDES Limit Achievability Study which identified which new permit limits could not be currently complied with, and to determine if source control actions applied to controllable discharges could be expected to reduce discharge concentrations below effluent limits contained in the permit. The study indicated the City was in compliance with most limits, however, the following pollutants were problematic: Bis(2-ethylhexyl)phthalate, Dichlorobromomethane, copper, lead, nickel, and zinc.

Zinc appeared to be the only problem pollutant that could be reduced in concentration by source control actions. Zinc orthophosphate was used as a corrosion control additive in the water supply and the substitution of another chemical compound proved successful. The application of source control methods would not decrease the concentrations found in the effluent for copper, lead, nickel, and Bis(2-ethylhexyl)phthalate because current removal efficiencies were unable to meet the limits established in the permit. Dichlorobromomethane results from the addition of chlorine used in the disinfection process and cannot be reduced in concentration with the current treatment process.

13. On March 5, 1998, the City submitted Phase 2 of the NPDES Limit Achievability Study which addressed the achievability of permit limits through treatment process modifications. The City reviewed the USEPA Bibliographic Database and found no full-scale information on processes that would achieve compliance with their NPDES permit limits. Processes examined include reverse osmosis, addition of lime, alternative disinfection processes, activated carbon adsorption and air stripping. Either the process would not aid in VWRF's achieving compliance or there were other adverse effects that needed to be further analyzed.

14. On November 12, 1999, the City submitted Phase 3 of the NPDES Limit Achievability Study which addressed the results of the receiving water study and determined the appropriate standards for calculating water quality objectives for the Santa Clara River Estuary. The City's interpretation of the results of this study are summarized below:

- a. Most of the designated beneficial uses are supported and enhanced by the City's discharge. The discharge provides make-up water from that lost upstream due to diversion and pumping;
- b. The estuary is primarily a freshwater ecosystem, which should allow for consideration of water hardness in recalculating the discharge limits for metals;
- c. State regulations prohibit fishing and shellfish collection in the estuary and low numbers of suitably sized species are present, therefore the human consumption of seafood from the estuary is much lower than assumed in standard risk models. The study proposes that site specific information be used in calculating water quality objectives for the organic pollutants and concludes that adjusting the permit limits using site specific information will still be protective of the beneficial uses of the estuary;
- d. Adjusting the permit limits by incorporating site-specific information will not impair or harm the beneficial uses of the estuary;
- e. The criteria for determining the site specific objectives are met; and,
- f. Monitoring studies of the Santa Clara River and Estuary show that ambient concentrations of the six pollutants are comparable to the concentrations found in the effluent. Effluent concentrations and ambient concentrations exceed the NPDES permit limits with similar frequency for all pollutants except copper.

APPLICABLE PLANS, POLICIES, AND REGULATIONS

15. This discharge is subject to USEPA's regulations promulgated pursuant to Section 304(1) of the Clean Water Act and to implement USEPA's "Policy for the Development of Water Quality-based Permit Limitations for Toxic Pollutants" (49 FR 9016, dated March 9, 1984). These regulations prescribe biological and other laboratory testing procedures and toxicity limits, particularly for chronic toxicity.
16. Pursuant to 40 CFR Part 403, the City developed and implements an approved industrial wastewater pretreatment program.
17. To implement Section 405(d) of the Clean Water Act, USEPA promulgated 40 CFR Part 503 on February 19, 1993, to regulate the use and disposal of municipal sewage sludge. This Order implements these regulations and it is the responsibility of the Discharger to comply with said regulations, which are enforceable by USEPA.
18. Effluent limitations, national standards of performance, toxic and pretreatment effluent standards, test procedure guidelines, regulations, requirements, and/or guidelines established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, and 405 of the Clean Water Act and amendments thereto are applicable to this discharge.
19. Pursuant to Section 402(p) of the Clean Water Act and 40 CFR Parts 122, 123, and 124, the State Water Resources Control Board (State Board) adopted general NPDES permits to regulate stormwater discharges associated with industrial activity (State Board Order

No. 91-13-DWQ adopted in November 1991, amended by Order No. 92-12-DWQ adopted in September 1992). The requirements of this general permit are incorporated into this permit.

20. On July 23, 1997, the State Water Resources Control Board (State Board) adopted the revised *Water Quality Control Plan for the Ocean Waters of California* (Ocean Plan). The Ocean Plan contains water quality objectives for the coastal waters of California. This Order includes effluent and receiving water limitations, prohibitions, and provisions which implement the objectives of the Ocean Plan.
21. On May 18, 1972 (amended on September 18, 1975), the State Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan). The Thermal Plan contains temperature objectives for the Pacific Ocean.
22. On October 28, 1968, the State Board adopted Resolution No. 68-16, "Maintaining High Quality Water" which established an antidegradation policy for State and Regional Boards.
23. On June 13, 1994, the Regional Board adopted a revised *Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watershed of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan incorporates by reference the Ocean Plan, the Thermal Plan, and the antidegradation policy. The Basin Plan also identifies water quality objectives and beneficial uses for surface waters of Ventura.
24. The beneficial uses of the receiving waters are:
 - a. Santa Clara River Estuary

Navigation, water contact recreation, noncontact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, rare, threatened, or endangered species, migration of aquatic organisms, spawning, and wetland habitat.
 - b. Pacific Ocean, Nearshore*

Industrial service supply, navigation, water contact recreation, noncontact water recreation, commercial and sport fishing, marine habitat, wildlife habitat, preservation of biological habitats, rare, threatened, or endangered species, migration of aquatic organisms, spawning, and shellfish harvesting.

*Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.

25. On May 18, 2000, the United States Environmental Protection Agency (USEPA) promulgated numeric criteria for priority toxic pollutants for the state of California [known as the California Toxics Rule (CTR) and codified as 40 CFR part 131.38]. On March 2, 2000, State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Order No. 2000-015). Toxic pollutant limits are prescribed in this Order to implement the CTR. On April 26, 2000, State Board adopted the *Amending Resolution No. 2000-15 Regarding Adoption of the Policy for the Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Order No. 2000-030).
26. There is public contact in the downstream areas; hence, the quality of wastewater discharged to the Santa Clara River must be such that no health hazard is created.
27. The requirements contained in this Order are derived using best professional judgement and are based on the Basin Plan, Federal and State plans, policies, guidelines, and plant performance; and as they are met, will be in conformance with the goals of the aforementioned water quality control plans, water quality criteria, and will protect and maintain the existing beneficial uses of the receiving water.

WATER QUALITY ASSESSMENT

28. On May 12, 1999, the USEPA approved the State Water Resources Control Board's (SWRCB) Water Quality Assessment (WQA). The SWRCB prepared their WQA, or 303(d) List, in accordance with section 303(d) of the federal Clean Water Act, which calls for the identification of specific water bodies that do not meet or are not expected to meet water quality standards, even after the implementation of technology-based effluent limitations are applied to point source discharges.

The Santa Clara River Estuary is on the 1998 303(d) list of impaired waterbodies for coliform, and a portion of the river upstream of the estuary is listed for ammonia and coliform. Portions of the river have chloride exceedances. The Estuary is also listed for DDT in fish tissue, Chem A which is the sum of the chemicals aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene and also for toxaphene alone. Total Maximum Daily Load (TMDL) development for coliforms for the Santa Clara River Estuary is scheduled to begin in the fiscal year 2001/2002.

REASONABLE POTENTIAL ANALYSIS

29. 40 CFR122.44 (d)(1)(ii) requires that a Reasonable Potential Analysis (RPA) be performed for each toxic pollutant to determine whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a receiving water quality objective. In performing the RPA, the permitting authority uses procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or

pollutant parameter in the effluent, and the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity). Because of effluent variability, there is always some degree of uncertainty in determining an effluent's impact on the receiving water. The State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) addresses this issue by suggesting the use of a statistical approach.

For a toxic constituent with sufficient data to perform a RPA, effluent limitations are imposed if the maximum effluent concentration is greater than the most stringent criteria, if the lowest non-detected value is greater than the most stringent criteria, or if the background concentration is greater than the criteria.

For some constituents, a complete RPA cannot be performed on a discharger's effluent because there is insufficient ambient data upstream from the facility to determine if an effluent limitation is needed, or to calculate a final effluent limitation. In accordance with the SIP, such a discharger shall obtain ambient water samples for the priority pollutants upstream from the facility. After the ambient information is gathered, the RPA will be performed and the permit reopened to include additional numerical limitations, if necessary.

Insufficient data may also prevent completion of the RPA if there is insufficient receiving water data or effluent data. The steps above apply here as well.

30. For some pollutants including Aldrin, Alpha-BHC, Chlordane, DDT, Dieldrin, Endrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, PAHs, PCB total, Toxaphene, and TCDD Equivalents (2,3,7,8-tetrachlorodibenzo-p-dioxin), the applicable water quality objectives are below the levels that current analytical techniques can measure. Because the actual presence and loads of these pollutants are unknown for the treatment plant, it is reasonably cautious to conclude that the reasonable potential exists for each of these pollutants.
31. Water quality objectives specified in the Basin Plan were used to set the limits for toxic pollutants that are believed to be present in the effluent and have reasonable potential to cause or contribute to an excursion of a receiving water quality objective. Other pollutants are to be monitored only to gather data for reasonable potential analysis in future permit renewals. If there is no specific numerical water quality objective for the priority pollutant available in the Basin Plan, the appropriate water quality criterion in the California Toxics Rule or the National Toxics Rule are considered. The more stringent criterion will be incorporated into this Order.
32. No numerical limit is prescribed for any toxic constituent that is consistently not detected in the effluent and where it has been determined that there is a very low probability of causing or contributing to excursions in water quality standards. A narrative limit to comply with all water quality objectives is provided in lieu of such numerical limits.

33. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) in accordance with Water Code Section 13389.

NOTIFICATION

The Regional Board has notified the Discharger and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act, or amendments thereto, and shall take effect ten days from the date of its adoption, provided the USEPA Regional Administrator has no objections.

Pursuant to California Water Code Section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order.

IT IS HEREBY ORDERED that the City of San Buenaventura, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE REQUIREMENTS

A. FLOW REQUIREMENT

The running 30-day average volume of treated wastewater discharged to the Santa Clara River shall not be less than 5.6 mgd.

B. EFFLUENT LIMITATIONS

1. Wastes discharged shall be limited to tertiary treated municipal and industrial wastewater only, as proposed.
2. The arithmetic mean of BOD₅20°C and suspended solids values, by weight, for effluent samples collected during a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by

weight, for influent samples collected at approximately the same time during the same period.

3. The discharge of an effluent from Discharge Serial No. 001 with pollutants in excess of the following limits is prohibited:

a. Conventional and Nonconventional Pollutants:

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>		
		<u>Monthly Average</u> ^{1/,3/}	<u>7-day Average</u> ^{1/,3/}	<u>Daily Maximum</u> ^{2/,3/}
BOD ₅ 20°C	mg/L	20	30	45
	lbs/day	2,340	3,500	5,250
Suspended solids	mg/L	15	40	45
	lbs/day	1,751	4,670	5,250
Oil and grease	mg/L	10	---	15
	lbs/day	1,170	---	1,750
Settleable solids	ml/L	0.1	---	0.3
Residual chlorine	mg/L	---	---	0.1

b. Metals:

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{1/, 3/}	<u>Daily Maximum</u> ^{2/,3/}
Arsenic	µg/L	29.4 ^{4/}	59 ^{4/}
	lbs/day	3.4	6.9
Chromium (VI) ^{5/}	µg/L	3.7 ^{4/}	11
	lbs/day	0.43	1.3
Copper	µg/L	2.0	2.9 ^{4/}
	lbs/day	0.23	0.34
Lead	µg/L	7.0 ^{4/}	14
	lbs/day	0.81	1.6

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{3/}	<u>Daily Maximum</u> ^{2/, 3/}
Mercury	µg/L lbs/day	0.025 ^{4/} 0.003	0.12 ^{4/} 0.014
Nickel	µg/L lbs/day	5.3 ^{4/} 0.61	15.2 1.8
Selenium	µg/L lbs/day	2.9 ^{4/} 0.34	8.8 1.03
Thallium	µg/L lbs/day	6.3 ^{4/} 0.74	19 2.2
Zinc	µg/L lbs/day	38 ^{4/} 4.4	95 ^{4/} 11
Cadmium	µg/L lbs/day	9.3 1.09	43 5.02
Silver	µg/L lbs/day	--- ---	2.3 0.27
c. <u>Organics:</u>			
Cyanide	µg/L lbs/day	0.41 0.048	0.99 0.12
PCBs ^{6/}	ng/L lbs/day	0.00017 1.9 x 10-8	0.00034 4.0 x 10-8
Benzene	µg/L lbs/day	--- ---	71 8.3
Dichlorobromomethane	µg/L lbs/day	--- ---	22 2.6
Bis(2-ethylhexyl)phthalate	µg/L lbs/day	--- ---	5.9 0.69

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{3/}	<u>Daily Maximum</u> ^{2/, 3/}
Aldrin	µg/L lbs/day	0.00014 0.000016	0.00028 0.000033
Gamma-BHC (Lindane)	µg/L lbs/day	0.063 0.0074	0.13 0.0015
2,3,7,8-TCDD	µg/L lbs/day	1.4 x 10-8 1.6 x 10-9	2.8 x 10-8 3.3 x 10-9
Chloroform	µg/L lbs/day	---- ----	470 55
Dibromochloromethane	µg/L lbs/day	34 4.0	82 9.6
Phenol	µg/L lbs/day	4,600,000 5,370,960	9,246,000 1.08 x 10+6
Benzidine	µg/L lbs/day	0.00054 0.000063	0.0011 0.00013
Benzo(a)anthracene	µg/L lbs/day	0.049 0.0057	0.098 0.012
Benzo(a)pyrene	µg/L lbs/day	0.049 0.0057	0.098 0.012
Benzo(b)flouranthene	µg/L lbs/day	0.049 0.0057	0.098 0.012
Benzo(k)flouranthene	µg/L lbs/day	0.049 0.0057	0.098 0.012
Bis(2-chloroethyl)ether	µg/L lbs/day	1.4 0.16	2.8 0.33
Chrysene	µg/L lbs/day	0.049 0.0057	0.098 0.012

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{3/}	<u>Daily Maximum</u> ^{2/, 3/}
3,3'-Dichlorobenzidine	µg/L	0.077	0.15
	lbs/day	0.0089	0.018
1,2-Diphenylhydrazine	µg/L	0.54	1.09
	lbs/day	0.063	0.13
Hexachlorobenzene	µg/L	0.00077	0.0015
	lbs/day	0.000090	0.00018
Hexachloroethane	µg/L	8.9	28,140
	lbs/day	1.034	0.0033
Indeno(1,2,3-cd)pyrene	µg/L	0.049	0.0015
	lbs/day	0.0057	0.00018
Hexachlorocyclohexane (HCH)			
Alpha-BHC	µg/L	0.013	0.026
	lbs/day	0.0015	0.0031
Beta-BHC	µg/L	0.046	0.92
	lbs/day	0.0054	0.108
Chlordane	µg/L	0.00059	0.0012
	lbs/day	0.000069	0.00014
4,4'-DDT	µg/L	0.00059	0.0012
	lbs/day	0.000069	0.00014
4,4'-DDE	µg/L	0.00059	0.0012
	lbs/day	0.000069	0.00014
4,4'-DDD	µg/L	0.00084	0.0017
	lbs/day	0.000098	0.00020
Dieldrin	µg/L	0.00014	0.00028
	lbs/day	0.000016	0.000033

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{3/}	<u>Daily Maximum</u> ^{2/, 3/}
Alpha endosulfan	µg/L	0.023	0.014
	lbs/day	0.0026	0.0017
Beta endosulfan	µg/L	0.0036	0.014
	lbs/day	0.00042	0.0017
Endrin	µg/L	0.00094	0.0038
	lbs/day	0.00011	0.00044
Heptachlor	µg/L	0.00021	0.00042
	lbs/day	0.000025	0.000049
Heptachlor epoxide	µg/L	0.00011	0.00022
	lbs/day	0.000013	0.000026
Toxaphene	µg/L	0.00016	0.00033
	lbs/day	0.000019	0.000038
Bromoform	µg/L	360	778
	lbs/day	42	9,080
Ethylbenzene	µg/L	29,000	58,290
	lbs/day	3386	6810
Methylene chloride	µg/L	1600	3216
	lbs/day	187	376
Toluene	µg/L	200,000	402,000
	lbs/day	23,352	46,900
1,4-Dichlorobenzene	µg/L	2600	5226
	lbs/day	304	610
Diethyl phthalate	µg/L	120,000	241,200
	lbs/day	14,011	28,200

<u>Constituent</u>	<u>Units</u>	<u>DISCHARGE LIMITATIONS</u>	
		<u>Monthly Average</u> ^{3/}	<u>Daily Maximum</u> ^{2/, 3/}
Di-n-butyl phthalate	µg/L	12000	24,120
	lbs/day	1401	2820
Pentachlorophenol	µg/L	7.9	13
	lbs/day	0.75	1.5
Carbon tetrachloride	µg/L	---	4.4
	lbs/day	---	0.51
Tetrachloroethylene	µg/L	---	8.9
	lbs/day	---	1.04
2,4,6-Trichlorophenol	µg/L	---	6.5
	lbs/day	---	0.76

- 1/ As defined in Standard Provisions, Attachment N.
- 2/ The daily maximum effluent concentration limits apply to both flow weighted 24-hour composite samples and grab samples, as specified in the Monitoring and Reporting Program (Attachment T).
- 3/ The daily mass emission limits are based on the plant design flow rate of 14 mgd.
- 4/ Based on total recoverable metals. These limits may be converted to total dissolved upon request by the Discharger only after conducting a study, approved by the Executive Officer, on the Water Effect Ratio (WER) according to the USEPA guidance document (and/or State protocols, if available).
- 5/ The Discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in a replicate sample and the results are in compliance with hexavalent chromium limits.
- 6/ PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

4. Radioactivity of the wastes discharged shall not exceed limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions thereof.
5. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last seven (7) days for which analyses have been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.
6. The wastes discharged to water courses shall have received treatment equivalent to that of filtered wastewater. Filtered wastewater means oxidized and coagulated wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity of the filtered wastewater does not exceed any of the following: (a) a daily average of 2 Nephelometric turbidity units (NTUs); (b) 5 NTUs more than 5 percent of the time during the 24 hour period for which the daily average is calculated; and (c) 10 NTUs at any time.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

"Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream of a filter by the addition of suitable floc-forming chemicals.

"NTU" means a measurement of turbidity as determined by ratio of the intensity of light scattered by the sample to the intensity of incident light using approved laboratory methods.

7. Toxicity Limitations:
 - a. The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test producing less than 70% survival.

- b. The chronic toxicity of the effluent shall be expressed and reported as toxic units, where:

$$TU_c = 100/NOEC$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent/receiving water that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test. The chronic toxicity of the effluent shall not exceed 1.0 TU_c in a critical life stage test. If the chronic toxicity of the effluent exceeds 1.0 TU_c , the test must be redone immediately.

- c. If either toxicity limitation is violated, the Discharger shall repeat the toxicity test immediately. If either toxicity limitation is consistently violated, the Discharger shall begin a toxicity reduction evaluation (TRE) study and resume toxicity testing at the interval required by the Monitoring and Reporting Program.
- d. If either toxicity limitation is violated consecutively three or more times, the Discharger shall conduct a toxicity reduction evaluation (TRE) study. The TRE study shall include all reasonable steps to identify the sources of toxicity. Once the sources of toxicity are identified, the Discharger shall evaluate the effect of toxicity control options and the Discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

C. RECEIVING WATER REQUIREMENTS AND LIMITATIONS

1. The maximum temperature of wastes discharged shall not exceed the natural receiving water temperature by more than 20°F. The elevated temperature of wastes discharged, either individually or combined with other discharges, shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of the main river channel at any point. The wastes discharged shall not cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
2. The pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. Ambient pH levels shall not be changed more than 0.2 units from natural conditions. If such natural conditions exist, they must be reported in the monthly report.

3. At a minimum, the mean annual dissolved oxygen concentration of all waters shall be greater than 7.0 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations.
4. The fecal coliform concentration shall not exceed a log mean of 200/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.
5. The wastes discharged shall not contain toxic pollutants at levels that will bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health.
6. The wastes discharged shall not contain substances that result in increases in the BOD which adversely affects beneficial uses of the receiving water.
7. The wastes discharged shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects the beneficial uses of the receiving water.
8. The wastes discharged shall not cause the receiving water to contain any substance in a concentration that adversely affects any designated beneficial use.
9. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the receiving waters.
10. The wastes discharged shall not degrade surface water communities and populations including vertebrate, invertebrate, and plant species.
11. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.
12. Floating particulates, foams, or oil and grease shall not be visible in the receiving waters as a result of the wastes discharged.
13. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect the beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.

14. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.
15. The wastes discharged shall not increase the turbidity of the receiving waters to the extent that causes a nuisance or adversely affects beneficial uses.
16. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions as a result of wastes discharged.
17. The wastes discharged shall not cause objectionable aquatic growths or degrade indigenous biota.
18. The concentration of organic materials in marine sediments shall not be increased above that which would degrade marine life as result of wastes discharged.
19. The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health as a result of wastes discharged.
20. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations toxic to human, animal, plant, or fish life.
21. No physical evidence of wastes discharged shall be visible at any time in the water or on beaches, shores, rocks, or structures.
22. Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects beneficial uses.
23. The natural hydrologic conditions necessary to support the physical, chemical, and biological characteristics present in wetlands shall be protected to prevent significant adverse effects on: (a) natural temperature, pH, dissolved oxygen, and other natural physical and chemical conditions; (b) movement of aquatic fauna; (c) survival and reproduction of aquatic flora and fauna; and (d) water levels.

24. The existing habitats and associated populations of wetlands fauna and flora shall be maintained by: (a) maintaining substrate characteristics necessary to support flora and fauna which would be present naturally; (b) protecting food supplies for fish and wildlife; (c) protecting reproductive and nursery areas; and (d) protecting wildlife corridors.

D. RECEIVING WATER OBJECTIVES

1. In order to protect aquatic life, ammonia in receiving waters shall not exceed concentrations specified in Tables 3-2 and 3-4 of the Basin Plan (Attachment 2) as a result of the wastes discharged.
2. To protect underlying groundwater basins, ammonia shall not be present in the wastes discharged at levels that when oxidized to nitrate will pose a threat to ground water.
3. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.

If the chronic toxicity in the receiving water downstream of the discharge point consistently exceeds 1.0 TU_c in a critical life stage test, the Discharger shall determine if the cause of the exceedance is the wastes discharged. If it is determined that the wastes discharged caused the exceedance, the Discharger shall conduct a toxicity reduction evaluation (TRE). The TRE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

II. SLUDGE REQUIREMENTS

For biosolids/sludge management, the City must comply with all requirements of 40 CFR Parts 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements. Specific requirements are listed in Attachment B.

Since the State of California, hence the Regional Board, has not been delegated the authority to implement the sludge program, enforcement of the sludge requirements contained in this Order shall be the sole responsibility of USEPA. However, any reports submitted to USEPA shall also be furnished to the Regional Board.

III. PRETREATMENT REQUIREMENTS

- A. This Order includes the Discharger's pretreatment program as previously submitted to this Regional Board. Any change to the program shall be reported to the Regional Board and USEPA in writing and shall not become effective until approved by the Executive Officer and the USEPA Regional Administrator.
- B. The Discharger shall implement and enforce its approved pretreatment program. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained 40 CFR Part 403 including subsequent regulatory revisions thereof. Where 40 CFR Part 403 or subsequent revisions thereof require mandatory actions by the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the issuance date of this Order or the effective date of the Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Board, or other appropriate parties, as provided in the Clean Water Act. The Regional Board may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act and/or the California Water Code.
- C. The Discharger shall update its pretreatment local limits to meet the requirements of this Order. Within 60 days of the effective date of this Order, the Discharger shall submit the plan and schedule for updating the local limits for approval of the Executive Officer.
- D. The Discharger shall enforce the requirements promulgated under Sections 307(b), 3079(c), 307(d), and 402(b) of the Clean Water Act with timely, appropriate, and effective enforcement actions. The City shall cause industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
- E. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not be limited to:
 - 1. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
 - 2. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
 - 3. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and
 - 4. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

- F. The Discharger shall submit quarterly and annual reports to the Regional Board, State Board, and USEPA, Region 9, describing the Discharger's pretreatment activities over the period. If the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements. The annual and quarterly reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment P), or an approved revised version thereof.

IV. OTHER REQUIREMENTS AND PROVISIONS

- A. The Discharger shall comply with all applicable water quality objectives for the receiving waters, including the toxic criteria in 40 CFR Part 131.36.
- B. This Order includes the attached *Standard Provisions and General Monitoring and Reporting Requirements* (Standard Provisions, Attachment N). If there is any conflict between provisions stated herein and said "Standard Provisions", those provisions stated herein prevail.
- C. This Order includes the attached *Monitoring and Reporting Program CI-1822* (Attachment T). If there is any conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the former prevail.
- D. This Order includes the requirements of the State Board's General NPDES permits for discharges of storm water associated with industrial activity (Order No. 97-03-DWQ).

The Discharger must submit within 90 days of the effective date of this Order for the Executive Officers approval an updated Storm Water Pollution Prevention Plan (SWPPP) in accordance with Attachment A (Storm Water Pollution Prevention Plan). The Discharger shall implement the revised SWPPP within 10 days of the approval by the Executive Officer.

- E. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other causes, the discharge of raw or inadequately treated sewage does not occur.
- F. The Discharger shall protect the facility from inundation which could occur as a result of a flood having a predicted frequency of once in 100 years.

- G. The Discharger shall comply with all applicable effluent limitations, national standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, and 405 of the Clean Water Act and amendments thereto.
- H. This Order may be modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed protection management approach.
- I. The Board may modify, or revoke and reissue, this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.
- J. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the City for an Order modification, revocation and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

V. EXPIRATION DATE

This Order expires on September 10, 2005.

The Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the expiration date as application for issuance of new waste discharge requirements.

VI. RESCISSION

Order No. 95-074 adopted by this Board on June 12, 1995, is hereby rescinded, except for purposes of enforcement.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on October 12, 2000.

Dennis A. Dickerson
Executive Officer

/tp

Appendix C

Proposed NPDES Permit

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 West 4th Street, Suite 200
(213) 576-6660 • Fax (213) 576-6640
<http://www.waterboards.ca.gov>

ORDER NO. R4-2007-XXXX
NPDES NO. CA0053651

**WASTE DISCHARGE REQUIREMENTS FOR THE
CITY OF SAN BUENAVENTURA
VENTURA WATER RECLAMATION FACILITY
DISCHARGE TO THE SANTA CLARA RIVER ESTUARY VIA DISCHARGE OUTFALL NO. 001**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of San Buenaventura from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated wastewater	34 °, 14', 22.46" N	119 °, 15', 58.84" W	Santa Clara River Estuary via Wildlife Ponds

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 12, 2007
This Order shall become effective on:	September 1, 2007
This Order shall expire on:	June 11, 2012
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. 00-143 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Deborah J. Smith, Interim Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 12, 2007.

Deborah J. Smith, Interim Executive Officer

Table of Contents

I.	FACILITY INFORMATION	4
II.	FINDINGS	6
III.	DISCHARGE PROHIBITIONS	15
IV.	EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS	16
	A. Effluent Limitations.....	16
	B. Land Discharge Specifications.....	20
	C. Reclamation Specifications.....	20
V.	RECEIVING WATER LIMITATIONS	21
	A. Surface Water Limitations.....	21
	B. Groundwater Limitations	23
VI.	PROVISIONS	24
	A. Standard Provisions.....	24
	B. Monitoring and Reporting Program (MRP) Requirements	27
	C. Special Provisions.....	27
	1. Reopener Provisions	27
	2. Special Studies, Technical Reports and Additional Monitoring Requirements....	29
	3. Best Management Practices and Pollution Prevention	31
	4. Construction, Operation and Maintenance Specifications	33
	5. Special Provisions for Municipal Facilities (POTWs Only)	33
	6. Spill Reporting Requirements	35
	7. Compliance Schedules	38
VII.	COMPLIANCE DETERMINATION	39

List of Tables

Table 1.	Discharger Information	1
Table 2.	Discharge Location	1
Table 3.	Administrative Information	1
Table 4.	Facility Information.....	5
Table 5.	Basin Plan Beneficial Uses.....	10
Table 6.	Effluent Limitations	16
Table 7.	Interim Effluent Limitations	19

List of Attachments

Attachment A –	Definitions	A-1
Attachment B –	Map	B-1
Attachment C –	Flow Schematic.....	C-1
Attachment D –	Standard Provisions.....	D-1
Attachment E –	Monitoring and Reporting Program (MRP)	E-1
Attachment F –	Fact Sheet.....	F-1
Attachment G –	Generic Toxicity Reduction Evaluation (TRE) Workplan.....	G-1
Attachment H –	Storm Water Pollution Prevention Plan Requirements.....	H-1
Attachment I –	Biosolids/Sludge Management	I-1
Attachment K –	Non-priority Pollutants Effluent Data	K-1

Attachment L – Non-priority Pollutants Effluent RPA..... L-1
Attachment M – Projections of Ammonia Concentrations in Receiving Water..... M-1
Attachment N – Reasonable Potential Analyses and Limit DerivationsN-1
Attachment O – Interim Limit CalculationsO-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title, and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99
	Ventura, CA 93002-0099
	Ventura County
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	14 Million Gallons per Day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

- A. Background.** The City of San Buenaventura (hereinafter Discharger) is currently discharging pursuant to Order No. 00-143 and National Pollutant Discharge Elimination System (hereinafter NPDES) Permit No. CA0053651. The Discharger submitted a Report of Waste Discharge (ROWD), dated April 18, 2005, and applied for an NPDES permit renewal to discharge up to 14 millions gallons per day (MGD) of tertiary treated wastewater from Ventura Water Reclamation Facility, hereinafter Facility. The application was deemed complete on March 14, 2007.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that:

“It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.”

Section I.A. of Order No. 00-143 states that “The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd.” The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Santa Clara River Estuary (Estuary) is beneficial and enhances the Estuary, or has adverse impacts to the Estuary. A Time Schedule Order (No. R4-2006-0093) adopted by the Regional Water Board on December 14, 2006, required the Discharger to evaluate the possible impact(s) on the Estuary through the studies of an increase in the reclamation program and an incremental decrease of discharge to the Estuary.

This NPDES renewal proposes to lift the requirement of maintenance flows of 5.6 mgd to the Estuary so that reclamation can be increased and discharged to the Estuary incrementally decreased by 1 mgd per year. Monitoring will ensure that

endangered species residing in the Estuary are not adversely impacted by the incremental decrease in flow.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study (May 2005) performed by Nautilus Environmental hired by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, there was concern expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging, endocrine disrupting, and pharmaceutical chemicals in order to determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

B. Facility Description. The Discharger owns and operates the Facility. The treatment system consists of grit removal, primary sedimentation, flow equalization, roughing filters, activated sludge nitrification and denitrification¹ (NDN), tertiary filters, chlorination and dechlorination, primary sludge thickener, dissolved air flotation (DAF) secondary sludge thickener, anaerobically digested, and dewatered (using filter presses). A portion of the dewatered sludge is composted (Class B), and hauled to various users in Ventura County. The remainder of the dewatered sludge is disposed of in the Simi Valley and Chiquita Canyon Landfills. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Treated wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

¹ For the nitrification process, there are two steps for ammonia being oxidized into nitrate.

Step 1: Ammonia → Nitrite

Step 2: Nitrite → Nitrate

For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.

Nitrate → Nitrogen

The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. The addition of iron salt improved removal of copper (18.0 µg/L to 26.5 µg/L), nickel (9.7 µg/L to 7.1 µg/L), and zinc (69.0 µg/L to 57.1 µg/L) since November 2005. The effluent concentration of zinc (57.1 µg/L to 18.5 µg/L) was further reduced between February 2006 and August 2006. Neither copper (reported detection limit: 6 µg/L) nor nickel (reported detection limit: 10 µg/L) was detected between February 2006 and August 2006. Permanent facilities for iron salt addition will be completed in November 2007. The final effluent concentrations of these three metals are expected to be further reduced. Due to the major upgrade on the primary clarifier in 2003, the effluent data collected after January 2003 were used to calculate the final effluent limitations for nonconventional and priority pollutants.

To date, the City has invested \$29.5 million for Upgrades and a new Influent Headworks Projects (Phase I). The Capacity Upgrades (Phase II) projected budget is currently \$22 million. Phase II, which is expected to be completed in 2009, constructs an additional secondary treatment plant capacity up to 4 MGD in order to accommodate current and future flow to the Facility.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the ROWD and application, through Monitoring and Reporting Programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through O are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations², require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based

² All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet.

- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in Section IV.C.2 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	<u>Existing:</u> Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and wet land (WET).
	Pacific Ocean, Nearshore ³	<u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), Preservation of Biological Habitats (BIOL), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL).

Requirements of this Order specifically implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater and saltwater criteria.

1. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.
2. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Charatistic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-

³ Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.

1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

If salinity sampled at a particular receiving water station indicates brackish conditions, then the more stringent of the freshwater or saltwater objectives shall apply except where the Regional Water Board, by adoption of a resolution, approves the use of either freshwater or saltwater objectives per Implementation Provision 1(3)(a). **However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in the accompanying Attachment F, and Attachment M).**

The saltwater ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18,

2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does include compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) is included in the Fact Sheet.
- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on

Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), and pH. Restrictions on BOD₅, TSS, and pH are discussed in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for BOD and TSS that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in Section IV.B. of the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1).

- N. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal

regulations.

- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
- Q. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program (MRP) is provided in Attachment E.
- Time Schedule Order (TSO) No. R4-2006-0093 adopted on December 14, 2006 requested the Discharger to monitor the possible impacts of incrementally decreasing discharge on the ecosystem of the Estuary. This TSO will expire on December 31, 2007. However, these special studies required by the TSO will take years to complete. Therefore, this Order requires monitoring as specified in the TSO, which will be used to determine the possible impacts to the Estuary as a result of incrementally decreasing the discharge volume of wastewater to the Estuary. The detailed monitoring requirements are contained in the accompanying MRP.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an

opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

- U. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

- A. Pursuant to Chapter I, Part A of the Enclosed Bays and Estuaries Policy, the discharge of treated wastewater to the Estuary is prohibited after December 31, 2018, unless there has been a determination from responsible resource agencies that sustenance flow is required to support endangered species habitat.
- B. The discharge to the Estuary must be removed as early as practicable, and to facilitate this, it is required that an incremental decrease of 1 mgd occurs per year, beginning in 2008.
- C. Discharge of wastewater at a location different from that described in this Order is prohibited.
- D. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
- E. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD.
- F. The Discharger shall not cause degradation of any water supply.
- G. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.
- H. The discharge of any substances in concentrations toxic to animal or plant is prohibited.
- I. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Effluent Transfer Station

- a. The Discharger shall maintain compliance with the following effluent limitations with compliance measured at the Effluent Transfer Station as described in the attached MRP:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	20	30	45	--	--
	lbs/day	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10	--	15	--	--
	lbs/day	1,200	--	1,800	--	--
Settleable Solids	ml/L	0.1	--	0.3	--	--
Total Residual Chlorine	mg/L	0.1	--	--	--	--
	lbs/day	12	--	--	--	--
MBAS	mg/L	0.5	--	--	--	--
	lbs/day	59	--	--	--	--
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--
	lbs/day	5.3	--	35	--	--
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--
	lbs/day	9.3	--	62	--	--
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--
	lbs/day	1,200	--	--	--	--
Nitrite as Nitrogen	mg/L	1	--	--	--	--
	lbs/day	120	--	--	--	--
Nitrate as Nitrogen	mg/L	10	--	--	--	--
	lbs/day	1,200	--	--	--	--
Copper	µg/L	2.8	--	5.8	--	--
	lbs/day	0.33	--	0.68	--	--
Lead	µg/L	4.3	--	14	--	--
	lbs/day	0.50	--	1.6	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Mercury	µg/L	0.051	--	0.10	--	--
	lbs/day	0.0060	--	0.012	--	--
Silver	µg/L	0.74	--	2.2	--	--
	lbs/day	0.087	--	0.26	--	--
Zinc	µg/L	37	--	95	--	--
	lbs/day	4.3	--	11	--	--
Cyanide	µg/L	0.50	--	1.0	--	--
	lbs/day	0.059	--	0.12	--	--
Chlorodibromomethane	µg/L	34	--	93	--	--
	lbs/day	4.0	--	11	--	--
Dichlorobromomethane	µg/L	46	--	128	--	--
	lbs/day	5.4	--	15	--	--
Bis(2-ethylhexyl)phthalate	µg/L	5.9	--	12	--	--
	lbs/day	0.69	--	1.4	--	--

- b. **Percent Removal:** The average monthly removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.
- c. The temperature of wastes discharged shall not exceed 86°F.
- d. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
- e. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last seven (7) days for which an analysis has been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.
- f. For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed any of the following: (a) an average of 2 Nephelometric turbidity units (NTUs)

within a 24-hour period; (b) 5 NTUs more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.

g. To protect the underlying ground water basins, pollutants shall not be present in the wastes discharged at concentrations that pose a threat to ground water quality.

h. Acute Toxicity Limitation:

i. The acute toxicity of the effluent shall be such that:

(i). the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and,

(ii). no single test producing less than 70% survival.

ii. If either of the above requirements IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

iii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TIE) Workplan.

iv. The Discharger shall conduct acute toxicity monitoring as specified in Attachment E - Monitoring and Reporting Program (MRP).

i. Chronic Toxicity Trigger and Requirements:

i. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

- ii. There shall be no chronic toxicity in the effluent discharge.
- iii. If the chronic toxicity of the effluent exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall immediately implement accelerated chronic toxicity testing according to Attachment E - MRP, Section V.B.3. If any three out of the initial test and the six accelerated tests results exceed 1.0 TU_c, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan, as specified in Attachment E – MRP, Section V.D.
- iv. The Discharger shall conduct chronic toxicity monitoring as specified in Attachment E – MRP.

2. Interim Effluent Limitations

- a. During the period from September 1, 2007 to August 31, 2010, the Discharger shall maintain compliance with the following interim limitations at Discharge Point 001, with compliance measured at the Monitoring Location of Effluent Transfer Station as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 7. Interim Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	µg/L	--	17	--	--
	lbs/day	--	2.0	--	--
Mercury	µg/L	0.43	0.69	--	--
	lbs/day	0.050	0.081	--	--
Silver	µg/L	5.1	9.3	--	--
	lbs/day	0.60	1.1	--	--
Zinc	µg/L	145	183	--	--
	lbs/day	17	21	--	--
Cyanide	µg/L	--	8	--	--
	lbs/day	--	0.94	--	--
Chlorodibromomethane	µg/L	--	43.3	--	--
	lbs/day	--	5.1	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Dichlorobromomethane	µg/L	--	92	--	--
	lbs/day	--	11	--	--
Bis(2-ethylhexyl)phthalate	µg/L	--	37	--	--
	lbs/day	--	4.3	--	--

- b. The interim effluent limits were based upon effluent performance data, provided by the Discharger, collected between February 2003 and December 2006, and calculated by the *Minitab* program.
- c. The Discharger shall submit quarterly progress reports (February 15, May 15, August 15, and November 15) to describe the progress of studies and/or actions undertaken to reduce copper, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate in the effluent, and to achieve compliance with the limits in this Order by the above-mentioned deadline. The first progress report shall be received at the Regional Water Board by November 15, 2007, beginning with the July to September 2007 quarter.

B. Land Discharge Specifications

Not Applicable.

C. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Estuary:

1. For waters designated with a warm freshwater habitat (WARM) beneficial use, the temperature of the receiving water at any time or place and within any given 24-hour period shall not be altered by more than 5⁰F above the natural temperature (or above 70⁰F if the ambient receiving water temperature is less than 60⁰F) due to the discharge of effluent at the receiving water station located downstream of the discharge. Natural conditions shall be determined on a case-by-case basis.
2. The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of wastes discharged. Natural conditions shall be determined on a case-by-case basis.
3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged.
4. The fecal coliform concentration in the receiving water shall not exceed the following, as a result of wastes discharged:
 - a. Geometric Mean Limits
 - i. E.coli density shall not exceed 126/100 mL.
 - ii. Fecal coliform density shall not exceed 200/100 mL.
 - b. Single Sample Limits
 - i. E.coli density shall not exceed 235/100 mL.
 - ii. Fecal coliform density shall not exceed 400/100 mL.
5. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits, as a result of wastes discharged:
 - a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%; and,

- b. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.
6. The wastes discharged shall not produce concentrations of toxic substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.
7. The wastes discharged shall not cause concentrations of contaminants to occur at levels that are harmful to human health in waters which are existing or potential sources of drinking water.
8. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the wastes discharged.
9. The wastes discharged shall not contain substances that result in increases in BOD, which adversely affect the beneficial uses of the receiving waters.
10. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
11. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.
12. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.
13. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.
14. The wastes discharged shall not result in visible floating particulates, foams, and oil and grease in the receiving waters.
15. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the receiving waters.
16. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life as a result of the wastes discharged.
17. Acute Toxicity Receiving Water Quality Objective
 - a. There shall be no acute toxicity in ambient waters as a result of wastes discharged.

- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
- c. The acute toxicity of the receiving water, at the Stations R-005 and R-003 located upstream and downstream, respectively, of the discharge, shall be such that: (i) the average survival in the undiluted receiving water for any three (3) consecutive 96-hour static, static-renewal, or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival. Static-renewal bioassay tests may be used, as allowed by the most current USEPA test method for measuring acute toxicity.
- d. If the upstream acute toxicity of the receiving water is greater than the downstream acute toxicity but the effluent acute toxicity is in compliance, the acute toxicity accelerated monitoring in the receiving water specified in MRP Section V.A.2.d does not apply.

18. Chronic Toxicity Receiving Water Quality Objective

- a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.
- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
- c. If the chronic toxicity in the receiving water at the monitoring station(s) immediately downstream of the discharge, exceeds the monthly median of 1.0 TU_c trigger in a critical life stage test and the toxicity cannot be attributed to upstream toxicity, as assessed by the Discharger, then the Discharger shall immediately implement an accelerated chronic toxicity testing according to Monitoring and Reporting Program CI 1822, section V.B.3. If two of the six tests exceed a monthly median of 1.0 TU_c trigger, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan.
- d. If the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TU_c of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented.

B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the Regional Water Board-specific Standard Provisions as follows:
 - a. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
 - b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Water Board, are prohibited.
 - c. All facilities used for collection, transport, treatment, or disposal of "wastes" shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.
 - d. Collection, treatment, and disposal systems shall be operated in a manner that precludes public contact with wastewater.
 - e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Water Board.
 - f. The provisions of this order are severable. If any provision of this order is found invalid, the remainder of this Order shall not be affected.
 - g. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.
 - h. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties to which the discharger is or may be subject to under Section 311 of the CWA.
 - i. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water

- courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.
- j. Discharge of wastes to any point other than specifically described in this Order is prohibited, and constitutes a violation thereof.
 - k. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal CWA and amendments thereto.
 - l. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - m. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
 - n. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
 - o. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
 - p. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
 - q. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.
 - r. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil

penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

- s. Under CWC 13387, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order and is subject to a fine of not more than \$25,000 or imprisonment of not more than two years, or both. For a second conviction, such a person shall be punished by a fine of not more than \$25,000 per day of violation, or by imprisonment of not more than four years, or by both.
- t. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- u. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical;
 - ii. Frequency of use;
 - iii. Quantities to be used;
 - iv. Proposed discharge concentrations; and,
 - v. USEPA registration number, if applicable.
- v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, or receiving water limitation of this Order, the Discharger shall notify David Hung at the Regional Water Board by telephone (213) 576-6664 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures

being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:
 - i. Violation of any term or condition contained in this Order;
 - ii. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; and,
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliances does not stay any condition of this Order.

- b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- c. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 and 124 to include requirements for the implementation of the watershed protection management approach.
- d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

- e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the District for an Order modification, revocation and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- f. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 to 124, to include new MLs.
- g. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, or the adoption of a TMDL for the Santa Clara River Estuary.
- h. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.
- i. This Order may be reopened and modified to revise the chronic toxicity effluent limitation, to the extent necessary, to be consistent with State Board precedential decisions, new policies, new laws, or new regulations.
- j. This Order may be reopened to modify final effluent limits, if at the conclusion of necessary studies conducted by the Discharger, the Regional Water Board determines that dilution credits, attenuation factors, water effects ratio, or metal translators are warranted.
- k. This Order may be reopened to include a provision for sustenance flow if the responsible resource agencies direct so. If future studies demonstrate that the discharge enhances the Estuary, this Order will be reopened.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Special Studies

- i. There were several special studies, which have been conducted since 2001. These studies were all associated with the influences of the discharge on the Estuary and included the *Salinity Study*, *Residence Species Study*, *Metal Translator Study*, and *Updated Enhancement Study*. The results were highly inconclusive on whether the discharge is beneficial to the Estuary, or if there was enhancement.
- ii. In order to detect any negative impacts from reduced maintenance flows to the Santa Clara Estuary, the Discharger has been required to provide a Work Plan (required by TSO No. R4-2006-0093), which will be used to determine the minimum sustenance flow in the Estuary needed, if any, to protect the habitat of endangered species in the Estuary. The monitoring aspects of this Work Plan should cover the following:
 - (a). The level of impact on the tidewater goby's population as a result of an incremental decrease in the discharge from the Facility of 1 mgd per year;
 - (b). The population and number trends from the "Fish Survey";
 - (c). The influences of groundwater on the Estuary; and,
 - (d). Evaluations of different discharge volume scenarios, which may affect breaching frequency, groundwater influence, and water quality.

The monitoring frequency is based on that proposed in the Discharger's Work Plan. The results shall be reported with the regular annual reports.

b. Toxicity Reduction Requirements

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days from the date in which it was received, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the initial investigation TRE workplan must

contain the provisions in Attachment E. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

- i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,
- iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

If the effluent toxicity test result exceeds the limitation, then the Discharger shall immediately implement accelerated toxicity testing that consists of six additional tests, approximately every two weeks, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within 3 days of receipt of the test results exceeding the toxicity limitation.

If the results of any two of the six tests (any two tests in a 12-week period) exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).

If results of the implementation of the facility's initial investigation TRE workplan (as described above) indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE.

Detailed toxicity testing and reporting requirements are contained in Section V of the MRP, (Attachment E).

c. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer of the Regional Water Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter, which transmits that report and certifies that the discharger's policy-making body is adequately informed of the report's contents. The report shall include the following:

- i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;
- ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,
- iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable to those facilities which have not reached 75 percent of capacity as of the effective date of this Order. For those facilities that have reached 75 percent of capacity by that date but for which no such report has been previously submitted, such report shall be filed within 90 days of the issuance of this Order.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

Within 90 days of the effective date of this Order the Discharger shall submit an updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State to the Regional Water Board. The SWPPP shall be developed in accordance with the requirements in *Storm Water Pollution Prevention Plan Requirements (Attachment H)*. If all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the Facility, the Discharge shall provide certification with descriptions of on-site storm water management to the Regional Water Board.

b. Spill Contingency Plan (SCP)

Within ninety days, the Discharger is required to submit an interim Spill Clean-up Contingency Plan, which describes the activities and protocols, to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Discharger's collection system or treatment facilities, that reach water bodies, including dry channels and beach sands. At a minimum, the interim Plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Discharger shall review and amend the Plan as appropriate after each spill from the facility or in the service area of the facility. The Discharger shall include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. Pollutant Minimization Program

Reporting protocols in the Monitoring and Reporting Program, Attachment E, Section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a Reported Minimum Level (RML) and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a Pollution Minimization Program (PMP) as follows:

The Discharger shall develop a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- (1). The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,
- (2). The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost-effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- (1). An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- (2). Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
- (3). Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

- (4). Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and,
- (5). An annual status report that shall be sent to the Regional Water Board including:
 - i. All PMP monitoring results for the previous year;
 - ii. A list of potential sources of the reportable priority pollutant(s);
 - iii. A summary of all actions undertaken pursuant to the control strategy; and,
 - iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

- a. Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations (Section 13625 of the California Water Code).
- b. The Discharger shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Disposal Requirements

- (1) All sludge generated at the wastewater treatment plant will be disposed of, treat, or applied to land in accordance with Federal Regulations 40 CFR Part 503. These requirements are enforceable by USEPA.
- (2) The Discharger shall ensure compliance with the requirements in SWRCB Order No. 2004-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities” for those sites receiving the Discharger’s biosolids which a Regional Water Quality Control Board has placed under this general order, and with the requirements in individual

Waste Discharge Requirements (WDRs) issued by a Regional Water Board for sites receiving the Discharger's biosolids.

- (3) The Discharger shall comply, if applicable, with WDRs issued by other Regional Water Boards to which jurisdiction the biosolids are transported and applied.
- (4) The Discharger shall furnish this Regional Water Board with a copy of any report submitted to USEPA, State Board or other Regional Water Board, with respect to municipal sludge or biosolids.

b. Pretreatment Requirements

- (1) This Order includes the Discharger's Pretreatment Program as previously submitted to this Regional Water Board. Any change to the Program shall be reported to the Regional Water Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR, 403.18.
- (2) The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act with timely, appropriate, and effective enforcement actions. The Discharger shall require industrial users to comply with Federal Categorical Standards and shall initiate enforcement actions against those users who do not comply with the standards. The Discharger shall require industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
- (3) The Discharger shall perform the pretreatment functions as required in Federal Regulations 40 CFR, Part 403 including, but not limited to:
 - i. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
 - ii. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
 - iii. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and,
 - iv. Provide the requisite funding of personnel to implement the Pretreatment Program as provided in 40 CFR 403.8(f)(3).
- (4) The Discharger shall submit semiannual and annual reports to the Regional Water Board, with copies to the State Board, and USEPA

Region 9, describing the Discharger's pretreatment activities over the period. The annual and semiannual reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment P), or an approved revised version thereof. If the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.

- (5) The Discharger shall be responsible and liable for the performance of all control authority pretreatment requirements contained in 40 CFR, Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Water Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Water Board or USEPA may initiate enforcement action against an industrial user for noncompliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.
- c. The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Attachment D, subsections I.D, V.E, V.H, and I.C.

6. Spill Reporting Requirements

- a. **Notification** – For certain spills, overflows and bypasses, the Discharger shall make notifications as required below:
 - (1). For any spills or overflows of any volume, discharged where they are, or will probably be discharged, to waters of the State, the Discharger shall immediately notify the local health agency in accordance with the California Health and Safety Code section 5411.5. This notification shall occur no later than two hours after the knowledge of the incident.

- (2). For any spills or overflows of 1000 gallons or more discharged where they are, or probably be discharged to waters of the State, the Discharger shall immediately notify the State Office of Emergency Services pursuant to Water Code section 13271. This notification shall occur no later than two hours after the knowledge of the incident.
 - (3). For spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer or has public exposure, the Discharger shall notify such spills to the Regional Water Board, by telephone or electronically as soon as possible but not later than two hours of knowledge of the incident. The following information shall be included in the initial notification: location; date and time of spill; volume and nature of the spill; cause(s) of the spill; mitigation measures implemented.
- b. **Monitoring** – For certain spills, overflows and bypasses, the Discharger shall monitor as required below:
- (1). To define the geographical extent of spill's impact the Discharger shall obtain grab samples for spills, overflows or bypasses of any volume that reach receiving waters. The Discharger shall analyze the samples for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible and safe). This monitoring shall be done on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Health Services authorizes cessation of monitoring.
 - (2). The Discharger shall obtain a grab sample for spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer, and all spills, overflows and bypasses of 1,000 gallons or more. The Discharger shall analyze the sample for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern depending on the area and nature of spills or overflows if feasible, accessible and safe.
- c. **Reporting** – The Regional Water Board initial notification shall be followed by:
- (1). A written preliminary report five working days after disclosure of the incident. Within 30 days after submitting the preliminary report, the Discharger shall submit the final written report to this Regional Water Board. (A copy of the final written report, for a given incident, already submitted pursuant to a Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies, may be

submitted to the Regional Water Board to satisfy this requirement.) The written report shall document the information required in paragraph D. below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences. The Executive Officer for just cause can grant an extension for submittal of the final written report.

- (2). The Discharger shall include a certification in the annual summary report (due according to the schedule in the Monitoring and Reporting Program) that states—the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Discharger’s Preventative Maintenance Plan. Any deviations from or modifications to the Plan shall be discussed.
- d. **Records** – The Discharger shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:
- (1). the date and time of each spill, overflow or bypass;
 - (2). the location of each spill, overflow or bypass;
 - (3). the estimated volume of each spill, overflow or bypass including gross volume, amount recovered and amount not recovered, monitoring results;
 - (4). the cause of each spill, overflow or bypass;
 - (5). whether each spill, overflow or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;
 - (6). mitigation measures implemented; and,
 - (7). corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
- e. **Activities Coordination** – In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a MS4 NPDES permit that may contain spill prevention, sewer maintenance, reporting

requirements and (iii) the SSO WDR will coordinate their compliance activities for consistency and efficiency.

- f. **Consistency with Sanitary Sewer Overflows WDRs** – The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under a NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory approach to address Sanitary Sewer Overflows (SSOs). The SSOs WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board’s online SSO database.

The requirements contained in this Order in Sections VI.C.3.b. (Spill Contingency Plan Section), VI.C.4. (Construction, Operation and Maintenance Specifications Section), and VI.C.6. (Spill Reporting Requirements) are intended to be consistent with the requirements of the SSO WDR. The Regional Board recognizes that there may be some overlap between the NPDES permit provisions and SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b., VI.C.4., and VI.C.6. provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

- g. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

7. Compliance Schedules

The Discharger shall submit quarterly progress reports specified in the above-mentioned section to describe the progress of studies and/or actions undertaken to reduce copper, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate, ammonia as nitrogen, nitrate as nitrogen, and nitrite plus nitrate as nitrogen in the effluent, and to achieve compliance by July 26, 2010. However, the compliance provisions for ammonia as nitrogen, nitrate as nitrogen, and nitrite plus nitrate as nitrogen are contained in the accompanying Time Schedule Order No. R4-2007-YYYY, because the final effluent limitations for these constituents are not CTR-based.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL, for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger may be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Discharger will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Discharger shall collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" Section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated

D. Average Weekly Effluent Limitation (AWEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger may be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, the Discharger may be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger may be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger may be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. Percent Removal.

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

$$\text{Percent Removal (\%)} = [1 - (\text{CEffluent}/\text{CInfluent})] \times 100 \%$$

When preferred, the Discharger may substitute mass loadings and mass emissions for the concentrations.

I. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

J. Compliance with Single Constituent Effluent Limitations

Dischargers may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see Section B "Multiple Sample Data Reduction" above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the Reporting Level (RL).

K. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

Dischargers may be considered out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

L. Mass Emission Rate.

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

M. Bacterial Standards and Analysis.

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and

fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.

3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR 136 (revised March 12, 2007), unless alternate methods have been approved by USEPA pursuant to 40 CFR 136, or improved methods have been determined by the Executive Officer and/or USEPA.
4. Detection methods used for enterococcus shall be those presented in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure* or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

N. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.
3. For purpose outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purpose of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged

over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

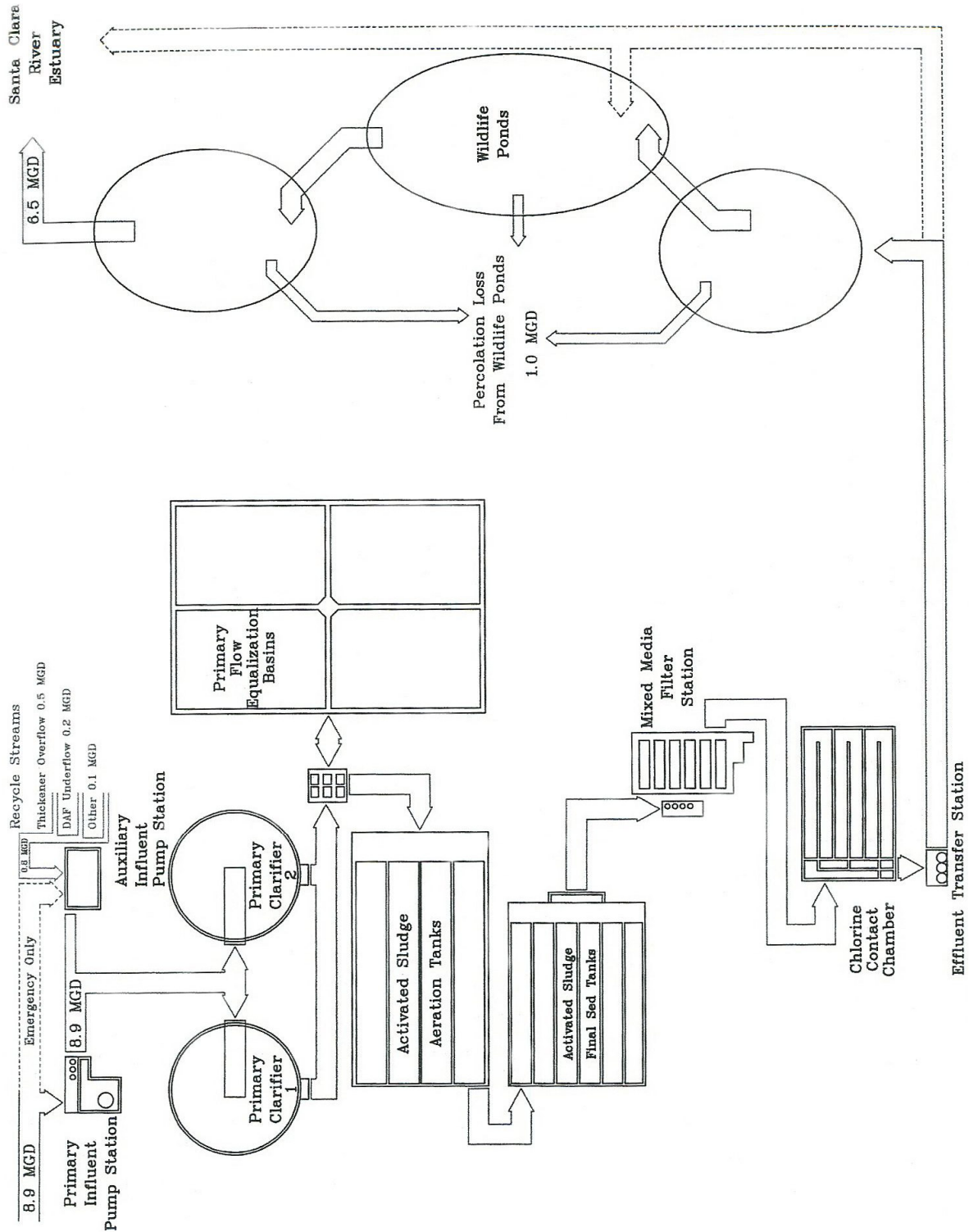
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

Not applicable temporarily!

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for

noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. Records of monitoring information shall include:**
 - 1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**
 - 1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be

submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not

reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and,
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on

the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP)	E-2
I. GENERAL MONITORING PROVISIONS	E-2
II. MONITORING LOCATIONS	E-5
III. INFLUENT MONITORING REQUIREMENTS	E-5
A. Monitoring Location – Influent Pump Station (Inf-001)	E-6
IV. EFFLUENT MONITORING REQUIREMENTS	E-6
A. Monitoring Location – Effluent Transfer Station (M-001)	E-6
V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS	E-9
VI. LAND DISCHARGE MONITORING REQUIREMENTS	E-17
VII. RECLAMATION MONITORING REQUIREMENTS	E-17
VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER	E-17
A. Monitoring Locations – R-003, R-004, and R-005 (See Attachment B)	E-17
B. Monitoring Locations – R-001 to R-005 (See Attachment B)	E-18
C. Observation – R-001 to R-004 (See Attachment B)	E-18
IX. OTHER MONITORING REQUIREMENTS	E-18
X. REPORTING REQUIREMENTS	E-19
A. General Monitoring and Reporting Requirements	E-19
B. Self Monitoring Reports (SMRs)	E-20
C. Discharge Monitoring Reports (DMRs)	E-22
D. Other Reports	E-23

List of Tables

Table 1. Monitoring Station Locations	E-5
Table 2. Influent Monitoring	E-6
Table 3. Effluent Monitoring	E-7
Table 4a. Receiving Water Monitoring Requirements	E-17
Table 4b. Receiving Water Monitoring Requirements	E-18
Table 4c. Receiving Water Monitoring Requirements	E-18
Table 5. Monitoring Periods and Reporting Schedule	E-20

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. All samples shall be representative of the waste discharge under conditions of peak load. Quarterly effluent analyses shall be performed during the months of February, May, August, and November. Semiannual analyses shall be performed during the months of February and August. Annual analyses shall be performed during the month of August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and annual analyses shall be reported in the monthly monitoring report following the analysis.
- B. Pollutants shall be analyzed using the analytical methods described in 40 CFR, Part 136.3, 136.4, and 136.5 (revised March 12, 2007); or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- C. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR, Part 136.3 (revised March 12, 2007). All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Discharger shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.
- D. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- E. For any analyses performed for which no procedure is specified in the USEPA guidelines, or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

- F. Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the Department of Health Services or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP.”
- G. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the reporting Level (RL) [the Minimum Level (ML) or the Reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the reported minimum level.
- H. The Discharger shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR, Part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section J. below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Discharge must select the method with the lowest ML for compliance purposes. The Discharger shall include in the Annual Summary Report a list of the analytical methods employed for each test.
- I. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section J. below, the Discharger’s laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.
- J. In accordance with Section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board’s Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the discharger’s permit in any of the following situations:
 - a. When the pollutant under consideration is not included in Appendix 4, SIP;
 - b. When the discharger and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR, Part 136 (revised as of May 14, 1999);

- c. When a discharger agrees to use an ML that is lower than those listed in Appendix 4;
- d. When a discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,
- e. When the discharger uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the discharger, the Regional Water Board, and the State Water Resources Control Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the State Implementation Policy (SIP), the provisions stated in the SIP (Section 2.4) shall prevail.

- K. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this Program using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.
- L. The Discharger shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.
- M. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.
 - a. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007), unless alternate methods have been approved in advance by the United State Environmental Protection Agency (USEPA) pursuant to 40 CFR Part 136.
 - b. Detection methods used for enterococcus shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007) or in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By*

Membrane Filter Procedure, or any improved method determined by the Regional Water Board to be appropriate.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
Influent Monitoring Station		
Inf-001	Influent Pump Station	The sampling location (Lat. 34 ⁰ , 14'25.44" N; Long. 119 ⁰ , 15'25.53" W) is located in the main stream of the influent channel prior to the head work adjacent to Harbor Boulevard.
Effluent Monitoring Station		
M-001	Effluent Transfer Station (Point of Compliance)	The effluent sampling station (Lat. 34 ⁰ , 14'21.45" N; Long. 119 ⁰ , 15'31.26" W) is located downstream of all treated effluent passing through this station, including the final disinfection process.
Receiving Water Monitoring Station		
R-001	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 13'55.58" N; Long. 119 ⁰ , 15'27.59" W) is located at the upstream from the Santa Clara River Estuary.
R-002	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 13'47.37" N; Long. 119 ⁰ , 15'43.15" W) is located at the south shoreline of the Santa Clara River Estuary.
R-003	Receiving Water Sample Station	This sampling location (Variable at the mouth of the outlet) is located at the west shoreline of the Santa Clara River Estuary.
R-004	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 14'04.15" N; Long. 119 ⁰ , 15'54.19" W) is located at the northwest shoreline of the Santa Clara River Estuary.
R-005	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 14'01.63" N; Long. 119 ⁰ , 15'23.79" W) is located at the upstream from the Santa Clara River Estuary and at the Harbor Boulevard Bridge crossing.

III. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program.

A. Monitoring Location – Influent Pump Station (Inf-001)

1. The Discharger shall monitor influent to the facility at Influent Pump Station as follows:

Table 2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder/totalizer	continuous ¹	1
Total suspended solids	mg/L	24-hour composite	weekly	2
BOD ₅ 20°C	mg/L	24-hour composite	weekly	2
Nitrogen compounds	mg/L	grab	quarterly	2
Copper	µg/L	grab	quarterly	2
Lead	µg/L	grab	quarterly	2
Mercury	µg/L	grab	quarterly	2
Silver	µg/L	grab	quarterly	2
Zinc	µg/L	grab	quarterly	2
Cyanide	µg/L	grab	quarterly	2
Chlorodibromomethane	µg/L	grab	quarterly	2
Dichlorobromomethane	µg/L	grab	quarterly	2
Bis(2-ethylhexyl)phthalate	µg/L	grab	quarterly	2
Remaining priority pollutants ³ excluding asbestos	µg/L	24-hour composite/grab for VOCs and Chromium VI	semiannually	2
Pesticides ⁴	µg/L	24-hour composite	semiannually	2

IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

- Determine compliance with NPDES permit conditions and water quality standards.
- Assess plant performance, identify operational problems and improve plant performance.

A. Monitoring Location – Effluent Transfer Station (M-001)

¹ Total daily flow and instantaneous peak daily flow (24-hr basis). Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board.

³ Priority pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment.

⁴ Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

1. The Discharger shall monitor the discharge of tertiary-treated effluent at Effluent Transfer Station as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total waste flow	MGD	recorder	continuous ⁵	⁶
Turbidity	NTU	recorder	Continuous ⁴	5
Total residual chlorine	mg/L	recorder	Continuous ^{4, 7, 8}	5
Total residual chlorine	mg/L	grab ⁹	daily ¹⁰	5
Total and fecal coliform	MPN/100 mL	grab	daily	5
Settleable solids	ml/L	grab	daily	5
BOD ₅ 20°C	mg/L	24-hr comp.	daily	5
Suspended solids	mg/L	24-hr comp.	daily	5
Dissolved oxygen	mg/L	grab	daily	5
Temperature	°F	grab	weekly	5
pH	pH units	grab	weekly	5
Oil and grease	mg/L	grab	weekly	5
Total dissolved solids	mg/L	24-hr comp.	monthly	5
Fluoride	mg/L	24-hr comp.	monthly	5
Phosphate as P	mg/L	24-hr comp.	monthly	5
Phosphorous	mg/L	24-hr comp.	monthly	5
Ammonia nitrogen	mg/L	24-hr comp.	monthly	5
Nitrate nitrogen	mg/L	24-hr comp.	monthly	5
Nitrite nitrogen	mg/L	24-hr comp.	monthly	5

⁵ Where continuous monitoring of a constituent is required, the following shall be reported:

Total waste flow – Total daily and peak daily flow (24-hr basis);

Total residual chlorine – Maximum daily value (24-hr basis);

Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

⁶ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board

⁷ Total residual chlorine (TRC) shall be continuously recorded. The recorded charts shall be maintained by the Permittee for at least five years. The maximum daily peak, minimum daily peak, and daily average total residual chlorine shall be reported on the monthly monitoring reports.

⁸ Continuous monitoring of TRC at the current location shall serve as an internal trigger for increased TRC end of pipe grab sampling if either of the following occur, except as noted in footnote 7.c:

a. TRC concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or

b. TRC concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.

c. Additional end of pipe grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

⁹ Grab samples shall be collected at end of pipe during peak flow.

¹⁰ Daily grab samples shall be collected Monday through Friday only, except for holidays; and not on weekends.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Organic nitrogen	mg/L	24-hr comp.	monthly	5
Total Kjeldahl nitrogen	mg/L	24-hr comp.	monthly	5
Detergents (as MBAS)	mg/L	24-hr comp.	monthly	5
Chlorophyll <i>a</i>	mg/L	grab	monthly	5
Cyanide	µg/L	grab	monthly	5
Chronic toxicity	TUc	24-hr comp.	monthly	See Section V.B.2.a
Acute toxicity	TUa	24-hr comp.	annually	See Section V.A.2.a
Aluminum	µg/L	24-hr comp.	semiannually	5
Antimony	µg/L	24-hr comp.	semiannually	5
Arsenic	µg/L	24-hr comp.	semiannually	5
Barium	µg/L	24-hr comp.	semiannually	5
Beryllium	µg/L	24-hr comp.	semiannually	5
Cadmium	µg/L	24-hr comp.	semiannually	5
Chromium VI	µg/L	grab	semiannually	5
Cobalt	µg/L	24-hr comp.	semiannually	5
Copper	µg/L	24-hr comp.	monthly	5
Iron	µg/L	24-hr comp.	semiannually	5
Lead	µg/L	24-hr comp.	monthly	5
Mercury	µg/L	24-hr comp.	monthly	5
Molybdenum	µg/L	24-hr comp.	semiannually	5
Nickel	µg/L	24-hr comp.	semiannually	5
Selenium	µg/L	24-hr comp.	semiannually	5
Silver	µg/L	24-hr comp.	monthly	5
Thallium	µg/L	24-hr comp.	semiannually	5
Vanadium	µg/L	24-hr comp.	semiannually	5
Zinc	µg/L	24-hr comp.	monthly	5
Chlorodibromomethane	µg/L	grab	monthly	5
Dichlorobromomethane	µg/L	grab	monthly	5
Bis(2-ethylhexyl)phthalate	µg/L	grab	monthly	5
Acetone	µg/L	grab	semiannually	5
Total xylene	µg/L	24-hr comp.	semiannually	5
TCDD	µg/L	24-hr comp.	semiannually	11
Remaining priority pollutants (excluding asbestos)	µg/L	grab/24-hr comp. for	semiannually	5

¹¹ In accordance with the SIP, the Discharger shall conduct effluent monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-002, located downstream of the discharge point. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i), (i.e., TEQ_i = C_i x TEF_i). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{i=1}^{17} (\text{TEQ}_i) = \sum_{i=1}^{17} (C_i)(\text{TEF}_i)$$

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
		VOC		
Pesticides ⁴	µg/L	24-hr comp.	semiannually	5
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	µg/L	24-hr comp.	semiannually	12
Emerging chemicals ¹³	µg/L	24-hr comp.	biannually	13
Endocrine disrupting chemicals ¹⁴	µg/L	24-hr comp.	biannually	Approved by DHS
Pharmaceuticals ¹⁵	µg/L	24-hr comp.	biannually	Approved by DHS

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

- a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
- b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program

- a. **Method.** The Discharger shall conduct acute toxicity tests on 100% effluent and receiving water grab samples by methods specified in 40 CFR Part 136, which cites USEPA's *Methods for Measuring the Acute Toxicity*

¹² Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium.

Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for Tritium, Strontium-90 and uranium.

¹³ Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

¹⁴ Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. The analytical methods for these chemicals shall be approved by the DHS.

¹⁵ Pharmaceuticals include acetaminopen, amoxicillin, azithromycin, caffeine, carbamazepine, ciprofloxacin, ethylenediamine tetra-acetic acid (EDTA), gemfibrozil, ibuprofen, iodinated contrast media, lipitor, methadone, morphine, salicylic acid, and triclosan. The analytical methods for these chemicals shall be approved by the DHS. These chemicals need to be monitored in August.

of Effluents and Receiving Waters to Freshwater and Marine Organisms, October, 2002 (EPA-821-R-02-012) or a more recent edition to ensure compliance.

- b. **Test Species.** The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish discharges. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverside, *Menidia beryllina*, instead of the topsmelt. The method for topsmelt is found in USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October, 2002 (EPA-821-R-02-012).
- c. **Alternate Reporting.** In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, but only if the Discharger uses USEPA's August 2002 Method (EPA-821-R-02-013) to conduct the chronic toxicity test.
- d. **Acute Toxicity Accelerated Monitoring.** If the effluent toxicity requirements in Section IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) of this Order is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing.

However, if the extent of the acute toxicity of the receiving water upstream of the discharge is greater than the downstream and the results of the effluent acute toxicity test comply with acute toxicity limitation, the accelerated monitoring need not be implemented for the receiving water.

- e. **Toxicity Identification Evaluation (TIE).**
 - (1). If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
 - (2) If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall

immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. Once the sources are identified the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity Testing

1. Definition of Chronic Toxicity

Chronic toxicity is a measure of adverse sub-lethal effects in plants, animals, or invertebrates in a long-term test. The effects measured may include lethality or decreases in fertilization, growth, and reproduction.

2. Chronic Toxicity Effluent Monitoring Program

a. **Test Methods.** The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 % effluent samples or receiving water grab samples in accordance with EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, October 2002 (EPA-821-R-02-013) or EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, October 2002 (EPA-821-R-02-014), or current version.

b. Frequency

(1). **Screening and Monitoring.** - The Discharger shall conduct the first chronic toxicity test screening for three consecutive months in 2007. The Discharger shall conduct short-term tests with the cladoceran, water flea (*Ceriodaphnia dubia* - survival and reproduction test), the fathead minnow (*Pimephales promelas* - larval survival and growth test), and the green alga (*Selenastrum capricornutum* - growth test) as an initial screening process for a minimum of three, but not to exceed, five suites of tests to account for potential variability of the effluent / receiving water. After this screening period, monitoring shall be conducted using the most sensitive species.

(2). **Re-screening** is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

(3). Regular toxicity tests - After the screening period, monitoring shall be conducted monthly using the most sensitive species.

c. **Toxicity Units.** The chronic toxicity of the effluent shall be expressed and reported in Chronic Toxic Units, TU_c, where,

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

3. Accelerated Monitoring

If the chronic toxicity of the effluent or the receiving water downstream the discharge exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The samples shall be collected and the tests initiated no less than 7 days apart. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result. However, if the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TU_c of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented for the receiving water.

- a. If any three out of the initial test and the six additional tests results exceed 1.0 TU_c the Discharger shall immediately implement the Initial Investigation of the TRE.
- b. If implementation of the initial investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Table 3 and Table 4 of this MRP.
- c. If all of the six additional tests required above do not exceed 1 TU_c, then the Discharger may return to the normal sampling frequency.
- d. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manual (EPA-821-R-02-012 and/or EPA-821-R-02-013), then the Discharger must re-sample and re-test within 14 days.
3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Workplan must contain the provisions in Attachment G. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,
3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3. for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE. The detailed workplan shall include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and,

- c. A schedule for these actions.
2. The following section summarizes the stepwise approach used in conducting the TRE:
 - a. Step 1 includes basic data collection.
 - b. Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals.
 - c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity.
 - d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options.
 - e. Step 5 evaluates in-plant treatment options.
 - f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there are no longer toxicity violations.

3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/R-96-054 (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), as guidance.
4. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Section V.D. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer .
5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.

6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.
 - a. If all the results of the six additional tests are in compliance with the chronic toxicity limitation, the Discharger may resume regular monthly testing.
 - b. If the results of any of the six accelerated tests exceeds the limitation, the Discharger shall continue to monitor weekly until six consecutive weekly tests are in compliance. At that time, the Discharger may resume regular monthly testing.
 - c. If the results of two of the six tests, or any two tests in a six-week period, exceed the limitation, the Discharger shall initiate a TRE.
 - d. If implementation of the initial investigation TRE workplan (see item D.3, above) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of increasing test pH* when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

G. Reporting

The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month, as required by this permit. Test results shall be reported in Acute Toxicity Units (TU_a) or Chronic Toxicity Units (TU_c), as required, with the self-monitoring report (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section V.A.2.d. and V.B.3., then those results also shall be submitted with the SMR for the period in which the Investigation occurred.

1. The full report shall be received by the Regional Water Board by the 15th day of the second month following sampling.
2. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the toxicity limit; and, (4) printout of the toxicity program (ToxCalc or CETIS).
3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test, as appropriate:
 - a. sample date(s)
 - a. test initiation date
 - c. test species
 - d. end point value(s) for each dilution (e.g. number of young, growth rate, percent survival)
 - e. NOEC values in percent effluent
 - f. TU_c value(s), where $TU_c = \frac{100}{NOEC}$
 - g. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable)

- h. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s)
 - i. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
4. The Discharger shall provide a compliance summary that includes a summary table of toxicity data from at least eleven of the most recent samples.
 5. The Discharger shall notify this Regional Water Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of an effluent limit. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Ventura Water Reclamation Facility is recycling wastewater under separate Water Recycling Requirements contained in Order No. 87-45.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations – R-003, R-004, and R-005 (See Attachment B)

1. The Discharger shall monitor receiving water at R003, R-004, and R-005 as follows:

Table 4a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper	µg/L	grab	monthly	5
Lead	µg/L	grab	monthly	5
Mercury	µg/L	grab	monthly	5
Silver	µg/L	grab	monthly	5
Zinc	µg/L	grab	monthly	5
Cyanide	µg/L	grab	monthly	5
Chlorodibromomethane	µg/L	grab	monthly	5
Dichlorobromomethane	µg/L	grab	monthly	5
Bis(2-ethylhexyl)phthalate	µg/L	grab	monthly	5
Dioxin	pg/L	grab	semiannually	11
Remaining priority pollutants excluding as asbestos	µg/L	grab	semiannually	5

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chronic toxicity	TUc	grab	monthly	See Section V.B.2.a
Acute toxicity ¹⁶	TUa	grab	annually	See Section V.A.2.a

B. Monitoring Locations – R-001 to R-005 (See Attachment B)

1. The Discharger shall monitor receiving water at R-001 through R-005 as follows:

Table 4b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total and fecal coliform	MPN/100 mL	grab	weekly	5
Residual chlorine ¹⁷	mg/L	grab	weekly	5
Hardness	mg/L	grab	weekly	5
Salinity	ppt	field	weekly	5
pH	pH units	grab	weekly	5
Temperature	°F	field	weekly	5
Dissolved oxygen	mg/L	field	weekly	5
Total phosphorous as P	mg/L	grab	monthly	5
Ammonia nitrogen	mg/L	grab	monthly	5
Nitrate nitrogen	mg/L	grab	monthly	5
Nitrite nitrogen	mg/L	grab	monthly	5
Organic nitrogen	mg/L	grab	monthly	5
Total Kjeldahl nitrogen	mg/L	grab	monthly	5
Chlorophyll a	mg/L	grab	monthly	5

C. Observation – R-001 to R-004 (See Attachment B)

Table 4c. Receiving Water Monitoring Requirements

Parameter	Minimum Sampling Frequency
Sludge banks or deposits	weekly
Oil, grease, or slicks	weekly
Foam	weekly
Solids of waste origin	weekly

IX. OTHER MONITORING REQUIREMENTS

A. Reduced Flow Study Program

In order to detect any negative impacts from reduced maintenance flows to the Santa Clara Estuary, the Discharger has been required to provide a Work Plan (required by TSO No. R4-2006-0093), which will be used to determine the minimum

¹⁶ Acute toxicity test for the receiving water is conducted in Stations R-005 and R-003 only.

¹⁷ Residual chlorine test for the receiving water is conducted in Stations R-001 to R-004.

sustenance flow in the Estuary needed, if any, to protect the habitat of endangered species in the Estuary. The monitoring aspects of this Work Plan should cover the following:

1. The level of impact on the tidewater goby's population as a result of an incremental decrease in the discharge from the Facility of 1 mgd per year;
2. The population and number trends from the "Fish Survey";
3. The influences of groundwater on the Estuary; and,
4. Evaluations of different discharge volume scenarios, which may affect breaching frequency, groundwater influence, and water quality.

The monitoring frequency is based on that proposed in the Discharger's Work Plan. The results shall be reported with the regular annual reports.

B. Regional Monitoring Program

Pursuant of 40 CFR 122.41(j) and 122.48(b), the monitoring program for a Discharger receiving an NPDES Permit must determine compliance with NPDES permit terms and conditions, and demonstrate that water quality standards are met.

Compliance monitoring focuses only on the quality of the discharge, it is not designed to assess the impact of the discharge on the receiving water in combination with other point source discharges or with any other sources of pollution (e.g., non-point source runoff, aerial fallout). Likewise, it is not designed to evaluate the current status of important ecological resources on a regional basis. However, to support the Watershed Approach, a watershed-wide Regional Monitoring Program may be designed for the Santa Clara River Watershed, with input of stakeholders, to determine: compliance with receiving water objectives; trends in surface water quality; impacts to beneficial uses; and data needs for modeling contaminants of concern.

Once this Regional Monitoring Program has been designed, the Executive Officer may require the Discharger to participate in the Regional Program and/or revise the existing monitoring program.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.

3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs in accordance with the requirements described in subsection B.5 below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies (ex, the Work Plan specified in TSO R4-2006-0093), acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR

Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	By the 15 th day of the second month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 15 August 15 November 15 February 15
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 15 February 15
Annually	January 1 following (or on) permit effective date	January 1 through December 31	April 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below: (Reference the reports to Compliance File No. 1822 to facilitate routing to the appropriate staff and file.)

California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Attention: Information Technology Unit

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. Annual Summary Report

By April 1 of each year, the Discharger shall submit an annual report containing a discussion of the previous year’s influent/effluent analytical results and receiving water bacterial monitoring data. The annual report shall contain graphical and tabular summaries of the monitoring analytical data. The annual report shall also contain an overview of any plans for upgrades to the treatment plant’s collection system, the treatment processes, or the outfall system. The Discharger shall submit a hard copy annual report to the Regional Water Board in accordance with the requirements described in subsection B.5 above.

Each annual monitoring report shall contain a separate section titled “Reasonable Potential Analysis” which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement:” The analytical results for this sampling period did/ did not trigger reasonable potential.” If reasonable potential was triggered, then the following information should also be provided:

- a. A list of the pollutant(s) that triggered reasonable potential;
 - b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;
 - c. The concentration of the pollutant(s);
 - d. The test method used to analyze the sample; and,
 - e. The date and time of sample collection.
2. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary

additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

3. The Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:
 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

ATTACHMENT F – FACT SHEET

Table of Contents

Attachment F – Fact Sheet..... F-3

I. **PERMIT INFORMATION**..... F-3

II. **FACILITY DESCRIPTION**..... F-5

 A. Description of Wastewater and Biosolids Treatment or Controls F-5

 B. Discharge Points and Receiving Waters..... F-6

 C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-7

 D. Compliance Summary..... F-9

 E. Planned Changes to Treatment Systems F-14

III. **APPLICABLE PLANS, POLICIES, AND REGULATIONS** F-15

 A. Legal Authorities F-15

 B. California Environmental Quality Act (CEQA) F-15

 C. State and Federal Regulations, Policies, and Plans F-15

 D. Impaired Water Bodies on CWA 303(d) List F-19

 E. Other Plans, Polices and Regulations..... F-19

IV. **RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS** .. F-20

 A. Discharge Prohibitions F-20

 B. Technology-Based Effluent Limitations..... F-21

 1. Scope and Authority F-21

 2. Applicable Technology-Based Effluent Limitations F-21

 C. Water Quality-Based Effluent Limitations (WQBELs)..... F-22

 1. Scope and Authority F-22

 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-23

 3. Determining the Need for WQBELs F-33

 4. WQBEL Calculations F-38

 5. Whole Effluent Toxicity (WET) F-43

 D. Final Effluent Limitations..... F-45

 E. Interim Effluent Limitations..... F-47

 F. Land Discharge Specifications..... F-50

 G. Reclamation Specifications..... F-50

V. **RATIONALE FOR RECEIVING WATER LIMITATIONS** F-50

 A. Surface Water..... F-50

 B. Groundwater..... F-50

VI. **RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS** F-50

 A. Influent Monitoring F-51

 B. Effluent Monitoring..... F-51

 C. Whole Effluent Toxicity Testing Requirements F-54

 D. Receiving Water Monitoring..... F-54

 1. Surface Water..... F-54

 2. Groundwater F-55

 E. Other Monitoring Requirements..... F-55

VII. **RATIONALE FOR PROVISIONS**..... F-55

 A. Standard Provisions..... F-55

B.	Special Provisions.....	F-56
1.	Reopener Provisions	F-56
2.	Special Studies and Additional Monitoring Requirements	F-56
3.	Best Management Practices and Pollution Prevention	F-56
4.	Construction, Operation, and Maintenance Specifications	F-57
5.	Special Provisions for Municipal Facilities (POTWs Only)	F-57
7.	Compliance Schedules	F-58
VIII.	PUBLIC PARTICIPATION	F-59
A.	Notification of Interested Parties	F-59
B.	Written Comments	F-59
C.	Public Hearing	F-59
D.	Waste Discharge Requirements Petitions.....	F-60
E.	Information and Copying.....	F-60
F.	Register of Interested Persons	F-60
G.	Additional Information	F-60

List of Tables

Table 1.	Facility Information.....	F-3
Table 2.	Historic Effluent Limitations and Monitoring Data	F-7
Table 3.	Summary of Compliance History	F-9
Table 4.	Basin Plan Beneficial Uses.....	F-15
Table 5.	Summary of Technology-based Effluent Limitations.....	F-22
Table 6.	Applicable Water Quality Criteria.....	F-33
Table 7.	Summary of Reasonable Potential Analysis	F-35
Table 8.	Summary of Water Quality-based Effluent Limitations.....	F-42
Table 9.	Summary of Final Effluent Limitations	F-46
Table 10.	Summary of Interim Effluent Limitations	F-49
Table 11.	Effluent Monitoring Program Comparison Table	F-52
Table 12.	Receiving Water Monitoring Program Comparison Table.....	F-55

ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following Table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	4A560107001
Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility, Ventura
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Authorized Person to Sign and Submit Reports	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99, Ventura, CA 93002-0099
Billing Address	P.O. Box 99, Ventura, CA 93002-0099
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer
Facility Permitted Flow	14 million gallons per day
Facility Design Flow	14 million gallons per day
Watershed	Santa Clara River Watershed
Receiving Water	Santa Clara River Estuary
Receiving Water Type	Estuary

- A.** City of San Buenaventura (hereinafter Discharger) is the owner and operator of Ventura Water Reclamation Facility (hereinafter Facility), a Publicly Owned Treatment Works.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that:

“It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.”

Section I.A. of Order No. 00-143 states that “The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd.” The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Estuary is beneficial and enhances the Estuary, or has adverse impacts to the Santa Clara River Estuary (Estuary). A Time Schedule Order (No. R4-2006-0093) adopted by the Regional Water Board on December 14, 2006, required the Discharger to evaluate the possible impact(s) on the Estuary through the studies of an increase in the reclamation program and an incremental decrease of discharge to the Estuary.

This NPDES renewal proposes to lift the requirement of maintenance flows of 5.6 mgd to the Estuary so that reclamation can be increased and discharges to the Estuary incrementally decreased by 1 mgd per year. Monitoring will ensure that endangered species residing in the Estuary are not adversely impacted by the incremental decrease in flow.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study conducted by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, there was concern expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging and pharmaceutical chemicals in order to determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

- B. The Facility discharges wastewater to the Estuary, a water of the United States, and is currently regulated by Order No. 00-143, which was adopted on October 12, 2000.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on April 18, 2005. A site visit was conducted on February 1, 2007, to observe operations and collect additional data to develop permit limitations and conditions.

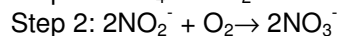
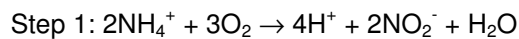
II. FACILITY DESCRIPTION

The Discharger owns and operates the Facility, a tertiary wastewater treatment facility located at 1400 Spinnaker Road, Ventura, California. Figure 1 shows the location of the Facility. Figure 1 shows the location of the Facility. The Facility currently receives wastewater generated from the City of San Buenaventura. The wastewater is a mixture of domestic, commercial, and industrial wastewater that is pre-treated pursuant to 40 CFR Part 403. The Facility has a design capacity of 14 mgd and serves an estimated population of 105,000 people.

A. Description of Wastewater and Biosolids Treatment or Controls

The treatment system consists of grit removal, primary sedimentation, flow equalization, roughing filters, activated sludge nitrification and denitrification¹, tertiary filters, chlorination and dechlorination, primary sludge thickener, dissolved air flotation (DAF) secondary sludge thickener, anaerobically digested, and dewatered (using filter presses). A portion of the dewatered sludge is composted (Class B), and hauled to various users in Ventura County. The remainder of the dewatered sludge is disposed of in the Simi Valley and Chiquita Canyon Landfills. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds with a combined capacity of 34 million gallons providing approximately 4 days of

¹ For the nitrification process, there are two steps for ammonia being oxidized into nitrate.



For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.



The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

B. Discharge Points and Receiving Waters

1. The treated wastewater is discharged into the Estuary through the Wildlife Ponds with approximately 4-day retention, a water of the United State, at latitude 34° 14' 22.46", and longitude 119° 15' 54.84" (Discharge Serial No. 001).
2. The mouth of the Santa Clara River is sometimes closed off by a sand bar so that a shallow lagoon is created. However, at times when the sand bar is breached, either by floodwaters or by mechanical means, the lagoon empties directly into the Pacific Ocean.
3. The State of California Department of Parks and Recreation has declared McGrath State Beach and the surrounding 160 acres a natural preserve. The preserve includes the main channel of the Santa Clara River and adjacent natural lands of riparian shrub land and saltwater marsh. The purpose of the natural preserve is to protect and perpetuate the river ecosystem at the mouth of the Santa Clara River. Resource values of particular significance include: estuarine waters, which are used extensively by a wide variety of waterfowl and other water-associated birds; nesting habitat of the endangered California least tern; and riparian shrub land and saltwater marsh communities.
4. The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time. At locations where salinities fall between 1 and 10 ppt, the more stringent of either fresh or marine waters apply. The Santa Clara River Estuary typically experiences more tidal influence during winter and spring when the sand bar is open, while during the summer and fall the bar is closed and less tidal influence occurs. Data obtained from U.S. Fish and Wildlife Service demonstrate that the discharge point is classified as in-between freshwater and saltwater according to the definitions in the CTR. In this Order, the saltwater criteria were used to calculate the final effluent limits for CTR-based pollutants and ammonia.
5. A small portion of the treated wastewater is reused for turf and landscape irrigation. Approximately 1.0 MGD of the treated wastewater percolates into groundwater from three wildlife ponds on site at the treatment facility. The reuse of the treated wastewater and the percolation to groundwater are regulated under water reclamation requirements which are contained in a separate order (Order No. 87-45), adopted by this Board on April 27, 1987.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the existing Order for discharges from the Effluent Transfer Station and Outfall and representative monitoring data from the term of the previous Order are as follows:

Table 2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (February 2003 – December 2006)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ²	Highest Daily Discharge
BOD ₅ 20°C	mg/L	20	30	45	5.1	3.8	8.6
Suspended solids	mg/L	15	40	45	2.7	6.1	7.2
Oil and Grease	mg/L	10	--	15	2.7	--	2.77
Settleable solids	ml/L	01	--	0.3	<0.1	--	<0.1
Residual chlorine	mg/L	--	--	0.1	--	--	<0.1
Arsenic	µg/L	29.4	--	59	1.9	--	1.9
Cadmium	µg/L	9.3	--	43	0.3	--	0.3
Chromium (VI)	µg/L	3.7	--	11	8.05	--	8.05
Copper	µg/L	2.0	--	2.9	17	--	17
Lead	µg/L	7.0	--	14	63	--	63
Mercury	µg/L	0.025	--	0.12	0.7	--	0.7
Nickel	µg/L	5.3	--	15.2	8	--	8
Selenium	µg/L	2.9	--	8.8	6.7	--	6.7
Silver	µg/L	--	--	2.3	9.3	--	9.3
Thallium	µg/L	6.3	--	6.3	0.6	--	0.6
Zinc	µg/L	38	--	95	239	--	239
Cyanide	µg/L	0.41	--	0.99	8	--	8
Dioxin	µg/L	1.4×10 ⁻⁸	--	2.8×10 ⁻⁸	<8.8×10 ⁻⁶	--	<8.8×10 ⁻⁶
Benzene	µg/L	--	--	71	<0.23	--	<0.23
Bromoform	µg/L	360	--	778	4.9	--	4.9
Carbon Tetrachloride	µg/L	--	--	4.4	<0.12	--	<0.12
Chlorodibromomethane	µg/L	34	--	82	43.3	--	43.3
Chlorofom	µg/L	--	--	470	122	--	122
Dichlorobromomethane	µg/L	--	--	22	91.9	--	91.9
Ethylbenzene	µg/L	29,000	--	58,290	<0.34	--	<0.34
Methylene Chloride	µg/L	1,600	--	3,216	<0.25	--	<0.25
Tetrachloroethylene	µg/L	--	--	8.9	<0.03	--	<0.03
Toluene	µg/L	200,000	--	402,000	<0.2	--	<0.2
Pentachlorophenol	µg/L	7.9	--	13	<3.6	--	<3.6
Phenol	µg/L	4,600,000	--	9,246,000	8.04	--	8.04
2,4,6-Trichlorophenol	µg/L	--	--	6.5	<2.7	--	<2.7

² The highest average weekly discharge concentration is reported for constituents that are monitored at weekly or more frequent intervals.

Parameter	Units	Effluent Limitation			Monitoring Data (February 2003 – December 2006)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ²	Highest Daily Discharge
Benzidine	µg/L	0.00054	--	0.0011	<4.4	--	<4.4
Benzo(a)Anthracene	µg/L	0.049	--	0.098	<7.8	--	<7.8
Benzo(a)Pyrene	µg/L	0.049	--	0.098	<2.5	--	<2.5
Benzo(b)Fluoranthene	µg/L	0.049	--	0.098	<4.8	--	<4.8
Benzo(k)Fluoranthene	µg/L	0.049	--	0.098	<2.5	--	<2.5
Bis(2-Chloroethyl)Ether	µg/L	1.4	--	2.8	<5.7	--	<5.7
Bis(2-Ethylhexyl)Phthalate	µg/L	--	--	5.9	36.7	--	36.7
Chrysene	µg/L	0.049	--	0.098	<2.0	--	<2.0
1,4-Dichlorobenzene	µg/L	2,600	--	5,226	<4.4	--	<4.4
3,3-Dichlorobenzidine	µg/L	0.077	--	0.15	<16.5	--	<16.5
Diethyl Phthalate	µg/L	120,000	--	241,000	<2.2	--	<2.2
Di-n-Butyl Phthalate	µg/L	12,000	--	24,120	<2.5	--	<2.5
1,2-Diphenylhydrazine	µg/L	0.54	--	1.09	<10	--	<10
Hexachlorobenzene	µg/L	0.00077	--	0.0015	<1.9	--	<1.9
Hexachloroethane	µg/L	8.9	--	18	<1.6	--	<1.6
Indeno(1,2,3-cd)Pyrene	µg/L	0.049	--	0.098	<3.7	--	<3.7
N-Nitrosodi-n-Propylamine	µg/L	1.4	--	2.8	<10	--	<10
Aldrin	µg/L	0.00014	--	0.00028	<0.004	--	<0.004
Alpha-BHC	µg/L	0.013	--	0.026	<0.003	--	<0.003
Beta-BHC	µg/L	0.046	--	0.092	<0.006	--	<0.006
Gamma-BHC	µg/L	0.063	--	0.13	<0.004	--	<0.004
Chlordane	µg/L	0.00059	--	0.0012	<0.014	--	<0.014
p,p'-DDT	µg/L	0.00059	--	0.0012	<4.7	--	<4.7
p,p'-DDE	µg/L	0.00059	--	0.0012	<5.6	--	<5.6
p,p'-DDD	µg/L	0.00084	--	0.0017	<2.8	--	<2.8
Dieldrin	µg/L	0.00014	--	0.00028	<0.002- <0.009	--	<0.002- <0.009
Endosulfan I	µg/L	0.007	--	0.014	0.009- <0.038	--	0.009- <0.038
Endosulfan II	µg/L	0.007	--	0.014	<0.004- <0.029	--	<0.004- <0.029
Endrin	µg/L	0.0019	--	0.0038	<0.006- <0.023	--	<0.006- <0.023
Heptachlor	µg/L	0.00021	--	0.00042	<0.003	--	<0.003
Heptachlor Epoxide	µg/L	0.00011	--	0.00022	<0.083	--	<0.083
PCB 1016	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1221	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1232	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398

Parameter	Units	Effluent Limitation			Monitoring Data (February 2003 – December 2006)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ²	Highest Daily Discharge
PCB 1242	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1248	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1254	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1260	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
Toxaphene	µg/L	0.00016	--	0.00033	<0.529- <10	--	<0.529- <10

D. Compliance Summary

Data submitted revealed the following effluent limitation violations during the permit term. These violations had been reviewed and taken proper action.

Table 3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/8/2000	Nov-00	Monthly	Aldrin	0.168	0.00014	ug/L	119,900	NOV issued 2/2/04
11/8/2000	Nov-00	Daily	Aldrin	0.168	0.00028	ug/L	59,900	NOV issued 2/2/04
11/13/2000	Nov-00	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
12/12/2000	Dec-00	Maximum	Chronic Toxicity	3.13	1	TUc	NA	NOV issued 2/2/04
1/10/2001	Jan-01	Monthly	Zinc	92	38	ug/L	142	NOV issued 2/2/04
2/7/2001	Feb-01	Monthly	Cyanide	29	0.41	ug/L	6,973	NOV issued 2/2/04
2/7/2001	Feb-01	Daily	Cyanide	29	0.99	ug/L	2,829	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Chromium	27	11	ug/L	145	NOV issued 2/2/04
2/14/2001	Feb-01	Monthly	Dibromochloromethane	66	34	ug/L	94	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Nickel	25	15.2	ug/L	64	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Dichlorobromomethane	28.9	22	ug/L	31	NOV issued 2/2/04
2/28/2001	Feb-01	Monthly	Zinc	52.5**	38	ug/L	38	NOV issued 2/2/04
3/6/2001	Mar-01	5 NTU >72 min.	Turbidity	9.7	5*	NTU	NA	NOV issued 2/2/04
3/7/2001	Mar-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
5/4/2001	May-01	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
5/5/2001	May-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Cyanide	10	0.41	ug/L	2,339	NOV issued 2/2/04
5/9/2001	May-01	Daily	Cyanide	10	0.99	ug/L	910	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Mercury	0.2	0.025	ug/L	700	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
5/9/2001	May-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Copper	22.3	18	ug/L	24	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Nickel	5.6	5.3	ug/L	6	NOV issued 2/2/04
7/11/2001	Jul-01	Monthly	Zinc	116.4	38	ug/L	206	NOV issued 2/2/04
7/11/2001	Jul-01	Monthly	Copper	35.2	18	ug/L	96	NOV issued 2/2/04
7/11/2001	Jul-01	Daily	Zinc	116.4	95	ug/L	23	NOV issued 2/2/04
7/18/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/18/2001	Jul-01	Daily Ave.	Turbidity	4.7	2	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	Daily Ave.	Turbidity	5.2	2	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	30-day	Coliform	1600	23	MPN/100 mL	NA	NOV issued 2/2/04
7/20/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Cyanide	52	0.41	ug/L	12,583	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Cyanide	52	0.99	ug/L	5,153	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Aldrin	0.003	0.00014	ug/L	2,043	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Aldrin	0.003	0.00028	ug/L	971	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Copper	66.2	52	ug/L	27	NOV issued 2/2/04
8/31/2001	Aug-01	Monthly	Zinc	52.6**	38	ug/L	38	NOV issued 2/2/04
10/15/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/15/2001	Oct-01	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	Daily Ave.	Turbidity	4	2	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	Daily Ave.	Turbidity	7.2	2	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	Daily Ave.	Turbidity	8.7	2	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	5 NTU >72 min.	Turbidity	7.2	5*	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
10/25/2001	Oct-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/3/2001	Nov-01	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/4/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/5/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/6/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	Monthly	Mercury	0.5	0.025	ug/L	1,900	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/7/2001	Nov-01	Monthly	Cyanide	6	0.41	ug/L	1,363	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Cyanide	6	0.99	ug/L	506	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Dichlorobromomethane	46.7	22	ug/L	112	NOV issued 2/2/04
11/8/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/9/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Zinc	209.8	38	ug/L	452	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Nickel	24.7	5.3	ug/L	366	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Zinc	209.8	95	ug/L	121	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Copper	34.5	18	ug/L	92	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Nickel	24.7	15.2	ug/L	63	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Lead	7.7	7	ug/L	10	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Zinc	61.2	38	ug/L	61	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Copper	26.5	18	ug/L	47	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Nickel	7.7	5.3	ug/L	45	NOV issued 2/2/04
2/6/2002	Feb-02	Daily	Mercury	1	0.12	ug/L	733	NOV issued 2/2/04
2/13/2002	Feb-02	Monthly	Dibromochloromethane	40.6	34	ug/L	19	NOV issued 2/2/04
2/14/2002	Feb-02	Daily	Dichlorobromomethane	73.7	22	ug/L	235	NOV issued 2/2/04
2/28/2002	Feb-02	Monthly	Zinc	65.2**	38	ug/L	72	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Zinc	110.2	38	ug/L	190	NOV issued 2/2/04
3/6/2002	Mar-02	Daily	Zinc	110.2	95	ug/L	16	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Copper	19.6	18	ug/L	9	NOV issued 2/2/04
3/13/2002	Mar-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
3/13/2002	Mar-02	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Mercury	0.9	0.025	ug/L	3,500	NOV issued 2/2/04
5/1/2002	May-02	Daily	Mercury	0.9	0.12	ug/L	650	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Zinc	55.3	38	ug/L	46	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Copper	25.8	18	ug/L	43	NOV issued 2/2/04
5/8/2002	May-02	Daily	Dichlorobromomethane	45	22	ug/L	105	NOV issued 2/2/04
5/15/2002	May-02	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/16/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	30-day	Coliform	130	23	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	30-day	Coliform	49	23	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	7-day median	Coliform	11	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	30-day	Coliform	27	23	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
5/20/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/21/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/22/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/23/2002	May-02	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
6/12/2002	Jun-02	Monthly	Copper	56.1	18	ug/L	212	NOV issued 2/2/04
6/12/2002	Jun-02	Daily	Copper	56.1	52	ug/L	8	NOV issued 2/2/04
8/7/2002	Aug-02	Monthly	Cyanide	60	0.41	ug/L	14,534	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Cyanide	60	0.99	ug/L	5,961	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Nickel	17.1	15.2	ug/L	13	NOV issued 2/2/04
8/12/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	Daily	Dichlorobromomethane	23.1	22	ug/L	5	NOV issued 2/2/04
8/16/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/17/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/18/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/31/2002	Aug-02	Monthly	Zinc	57.9**	38	ug/L	52	NOV issued 2/2/04
9/4/2002	Sep-02	Monthly	Nickel	7.6	5.3	ug/L	43	NOV issued 2/2/04
9/16/2002	Sep-02	Daily Ave.	Turbidity	2.7	2	NTU	NA	NOV issued 2/2/04
10/23/2002	Oct-02	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
10/28/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
10/29/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
10/30/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
10/31/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/1/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/2/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/3/2002	Nov-02	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Nickel	77	5.3	ug/L	1,353	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Nickel	77	15.2	ug/L	407	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Zinc	161.9	38	ug/L	326	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Dichlorobromomethane	54.9	22	ug/L	150	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Zinc	161.9	95	ug/L	70	NOV issued 2/2/04
1/3/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/4/2003	Jan-03	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/5/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
1/6/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/7/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	Monthly	Zinc	44.7	38	ug/L	18	NOV issued 2/2/04
1/8/2003	Jan-03	Monthly	Nickel	5.8	5.3	ug/L	9	NOV issued 2/2/04
1/9/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/10/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/23/2003	Jan-03	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
2/5/2003	Feb-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Dichlorobromomethane	69.7	22	ug/L	217	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Selenium	3.8**	2.9	ug/L	31	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Zinc	49.1**	38	ug/L	29	NOV issued 2/2/04
3/4/2003	Mar-03	Monthly	Nickel	5.5	5.3	ug/L	4	NOV issued 2/2/04
3/16/2003	Mar-03	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
3/17/2003	Mar-03	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 2/2/04
5/7/2003	May-03	Monthly	Mercury	0.3	0.025	ug/L	1,100	NOV issued 2/2/04
5/7/2003	May-03	Daily	Dichlorobromomethane	67	22	ug/L	205	NOV issued 2/2/04
5/7/2003	May-03	Daily	Mercury	0.3	0.12	ug/L	150	NOV issued 2/2/04
6/11/2003	Jun-03	Monthly	Zinc	41.8	38	ug/L	10	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Dichlorobromomethane	58.9	22	ug/L	168	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Selenium	6.6	2.9	ug/L	128	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Zinc	66.2	38	ug/L	74	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Dibromochloromethane	35.2	34	ug/L	4	NOV issued 2/2/04
9/3/2003	Sep-03	Monthly	Zinc	45.5	38	ug/L	20	NOV issued 2/2/04
10/1/2003	Oct-03	Monthly	Zinc	51.6	38	ug/L	35	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
11/5/2003	Nov-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04
11/5/2003	Nov-03	Daily	Dichlorobromomethane	91.9	22	ug/L	318	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Selenium	3.8	2.9	ug/L	31	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Dibromochloromethane	40.7	34	ug/L	20	NOV issued 2/2/04
12/3/2003	Dec-03	Monthly	Nickel	10.8	5.3	ug/L	104	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Bis(2-ethylhexyl)phthalate	36.7	5.9	ug/L	522	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Dichlorobromomethane	76.3	22	ug/L	247	NOV issued 11/30/04
2/4/2004	Feb-04	Monthly	Dibromochloromethane	43.3	34	ug/L	27	NOV issued 11/30/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
7/29/2004	Jul-04	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 11/30/04
10/18/2004	Oct-04	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 06/21/05
1/10/2005	Jan-05	Daily Ave.	Turbidity	2.9	2	NTU	NA	NOV issued 06/21/05
1/14/2005	Jan-05	30-day	Coliform	110	23	MPN/100 mL	NA	NOV issued 06/21/05
1/26/2005	Jan-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 06/21/05
2/20/2005	Feb-05	30-day	Coliform	33	23	MPN/100 mL	NA	NOV issued 06/21/05
2/22/2005	Feb-05	30-day	Coliform	540	23	MPN/100 mL	NA	NOV issued 06/21/05
3/17/2005	Mar-05	Maximum	Chronic Toxicity	1.8	1	TUc	NA	NOV issued 06/21/05
6/25/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/25/2005	Jun-05	30-day	Coliform	30	23	MPN/100 mL	NA	Verbal 11/28/05
6/26/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/27/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/28/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/29/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/30/2005	Jun-05	7-day median	Coliform	8	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/1/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/2/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/3/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/4/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/5/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/6/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05

E. Planned Changes to Treatment Systems

1. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. The addition of iron salt improved removal of copper (18.0 µg/L to 26.5 µg/L), nickel (9.7 µg/L to 7.1 µg/L), and zinc (69.0 µg/L to 57.1 µg/L) since November 2005. The effluent concentration of zinc (57.1 µg/L to 18.5 µg/L) was further reduced between February 2006 and August 2006. Neither copper (detection limit: 6 µg/L) nor nickel (detection limit: 10 µg/L) was detected between February 2006 and August 2006. Permanent facilities for iron salt addition will be completed in November 2007. The final effluent concentrations of these three metals are expected to be further reduced.
2. To date the City has invested \$29.5 million for the Upgrades and a new Influent Headworks Projects (Phase I) and the Capacity Upgrades (Phase II) projected budget is currently \$22 million. Phase II, which is expected to be completed in 2009, constructs an additional secondary treatment plant capacity up to 4 MGD in order to accommodate current and future flow to the Facility.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

Table 4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	<u>Existing:</u> Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and wet land (WET).

Discharge Point	Receiving Water Name	Beneficial Use(s)
	Pacific Ocean, Nearshore ³	<p><u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), Preservation of Biological Habitats (BIOL), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL).</p>

Requirements of this Order implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon fresh and saltwater criteria.

- a. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.

- b. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives

³ Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.

are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the saltwater ammonia water objective will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in this Fact Sheet, and Attachment M).

The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

2. **Enclosed Bay and Estuaries Policy.** The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that *"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

3. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.
4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
6. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
7. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be

consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations⁴ section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

The 2006 303(d) list of impaired waters classifies the Santa Clara River Estuary as impaired by Chem A (unknown source), coliform bacteria and toxaphene (nonpoint source).

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** Section 133 of 40 CFR establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.
2. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR, Section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 in State Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

The Discharger developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Water Board's (Order No. 97-03-DWQ).

3. **Sanitary Sewer Overflows.** The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary

⁴ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Sections VI.C.3.b, VI.C.4, and VI.C.6. are intended to be consistent with the requirements in the SSO WDR. The Regional Water Board recognizes that there are areas of overlapping interest between the NPDES permit conditions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order N0. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittee under the SSO WDR for compliance purposes, as satisfying the requirements in Sections .C.3.b, VI.C.4, and VI.C.6, provided for any more specific or stringent provisions enumerated in this Order, have also been addressed.

4. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA), to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about the Santa Clara River Watershed and other watersheds in the region can be obtained from the Regional Water Board's web site at <http://www.waterboards.ca.gov/losangeles> and clicking on the word "Watersheds".

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Board 's plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of

tertiary-treated wastewater through Discharge Points 001 and 002 only. It does not authorize any other types of discharges.

2. Pursuant to Chapter I, Part A of the Enclosed Bays and Estuaries Policy, the discharge of treated wastewater to the Estuary is prohibited after December 31, 2018, unless there has been a determination from responsible resource agencies that sustenance flow is required to support endangered species habitat.
3. The discharge to the Estuary must be removed as early as practicable, and to facilitate this, it is required that an incremental decrease of 1 mgd occurs per year, beginning in 2008.
4. Discharge of wastewater at a location different from that described in this Order is prohibited.
5. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
6. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD.
7. The Discharger shall not cause degradation of any water supply.
8. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133.

2. Applicable Technology-Based Effluent Limitations

This facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅20°C, TSS, and pH as summarized in Table F-5. Previous Order No. 00-143 established technology-based effluent limits to meet applicable secondary treatment standards. These effluent limitations have been carried over from the previous

Order to avoid backsliding. Furthermore, mass-based effluent limitations based on a design flow rate of 14 MGD are also included. The following table summarizes the technology-based effluent limitations for the discharge from the Facility:

**Summary of Technology-based Effluent Limitations
 Effluent Transfer Station**

Table 5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	20	30	45	--	--
	lbs/day	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in the Section IV.C.2. of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles River (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Santa Clara River Estuary are summarized in Section III.C.1. of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

a. Biochemical Oxygen Demand (BOD) and Suspended solids

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady supply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR, Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

- i. the 30-day average shall not exceed 30 mg/L; and,
- ii. the 7-day average shall not exceed 45 mg/L.

The Ventura WRF provides tertiary treatment, as such, the limits in the permit being more stringent than secondary treatment requirements are based on Best Professional Judgment. The Facility achieves solids removal that are better than secondary-treated wastewater by adding chemical coagulants to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the weekly average, and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Those limits were all included in the previous permit (Order No. 00-143) and the Discharger has been able to meet all three limits (monthly average, the

weekly average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the Facility also has a percent removal requirement for these two constituents. In accordance with 40 CFR, Sections 133.102(a)(3) and 133.102(b)(3), the 30-day (monthly) average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day (monthly) average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day (monthly) average values of the effluent pollutant concentrations for a given time period

b. Settleable solids

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

c. Oil and grease

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day

average limitation, because spikes that occur under a 7-day average scheme could cause visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

d. Residual chlorine

Disinfection of wastewaters with chlorine produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day (monthly) average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

e. Total Dissolved Solids, Chloride, Sulfate, and Boron

The effluent discharge from the Facility flows into the Estuary. Page 3-12 of the Basin Plan indicates that there is no waterbody specific objectives for TDS, chloride, sulfate and boron.

f. Methylene Blue Activated Substances (MBAS)

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface and ground waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of both surface and ground waters.

Given the nature of the facility (a POTW) which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for prohibition of floating material such as foams and scums. Therefore an effluent limitation is required based upon Best Professional Judgement.

g. Total inorganic nitrogen ($NO_2 + NO_3$ as N)

Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments, ex. algae⁵.

Although there are no waterbody specific objectives for nitrogen in the Estuary, the discharge has reasonable potential to exceed the numeric Nitrate plus Nitrite as nitrogen 10 mg/L of water quality objective (WQO) specified in the Basin Plan page 3-11. An effluent limitation is required based upon Best Professional Judgement. Therefore, the Discharger will have to meet the 10 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time.

h. Nitrite as Nitrogen

Chapter 3 of the Basin Plan (page 3-11) contains the following water quality objective, "Waters shall not exceed the 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen ($NO_3-N + NO_2-N$), 45 mg/L as nitrate (NO_3), 10 mg/L as nitrate-nitrogen (NO_3-N), or 1 mg/L as nitrite-nitrogen (NO_2-N) or as otherwise designated in Table 3-8." The Discharger will have to meet the 1 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time. See the detailed explanation available in Footnote 1 on Page F-5.

i. Ammonia as Nitrogen

Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. There is no groundwater recharge in this reach. Ammonia also combines with chlorine (often both are present in

⁵ Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on March 4, 2004, by the Regional Water Board with the adoption of Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

(i). Freshwater Ammonia Criteria Maximum Concentration (CMC)

The Facility discharges into a receiving waterbody that has "MIGR" beneficial use designation. It is assumed that salmonids may be present in waters designated in the Basin Plan as "MIGR" and that salmonids cannot be absent in water not designated in the Basin Plan as "MIGR," in the absence of additional information to the contrary. Since the receiving water has "MIGR" designation, it will be assumed that salmonids are present in the water.

The one-hour average objective according to the Basin Plan amendment will be set as the CMC or equivalent to the Maximum Daily Effluent Limitation (MDEL) for ammonia nitrogen in mg/L. For

waters not designated COLD and/or MIGR, the CMC or MDEL shall not exceed the values described in the equation below:

$$\text{One-hour Average Concentration} = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

(ii). Freshwater Ammonia Criteria Continuous Concentration (CCC)

The 30-day average objective according to the Basin Plan amendment Resolution No. 2002-011 will be set as the CCC or equivalent to the Average Monthly Effluent Limitation (AMEL) for ammonia nitrogen in mg/L. The Facility discharges into a receiving water that has a “SPWN” beneficial use designation. For freshwaters designated SPWN, the thirty-day average concentration of total ammonia as nitrogen (in mg/L) shall not exceed the values described in the equation below:

$$\text{30-day Average Concentration} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * \text{MIN} \left(2.85, 1.45 * 10^{0.028 * (25 - T)} \right)$$

Where T = temperature expressed in °C.

The 30-day average objective⁶ is dependent on pH and temperature. At lower temperatures, the 30-day average objective also is dependent on the presence or absence of early life stages of fish (ELS). Water bodies with Basin Plan designation of “SPWN” support high quality aquatic habitats suitable for reproduction and early development of fish and, therefore waterbodies are designated as ELS present waters.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the freshwater ammonia water objective will not be used to calculate the final ammonia effluent limitations for the Facility.

⁶ This is the current Basin Plan definition of the 30-day average objective, according to the Ammonia Basin Plan Amendment, Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of “Aquatic Life,”* adopted by the Los Angeles Regional Water Board on April 25, 2002. It will be superseded by Resolution No. 2005-014, adopted by the Regional Water Board on December 1, 2005, following State Water Board, and Office of Administrative Law approval of the Ammonia Basin Plan Amendment. This new Resolution will implement ELS Provision as described under “implementation”, subparagraph 3. Currently, the Discharger’s receiving waterbody is designated as ELS already. Whether the new Resolution No. 2005-014 would be approve or disapprove by EPA, the calculated effluent limitation based upon Resolution No. 2002-011 definition of the 30-day average objective will remain the same until the receiving water is reclassified as being “ELS Absent” condition.

(iii). Saltwater Ammonia Criteria Maximum Concentration (CMC)

$$\text{Total ammonia} = 0.233 + 0.233 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature ($^{\circ}$ K)
 $pK_a^S = 0.116 * I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 * S(1000 - 1.005109S)^{-1}$, the molal ionic strength of saltwater based on S, S = salinity

(iv). Saltwater Ammonia Criteria Continuous Concentration (CCC)

$$\text{Total ammonia} = 0.035 + 0.035 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature ($^{\circ}$ K)
 $pK_a^S = 0.116 * I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 * S(1000 - 1.005109S)^{-1}$, the molal ionic strength of saltwater based on S, S = salinity

Ammonia-N, other Nitrogen Species – Reasonable potential analysis (RPA) was conducted for Ammonia as nitrogen, Nitrate plus Nitrite as nitrogen, Nitrate as nitrogen, and Nitrite as nitrogen using the Discharger's effluent data from their self monitoring reports. The RPA compares the effluent data with the Basin Plan WQOs. The Discharger's effluent exceeded the Basin Plan WQOs for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as nitrogen during the last permit cycle. In addition, the Facility currently only has a full nitrification and a partial denitrification process. Once the full nitrification and denitrification process is on line, the effluent nitrate concentration shall be further reduced. However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future.

Based on this information, the Regional Water Board has determined that there is a reasonable potential that the discharge will cause or contribute to an exceedance of the Basin Plan WQOs and, consistent with 40 CFR 122.44(d), the Order contains numeric effluent limitations for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as Nitrogen.

Ammonia saltwater criteria are salinity, pH, and temperature dependent. Because there is such a wide temperature fluctuation in the Estuary during summer and winter months (74.5°F vs. 52.2°F), seasonal ammonia effluent limitations have been placed into the Order. The summer and winter ammonia effluent limitations cover May to October and November to April, respectively. The lowest monthly average and daily maximum of total ammonia projected among receiving water quality monitoring stations (R-001 to R-005), based on three years of monthly receiving water data, were used as monthly average and daily maximum ammonia effluent concentrations in this Order. The calculations are available in Attachment M.

j. Coliform/Bacteria

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

i. Effluent Limitations:

- The 7 day median number of coliform organisms at some point in the treatment process must not exceed 2.2 Most Probable Number (MPN) per 100 milliliters;
- The number of coliform organisms must not exceed 23 MPN per 100 milliliters in more than one sample within any 30-day period; and,
- No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements established by the Department of Health Services. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

ii. Receiving Water Limitation

- Geometric Mean Limits
 - * E.coli density shall not exceed 126/100 mL.
 - * Fecal coliform density shall not exceed 200/100 mL.

- Single Sample Limits
 - * E.coli density shall not exceed 235/100 mL.
 - * Fecal coliform density shall not exceed 400/100 mL.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Water Board on October 25, 2001. The Resolution was approved by State Water Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

k. pH

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR section 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan (page 3-15) which reads "the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.

l. Temperature

The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff and comments previously received from staff of California Department of Fish and Game entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F is included in the tentative Order. The temperature limit is consistent with the limits in other POTW permits in the region. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature is not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective.

m. Turbidity

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period," is based on the Basin Plan (page 3-17) and Section 60301.320 of Title 22, Chapter 3, "Filtered Wastewater" of the California Code of Regulations.

n. Radioactivity

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The existing effluent limitation for radioactivity which reads, "Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life." is based on the *Radioactivity substances* specified in the Basin Plan in order to protect the surface water beneficial use and human health.

o. Biostimulatory Substances

Biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth. In addition to being aesthetical unpleasant (causing taste, odor, or color problems), this excessive growth can also cause other water quality problems. The limits for biostimulatory substances are based on the Basin Plan (page 3-8) narrative, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses."

p. CTR and SIP

Priority pollutant water quality criteria in the CTR are applicable to the Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply in accordance with 40 CFR § 131.38(c)(3): freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this condition occurs 95 percent or more of the time; saltwater criteria apply at salinities of 10 ppt

and above at locations where this occurs 95 percent or more of the time; and at salinities between 1 and 10 ppt the more stringent of the two apply. The CTR criteria for freshwater or human health for consumption of organisms, whichever is most stringent, are used to prescribe the effluent limitations in the tentative Order to protect the beneficial uses of the Estuary.

Some water quality criteria are hardness dependent. The Discharger provided hardness data collected from the Estuary. The receiving water hardness values ranged from 250 to 7500 mg/L. Since most of the receiving water hardness data are greater than 400 mg/L as CaCO₃, in accordance with the SIP/CTR procedures, the 400 mg/L hardness cap will be used in calculating metals criteria for evaluation of reasonable potential.

The following Table summarizes the applicable water quality criteria for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for the tentative Order.

Table 6. Applicable Water Quality Criteria

CTR No.	Constituent	Most Stringent Criteria µg/L	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
6	Copper	3.7	52	31	5.8	3.7	--	--
7	Lead	8.5	476	19	221	8.5	--	--
8	Mercury	0.051	--	--	--	--	--	0.051
11	Silver	2.2	44	--	2.2	--	--	--
13	Zinc	86	388	388	95	86	--	--
14	Cyanide	1	22	5.2	1	1	--	220000
23	Chlorodibromomethane	34	--	--	--	--	--	34
27	Dichlorobromomethane	46	--	--	--	--	--	46
68	Bis(2-Ethylhexyl) Phthalate	5.9	--	--	--	--	--	5.9

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water

quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

In accordance with section 13267 of the CWC, the Regional Water Board required the Discharger to conduct an interim monitoring program of the effluent and the receiving water from January 2001 to April 2003 on a quarterly basis. At least nine data sets for effluent and receiving water monitoring for the period from January 2001 through April 2003 were available. In addition, samples for certain priority pollutants were collected as required by the existing MRP; these data were also used to complete the RPA.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Based on the RPA, pollutants that demonstrate reasonable potential are copper, nickel, and bis(2-ethylhexyl)phthalate. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

Table 7. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	58.2	8.55	No	C>B, C>MEC
2	Arsenic	150	1.9	24.9	No	C>B, C>MEC
3	Beryllium	Narrative	0.04	0.82	No	No criteria
4	Cadmium	3.75	0.3	<4.0	No	C>B, C>MEC
5a	Chromium III	321	ND<10	--	No	C>MEC
5b	Chromium VI	11.4	8.05	--	No	C>MEC
6	Copper	3.7	17	14.8	Yes	MEC>C
7	Lead	8.5	63	<5.0	Yes	MEC>C
8	Mercury	0.051	0.7	--	Yes	MEC>C
9	Nickel	82.13	8	21.4	No	C>B, C>MEC
10	Selenium	71	6.7	12.7	No ⁷	C>B, C>MEC
11	Silver	2.2	9.3	15.8	Yes	MEC>C
12	Thallium	6.3	0.6	<1.0	No	C>B, C>MEC
13	Zinc	188.77	239	117	Yes	MEC>C
14	Cyanide	5.2	8	100	Yes	MEC>C
15	Asbestos	7x10 ⁶ fibers/L	No sample	--	No	N/A
16	2,3,7,8-TCDD (Dioxin)	1.4x10 ⁻⁰⁸	<8.8x10 ⁻⁰⁶	<0.00062- <0.00089	No	All ND in Effluent
17	Acrolein	780	<0.6	<0.60	No	C>B, C>MEC
18	Acrylonitrile	0.66	<0.5	<0.50	No	C>B, C>MEC
19	Benzene	71	0.23	<0.20	No	C>B, C>MEC
20	Bromoform	360	4.9	0.70	No	C>B, C>MEC
21	Carbon Tetrachloride	4.4	<0.12	<0.12	No	C>B, C>MEC
22	Chlorobenzene	21,000	<0.2	<0.20	No	C>B, C>MEC
23	Dibromochloromethane	34	43.3	40.7	Yes	MEC>C
24	Chloroethane	No criteria	<0.52	<0.52	No	No criteria
25	2-chloroethyl vinyl ether	No criteria	<0.13	<0.13	No	No criteria
26	Chloroform	No criteria	122	10.6	No	No criteria
27	Dichlorobromomethane	46	91.9	2.9	Yes	MEC>C
28	1,1-dichloroethane	No criteria	<0.07	<0.07	No	No criteria
29	1,2-dichloroethane	99	<0.03	<0.03	No	C>B, C>MEC
30	1,1-dichloroethylene	3.2	<0.13	<0.13	No	C>B, C>MEC
31	1,2-dichloropropane	39	<0.04	<0.34	No	C>B, C>MEC
32	1,3-dichloropropylene	1,700	<0.34	<0.34	No	C>B, C>MEC
33	Ethylbenzene	29,000	<0.34	<0.34	No	C>B, C>MEC
34	Methyl bromide	4,000	<0.5	<0.50	No	C>B, C>MEC
35	Methyl chloride	No criteria	<0.08	<0.08	No	No criteria

⁷ Step 6 of SIP, page 4, states that if B is greater than C and the pollutant was not detected in any of the effluent samples, effluent limitation is not required.

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
36	Methylene chloride	1,600	<0.25	<0.25	No	C>B, C>MEC
37	1,1,2,2-tetrachloroethane	11	<0.03	<0.03	No	C>B, C>MEC
38	Tetrachloroethylene	8.85	<0.03	<0.03	No	C>B, C>MEC
39	Toluene	200,000	<0.2	1.3	No	C>B, C>MEC
40	Trans 1,2-Dichloroethylene	140,000	<0.1	<0.1	No	C>B, C>MEC
41	1,1,1-Trichloroethane	200	<0.03	<0.03	No	C>B, C>MEC
42	1,1,2-Trichloroethane	42	<0.02	<0.02	No	C>B, C>MEC
43	Trichloroethylene	81	<0.12	<0.12	No	C>B, C>MEC
44	Vinyl Chloride	525	<0.18	<0.18	No	C>B, C>MEC
45	2-chlorophenol	400	<3.3	<3.3	No	C>B, C>MEC
46	2,4-dichlorophenol	790	<2.7	<2.7	No	C>B, C>MEC
47	2,4-dimethylphenol	2,300	<2.7	<2.7	No	C>B, C>MEC
48	2-methyl-4,6-dinitrophenol	765	<10	<10	No	C>B, C>MEC
49	2,4-dinitrophenol	14,000	<42	<42	No	C>B, C>MEC
50	2-nitrophenol	No criteria	<3.6	<3.6	No	No criteria
51	4-nitrophenol	No criteria	<2.4	<2.4	No	No criteria
52	3-Methyl-4-Chlorophenol	No criteria	<3	<3.0	No	No criteria
53	Pentachlorophenol	8.2	<3.6	<3.6	No	C>B, C>MEC
54	Phenol	4,600,000	<1.5	<1.5	No	C>B, C>MEC
55	2,4,6-trichlorophenol	6.5	<2.7	<2.7	No	C>B, C>MEC
56	Acenaphthene	2,700	<2	<2.0	No	C>B, C>MEC
57	Acenaphthylene	No criteria	<1.9	<1.9	No	No criteria
58	Anthracene	110,000	<1.9	<1.9	No	C>B, C>MEC
59	Benzidine	0.00054	<4.4	<4.4	No	All ND in Effluent
60	Benzo(a)Anthracene	0.049	<7.8	<7.8	No	All ND in Effluent
61	Benzo(a)Pyrene	0.049	<2.5	<2.5	No	All ND in Effluent
62	Benzo(b)Fluoranthene	0.049	<4.8	<4.8	No	All ND in Effluent
63	Benzo(ghi)Perylene	No criteria	<4.1	<4.1	No	No criteria
64	Benzo(k)Fluoranthene	0.049	<2.5	<2.5	No	All ND in Effluent
65	Bis(2-Chloroethoxy) methane	No criteria	<5.3	<5.3	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	<5.7	<5.7	No	All ND in Effluent
67	Bis(2-Chloroisopropyl) Ether	170,000	<5.7	<5.7	No	C>B, C>MEC
68	Bis(2-Ethylhexyl)Phthalate	5.9	36.7	2.92	Yes	MEC>C
69	4-Bromophenyl Phenyl Ether	No criteria	<1.9	<1.9	No	No criteria
70	Butylbenzyl Phthalate	5,200	<2.5	<2.5	No	C>B, C>MEC
71	2-Chloronaphthalene	4,300	<1.9	<1.9	No	C>B, C>MEC
72	4-Chlorophenyl Phenyl Ether	No criteria	<4.2	<4.2	No	No criteria
73	Chrysene	0.049	<2.0	<2.0	No	All ND in Effluent
74	Dibenzo(a,h) Anthracene	0.049	<2.5	<2.5	No	All ND in Effluent
75	1,2-Dichlorobenzene	17,000	<1.9	<1.9	No	C>B, C>MEC
76	1,3-Dichlorobenzene	2,600	<1.9	<1.9	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
77	1,4-Dichlorobenzene	2,600	<4.4	<4.4	No	C>B, C>MEC
78	3-3'-Dichlorobenzidine	0.077	<16.5	<16.5	No	All ND in Effluent
79	Diethyl Phthalate	120,000	<2.2	<2.2	No	C>B, C>MEC
80	Dimethyl Phthalate	2,900,000	<1.6	<1.6	No	C>B, C>MEC
81	Di-n-Butyl Phthalate	12,000	<2.5	<2.5	No	C>B, C>MEC
82	2-4-Dinitrotoluene	9.1	<5.7	<5.7	No	C>B, C>MEC
83	2-6-Dinitrotoluene	No criteria	<1.9	<1.9	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	<2.5	<2.5	No	No criteria
85	1,2-Diphenylhydrazine	0.54	<10	<10	No	All ND in Effluent
86	Fluoranthene	370	<2.2	<2.2	No	C>B, C>MEC
87	Fluorene	14,000	<1.9	<1.9	No	C>B, C>MEC
88	Hexachlorobenzene	50	<1.9	<1.9	No	C>B, C>MEC
89	Hexachlorobutadiene	50	<0.9	<0.9	No	C>B, C>MEC
90	Hexachlorocyclopentadiene	17,000	<1.9	<1.9	No	C>B, C>MEC
91	Hexachloroethane	8.9	<1.6	<1.6	No	C>B, C>MEC
92	Indeno(1,2,3-cd)Pyrene	0.049	<3.7	<3.7	No	All ND in Effluent
93	Isophorone	600	<2.2	<2.2	No	C>B, C>MEC
94	Naphthalene	No criteria	<10	<10	No	No criteria
95	Nitrobenzene	1,900	<1.9	<1.9	No	C>B, C>MEC
96	N-Nitrosodimethylamine	8.1	<1.5	<1.5	No	C>B, C>MEC
97	N-Nitrosodi-n-Propylamine	1.4	<10	<10	No	All ND in Effluent
98	N-Nitrosodiphenylamine	16	<10	<10	No	C>B, C>MEC
99	Phenanthrene	No criteria	<5.4	<5.4	No	No criteria
100	Pyrene	11,000	<1.9	<1.9	No	C>B, C>MEC
101	1,2,4-Trichlorobenzene	No criteria	<1.9	<1.9	No	No criteria
102	Aldrin	0.00014	<0.004	<0.004	No	All ND in Effluent
103	Alpha-BHC	0.013	<0.011	<0.003	No	C>B, C>MEC
104	Beta-BHC	0.046	<0.007	<0.006	No	C>B, C>MEC
105	Gamma-BHC (Lindane)	0.063	<0.007	<0.004	No	C>B, C>MEC
106	delta-BHC	No criteria	<0.039	<0.009	No	No criteria
107	Chlordane	0.00059	<0.360	<0.014	No	All ND
108	4,4'-DDT	0.00059	<4.7	<4.7	No	C>B, C>MEC
109	4,4'-DDE	0.00059	<5.6	<5.6	No	All ND in Effluent
110	4,4'-DDD	0.00084	<2.8	<2.8	No	All ND in Effluent
111	Dieldrin	0.00014	<0.009	0.007	No	All ND in Effluent
112	Alpha-Endosulfan	0.056	<0.038	<0.014	No	C>B, C>MEC
113	Beta-Endosulfan	0.056	<0.029	<0.014	No	C>B, C>MEC
114	Endosulfan Sulfate	240	<0.066	<0.066	No	C>B, C>MEC
115	Endrin	0.036	<0.014	<0.006	No	C>B, C>MEC
116	Endrin Aldehyde	0.81	<0.023	<0.023	No	C>B, C>MEC
117	Heptachlor	0.00021	<0.014	<0.003	No	All ND in Effluent

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
118	Heptachlor Epoxide	0.00011	<0.083	<0.083	No	All ND in Effluent
119	PCB 1016	0.00017	<0.39	<0.39	No	All ND in Effluent
120	PCB 1221	0.00017	<0.39	<0.65	No	All ND in Effluent
121	PCB 1232	0.00017	<0.39	<0.65	No	All ND in Effluent
122	PCB 1242	0.00017	<0.39	<0.65	No	All ND in Effluent
123	PCB 1248	0.00017	<0.39	<0.65	No	All ND in Effluent
124	PCB 1254	0.00017	<0.39	<0.65	No	All ND in Effluent
125	PCB 1260	0.00017	<0.39	<0.65	No	All ND in Effluent
126	Toxaphene	0.00075	<0.05	<10	No	All ND in Effluent

4. WQBEL Calculations

- a. Water quality-based effluent limits (final) are based on monitoring results and following the calculation process outlined in Section 1.4 of the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California. A table providing the calculation for all applicable WQBELs for this Order is provided in Attachment J of this Order.
- b. WQBELs Calculation Example

Using copper as an example, the following demonstrates how WQBELs based on human health criterion were established for this Order. The process for developing these limits is in accordance with Section 1.4 of the SIP. Attachment I summarizes the development and calculation of all WQBELs for this Order using the process described below.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

the effluent concentration allowance (ECA) using the following steady state equation:

$$\begin{aligned}
 ECA &= C + D(C-B) && \text{when } C > B, \text{ and} \\
 ECA &= C && \text{when } C \leq B,
 \end{aligned}$$

where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 400 mg/L (as CaCO₃) was used for development of hardness-dependent criteria.

D = The dilution credit, and
 B = The ambient background concentration

For this Order, dilution was not allowed due to nature of the receiving water and quantity of the effluent, therefore:

$$ECA = C$$

For copper, the applicable saltwater quality criteria are:

$$ECA_{acute} = 5.78 \mu\text{g/L}$$

$$ECA_{chronic} = 3.73 \mu\text{g/L}$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} \times Multiplier_{acute}$$

$$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

<u>No. of Samples</u>	<u>CV</u>	<u>Multiplier_{acute}</u>	<u>Multiplier_{chronic}</u>
25	0.64	0.3026	0.5064

$$LTA_{acute} = 5.78 \mu\text{g/L} \times 0.3026 = 1.75 \mu\text{g/L}$$

$$LTA_{chronic} = 3.73 \mu\text{g/L} \times 0.5064 = 1.89 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For copper, the most limiting LTA was the LTA_{acute}

$$LTA = 1.75 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation (MDEL). The multiplier is statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides the pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier}$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier}$$

AMEL multipliers are based on 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP.

<u>No. of Samples</u>	<u>CV</u>	<u>Multiplier_{MDEL}</u>	<u>Multiplier_{AMEL}</u>
25	0.64	3.3044	1.5948

$$AMEL_{aquatic\ life} = 1.75 \times 1.5948 = 2.79 \mu\text{g/L}$$

$$MDEL_{aquatic\ life} = 1.75 \times 3.3044 = 5.78 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$$AMEL_{human\ health} = ECA_{human\ health}$$

For copper:

$$AMEL_{human\ health} = \text{NONE}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to $Multiplier_{AMEL}$. Table 2 of the SIP provides

pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

A copper $MDEL_{\text{human health}}$ could not be calculated because a copper $AMEL_{\text{human health}}$ was not available. However, for illustrative purposes, if a $AMEL_{\text{human health}}$ was available, the following data and equation would have been used to develop the $MDEL_{\text{human health}}$:

No. of Samples Per Month	CV	Multiplier _{MDEL}	Multiplier _{AMEL}	Ratio
25	0.64	3.3044	1.5948	2.0720

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times \text{Multiplier}_{MDEL} / \text{Multiplier}_{AMEL}$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health water quality based effluent limit for this Order.

For copper:

<u>AMEL_{aquatic life}</u>	<u>MDEL_{aquatic life}</u>	<u>AMEL_{human health}</u>	<u>MDEL_{human health}</u>
2.79 µg/L	5.78 µg/L	Not available	Not available

The lowest (most restrictive) effluent limits, those based on aquatic life criteria, were incorporated into this Order. Due to rounding of digits in the abovementioned calculation, the final limit for copper in this exercise is slightly different than the limit derived using the SIP spreadsheet, in which the numbers are not rounded off.

c. **Mass based limits**

40 CFR section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

d. **Final WQBELs**

Summaries of the WQBELs required by this Order are described in Table 8 below. Mass-based effluent limitations are based on a design capacity of 14 MGD.

**Summary of Water Quality-based Effluent Limitations
 Effluent Transfer Station**

Table 8. Summary of Water Quality-based Effluent Limitations

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	0.30
	lbs/day	5.3	35
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	0.53
	lbs/day	9.3	62
Nitrite + Nitrate as Nitrogen	mg/L	10	--
	lbs/day	1,200	--
Nitrite as Nitrogen	mg/L	1	--
	lbs/day	120	--
Nitrate as Nitrogen	mg/L	10	--
	lbs/day	1,200	--
Copper	µg/L	2.8	5.8
	lbs/day	0.33	0.68
Lead	µg/L	4.3	14
	lbs/day	0.50	1.6
Mercury	µg/L	0.051	0.10
	lbs/day	0.0060	0.012
Silver	µg/L	0.74	2.2
	lbs/day	0.087	0.26
Zinc	µg/L	37	95
	lbs/day	4.3	11

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Cyanide	µg/L	0.50	1.0
	lbs/day	0.059	0.12
Chlorodibromomethane	µg/L	34	93
	lbs/day	4.0	11
Dichlorobromomethane	µg/L	46	128
	lbs/day	5.4	15
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	12
	lbs/day	0.69	1.4

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the Facility’s effluent, or could have synergistic or additive effects. Also, because numeric limits for certain toxic constituents that did not show RP have been removed, the acute toxicity limit may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts. In addition, 12 out of the 85 chronic toxicity tests conducted from January 2003 through December 2006 exceeded the monthly median chronic toxicity trigger of 1.0 TUc. Although all 4 acute toxicity testing results reported during the term of the previous Order exhibited 100% survival rates and thus did not exceed any acute toxicity requirements, Regional Water Board staff determined that, pursuant to the SIP, reasonable potential exists for chronic toxicity. As such, the permit contains effluent trigger limitations for chronic toxicity.

The toxicity numeric effluent limitations are based on:

- a. 40 CFR 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;
- b. 40 CFR 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent

- limits using numeric water quality criterion;
- c. Basin Plan objectives and implementation provisions for toxicity;
 - d. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;
 - e. Whole Effluent Toxicity (WET) Control Policy July 1994; and,
 - f. Technical Support Document (several chapters and Appendix B).

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Water Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TU_c trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar chronic toxicity effluent limitation. This Order also contains a reopener to allow the Regional Water Board to modify the permit, if necessary, consistent with any new policy, law, or regulation.

a. Acute Toxicity Limitation:

The Dischargers may test for acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

b. Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TU_c for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the 1.0 TU_c chronic criterion should be expressed as a monthly median. The “median” is defined as the middle value in a distribution, above which and below which

lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limit: using 2.0 TU_c as the maximum daily limit; or using a statistical approach outlined in the TSD to develop a maximum daily effluent limitation. In this permit, neither maximum daily limitation nor trigger for chronic toxicity is prescribed.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. The effluent limitations for 117 priority pollutants are deleted because they did not show reasonable potential to cause or contribute to an excursion above the respective water quality standards. The new average monthly effluent limitations for copper, mercury, and cyanide that are less stringent than those in the previous permit are derived from the calculation in the SIP. The new daily maximum effluent limitations for copper, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate that are less stringent than those in the previous permit are derived from the calculation in the SIP. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

On October 28, 1968, the State Board adopted Resolution No. 68-16, *Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Water Boards. The State Board has, in State Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR, Section 131.12) require that all permitting actions be consistent with the federal antidegradation policy. Together, the State and Federal policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The provisions of this Order are consistent with the antidegradation policies.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS.

Restrictions on BOD, TSS, pH are discussed in Section IV.B. of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

**Summary of Final Effluent Limitations
 Effluent Transfer Station**

Table 9. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
BOD ₅ 20°C	mg/L	20	30	45	--	--	Existing
	lbs/day	2,300	3,500	5,300	--	--	
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--	Existing
	lbs/day	1,800	4,700	5,300	--	--	
pH	standard units	--	--	--	6.5	8.5	Existing
Oil and Grease	mg/L	10	--	15	--	--	Existing
	lbs/day	1,200	--	1,800	--	--	
Settleable Solids	ml/L	0.1	--	0.3	--	--	Existing
Total Residual Chlorine	mg/L	0.1	--	--	--	--	Existing
	lbs/day	12	--	--	--	--	
MBAS	mg/L	0.5	--	--	--	--	Basin Plan, RPA
	lbs/day	59	--	--	--	--	
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--	Basin Plan
	lbs/day	5.3	--	35	--	--	

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--	Basin Plan
	lbs/day	9.3	--	62	--	--	
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day	1,200	--	--	--	--	
Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan, BPJ
	lbs/day	1,200	--	--	--	--	
Nitrate as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day	1,200	--	--	--	--	
Copper	µg/L	2.8	--	5.8	--	--	CTR, SIP
	lbs/day	0.33	--	0.68	--	--	
Lead	µg/L	4.3	--	14	--	--	CTR, SIP
	lbs/day	0.50	--	1.6	--	--	
Mercury	µg/L	0.051	--	0.10	--	--	CTR, SIP
	lbs/day	0.0060	--	0.012	--	--	
Silver	µg/L	0.74	--	2.2	--	--	CTR, SIP
	lbs/day	0.087	--	0.26	--	--	
Zinc	µg/L	37	--	95	--	--	CTR, SIP
	lbs/day	4.3	--	11	--	--	
Cyanide	µg/L	0.50	--	1.0	--	--	CTR, SIP
	lbs/day	0.059	--	0.12	--	--	
Chlorodibromomethane	µg/L	34	--	93	--	--	CTR, SIP
	lbs/day	4.0	--	11	--	--	
Dichlorobromomethane	µg/L	46	--	128	--	--	CTR, SIP
	lbs/day	5.4	--	15	--	--	
Bis(2-ethylhexyl)phthalate	µg/L	5.9	--	12	--	--	CTR, SIP
	lbs/day	0.69	--	1.4	--	--	

E. Interim Effluent Limitations

Interim limits have been set as follows:

1. Copper, lead, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate have reasonable potential to exceed water quality criteria of these constituents. Therefore, final WQBELs are required. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL values shows that the Discharger may be unable to consistently comply with the AMEL established in this Order for copper, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)

phthalate. As a result, the tentative Order contains interim limitations for copper, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate.

2. Section 131.38(e) of 40 CFR provides conditions under which interim effluent limitations and compliance schedules may be issued. The SIP allows inclusion of an interim limitation with a specific compliance schedule included in an NPDES permit for priority pollutants if the limitation for the priority pollutant is CTR-based. Because the CTR-based effluent limitations for copper, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate appear infeasible for the Discharger to achieve at this time, interim limitations are contained in the tentative Order.
3. The SIP requires that the Regional Water Board establish other interim requirements such as requiring the discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations.
4. The Discharger may not be able to achieve immediate compliance with the new non-CTR-based limits for ammonia nitrogen prescribed in this Order. Based on effluent and receiving monitoring data submitted by the Discharger, a comparison between the MEC (3.6 mg/L) and calculated AMEL (0.045 mg/L for summer and 0.079 for winter) and MDEL (0.30 mg/L for summer and 0.53 for winter) values shows that the Discharger may not be able to consistently comply with the AMEL and MDEL established in this Order for ammonia nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.
5. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.6 mg/L) and the Basin Plan WQO for nitrate as nitrogen (10 mg/L), shows that the Discharger may be unable to comply with the Basin Plan WQO established in this Order for nitrate as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.
6. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.8 mg/L) and the Basin Plan WQO for nitrate + nitrite as nitrogen (10 mg/L), shows that the Discharger may be unable to consistently comply with the Basin Plan WQO established in this Order for nitrate + nitrite as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.
7. The Discharger shall comply immediately with the following interim effluent limits until August 31, 2010. Thereafter, the Discharger shall comply with the

final limitations specified in Section IV.A.1.a. of this Order. The interim effluent limits were based upon effluent performance data, provided by the Discharger, collected between February 2003 and December 2006, and calculated by the *Minitab* program.

Table 10. Summary of Interim Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper ⁸	µg/L	--	17 ⁹	--	--
	lbs/day			--	--
Mercury ⁷	µg/L	0.43 ¹⁰	0.69 ⁹	--	--
	lbs/day			--	--
Silver ⁷	µg/L	5.1 ¹¹	9.3 ¹⁰	--	--
	lbs/day			--	--
Zinc ¹²	µg/L	145 ¹³	183 ¹²	--	--
	lbs/day			--	--
Cyanide ⁷	µg/L	--	8 ¹⁴	--	--
	lbs/day			--	--
Chlorodibromomethane ⁷	µg/L	--	43.3 ¹⁵	--	--
	lbs/day			--	--
Dichlorobromomethane ⁷	µg/L	--	92 ¹⁶	--	--
	lbs/day			--	--

⁸ Effluent values are assumed to be lognormally distributed for data sets containing all detects and non-detects.
⁹ Interim effluent limits of 27 and 55 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 17 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.
¹⁰ Interim effluent limits of 0.43 and 0.69 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O).
¹¹ Interim effluent limits of 5.1 and 15 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 9.3 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation.
¹² Effluent values are assumed to be normally distributed for data sets containing all detects and non-detects.
¹³ Interim effluent limits of 145 and 183 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O).
¹⁴ Interim effluent limits of 8.8 and 14 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 8 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.
¹⁵ Interim effluent limits of 39 and 50 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 43.3 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.
¹⁶ Interim effluent limits of 81 and 104 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 92 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Bis(2-ethylhexyl)phthalate ⁷	µg/L	--	37 ¹⁷	--	--
	lbs/day			--	--

F. Land Discharge Specifications

Not Applicable.

G. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 CFR § 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in the tentative Order are included to ensure protection of beneficial uses of the receiving water.

B. Groundwater

Not Applicable.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

¹⁷ Interim effluent limits of 16 and 37 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC is also 37 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.

A. Influent Monitoring

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program

Influent monitoring in this Order follows the influent monitoring requirements in the previous Order with minor modification. The monitoring frequencies for parameters have been increased due to RP with those parameters.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed Monitoring and Reporting Program (Attachment E). This provision requires compliance with the Monitoring and Reporting Program, and is based on 40 CFR 122.44(i), 122.62, 122.63, and 124.5. The Monitoring and Reporting Program is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board policies. The Monitoring and Reporting Program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the facility, will be required as shown on the proposed Monitoring and Reporting Program (Attachment E) and as required in the SIP.

The effluent monitoring in this Order follows the effluent monitoring requirements in the existing Order. The changes are summarized in the following table.

Table 11. Effluent Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Total residual chlorine	continuous	continuous ¹⁸
Total residual chlorine	--	5 days/week ¹⁹
Total waste flow	continuous	continuous ²⁰
Turbidity	continuous	Continuous ²⁰
Total and fecal coliform	daily	daily
Settleable solids	daily	daily
BOD ₅ 20°C	daily	daily
Suspended solids	daily	daily
Dissolved oxygen	daily	daily
Temperature	weekly	weekly
pH	weekly	weekly
Oil and grease	weekly	weekly
Total dissolved solids	monthly	monthly
Fluoride	monthly	monthly
Phosphate as P	monthly	monthly
Phosphorous	monthly	monthly
Ammonia nitrogen	monthly	monthly
Nitrate nitrogen	monthly	monthly
Nitrite nitrogen	monthly	monthly
Organic nitrogen	monthly	monthly
Total Kjeldahl nitrogen	monthly	monthly
Detergents (as MBAS)	monthly	monthly
Chlorophyll <i>a</i>	monthly	monthly
Cyanide	quarterly	monthly
Chronic toxicity	monthly	monthly
Acute toxicity	annually	annually
Aluminum	quarterly	semiannually
Antimony	quarterly	semiannually
Arsenic	quarterly	semiannually
Barium	quarterly	semiannually
Beryllium	quarterly	semiannually
Cadmium	quarterly	semiannually
Chromium VI	quarterly	semiannually

¹⁸ Total residual chlorine shall be continuously recorded. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak, minimum daily peak, and daily average from the recorded data and shall make available upon request of the Regional Water Board. The continuous monitoring data are not intended to be used for the compliance determination purposes.

¹⁹ Daily grab samples shall be collected at monitoring location M-001, Monday through Friday only, except for holidays. Analytical results of daily grab samples will be used to determine compliance with total residual chlorine effluent limitation. Furthermore, additional monitoring requirements as specified in section IV.A.2. shall be followed.

²⁰ Where continuous monitoring of a constituent is required, the following shall be reported:
 Total waste flow – Total daily and peak daily flow (24-hr basis);
 Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Cobalt	quarterly	semiannually
Copper	quarterly	monthly
Iron	quarterly	semiannually
Lead	quarterly	monthly
Mercury	quarterly	monthly
Molybdenum	quarterly	semiannually
Nickel	quarterly	semiannually
Selenium	quarterly	semiannually
Silver	quarterly	monthly
Thallium	quarterly	semiannually
Vanadium	quarterly	semiannually
Zinc	quarterly	monthly
Chlorodibromomethane	quarterly	monthly
Dichlorobromomethane	quarterly	monthly
Bis(2-ethylhexyl)phthalate	quarterly	monthly
Acetone	quarterly	semiannually
TCDD	semiannually	semiannually
Benzene	quarterly	semiannually
Bromoform	quarterly	semiannually
Carbon tetrachloride	quarterly	semiannually
Chloroform	quarterly	semiannually
Dichloromethane	quarterly	semiannually
Tetrachloroethylene	quarterly	semiannually
Phenols (chlorinated & non chlorinated)	quarterly	semiannually
PCBs	quarterly	semiannually
Aldrin	quarterly	semiannually
Dieldrin	quarterly	semiannually
Chlordane	quarterly	semiannually
Endrin	quarterly	semiannually
Heptachlor	quarterly	semiannually
Heptachlor epoxide	quarterly	semiannually
Endosulfan	quarterly	semiannually
Toxaphene	quarterly	semiannually
DDT	quarterly	semiannually
Total xylene	quarterly	semiannually
Remaining priority pollutants (excluding asbestos)	semiannually	semiannually
Pesticides ⁴	semiannually	semiannually
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228,	semiannually	semiannually

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
tritium, strontium-90 and uranium)		
Emerging chemicals ²¹	--	biannually
Endocrine disrupting chemicals ²²	--	biannually

The reduction of monitoring frequencies for priority pollutants listed in the above table is based on the fact that previous monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants with RP to exceed the WQOs is increased.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as ‘triggers’ for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan. The receiving water monitoring program in this Order includes the following modifications to the existing receiving water monitoring program:

- a. Monitoring for priority pollutants and chronic toxicity in the previous Order No. 00-143 was at Stations R-001, R-003, and R-005. Monitoring for these constituents in the renewal MRP are Stations R-003, R-005, and Station R-004 replacing Station R-001.

²¹ Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

²² Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. The analytical methods for these chemicals shall be approved by the DHS.

- b. The reduction of monitoring frequencies for priority pollutants listed in Table 12 is based on the fact that previous effluent monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants and chronic toxicity with RP to exceed the WQOs is increased.

Table 12. Receiving Water Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Copper	quarterly	monthly
Lead	quarterly	monthly
Mercury	quarterly	monthly
Silver	quarterly	monthly
Zinc	quarterly	monthly
Cyanide	quarterly	monthly
Chlorodibromomethane	quarterly	monthly
Dichlorobromomethane	quarterly	monthly
Bis(2-ethylhexyl)phthalate	quarterly	monthly
Remaining priority pollutants (excluding asbestos)	quarterly	semiannually
Chronic toxicity	quarterly	monthly

- c. Annual acute toxicity test is added at Stations R-005 and R-003 to fulfill Section V.A.14.d of Order.

2. Groundwater

Not Applicable.

E. Other Monitoring Requirements

1. Biosolids/Sludge Monitoring

This section establishes monitoring and reporting requirements for the storage, handling and disposal practices of sludge generated from the operation of this Facility.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This provision is based on 40 CFR Part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceed an effluent limitation for toxicity, the Discharger needs to conduct TIE/TRE detailed in Section V of the MRP (Attachment E). The TRE will help the Discharger identify the possible source(s) of toxicity. Once the source(s) of toxicity is identified, the Discharger shall take all reasonable steps to reduce toxicity to the required level.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR 122.26 that established requirements for storm water discharges under an NPDES permit. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 as State Board Order No. 97-03-DWQ. JWPCP is covered under this general permit and an updated SWPPP is required.

b. **Spill Contingency Plan (SCP)**

Since spill or overflow is a common event in the treatment plant service areas, this Order requires the Discharger to review and update, if necessary, SCP after each incident. The Discharger shall ensure that the up-to-date SPC is readily available to the sewage system personnel at all times and that the sewage personnel are familiar with it.

c. **Pollutant Minimization Program.**

This provision is based on the requirements of Section 2.4.5 of the SIP.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of 40 CFR 122.41(e) and the previous Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Biosolids Requirements.** To implement CWA Section 405(d), on February 19, 1993, USEPA promulgated 40 CFR 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Discharger to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Discharger is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.

b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order.

7. Compliance Schedules

- a. This Order establishes final effluent limitations for ammonia, nitrate plus nitrite as nitrogen, nitrite as nitrogen, copper, lead, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate. Interim limit for nickel is not necessary because the monitoring data indicate that discharger can consistently comply with the final effluent limitation. This Order contains interim effluent limitations and a compliance schedule for copper, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate that provides the Discharger time to bring their facility into compliance with the final effluent limit.

The provision for compliance schedule is based on Section 2.1 (Compliance Schedules) of the SIP. The proposed permit allows the Discharger until July 17, 2010, to be in compliance with the final effluent limitations for bis(2-ethylhexyl) phthalate. Based on Regional Water Board's best professional judgment, this schedule is sufficient for the Discharger to achieve the final effluent limitations for the pollutants. The Discharger is required to develop and submit a Compliance Plan. The Discharger is also required to develop and implement a pollution minimization plan to ensure the Discharger achieves compliance with the final limitations within a time specified in Section IV.A.1.a. of this Order. Annual status report is required to inform the Regional Water Board about the progress made by the Discharger to achieve compliance with the final effluent limitations within specified time. During the interim period the Discharger is required to meet the interim limitations.

- b. This Order established final effluent limitations for ammonia nitrogen and nitrate + nitrite as nitrogen that are new limits for the Facility. For the aforementioned non-CTR-based pollutants, the interim limits and compliance dates are provided in the accompanying Time Schedule Order No. R4-2007-YYYY.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Ventura Water Reclamation Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following newspapers: (Ventura County Star and date).

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on May 30, 2007.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 12, 2007
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California Board Room
700 North Alameda Street
Los Angeles, California

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral

testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/losangeles/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Don Tsai at (213) 576-6665.

Appendix D

Adopted NPDES Permit

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 West 4th Street, Suite 200
 (213) 576-6660 • Fax (213) 576-6640
 http://www.waterboards.ca.gov

**ORDER NO. R4-2008-0011
 NPDES NO. CA0053651**

**WASTE DISCHARGE REQUIREMENTS FOR THE
 CITY OF SAN BUENAVENTURA
 VENTURA WATER RECLAMATION FACILITY
 DISCHARGE TO THE SANTA CLARA RIVER ESTUARY VIA DISCHARGE OUTFALL NO. 001**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of San Buenaventura from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

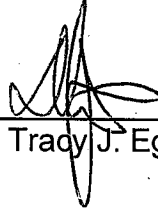
Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated wastewater	34 °, 14', 22.46" N	119 °, 15', 58.84" W	Santa Clara River Estuary via Wildlife Ponds

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	March 6, 2008
This Order shall become effective on:	Immediately effective after adoption
This Order shall expire on:	February 10, 2013
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. 00-143 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Tracy J. Egoscue, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on March 6, 2008.



Chief Deputy E.O. for
Tracy J. Egoscue, Executive Officer

Table of Contents

I. FACILITY INFORMATION	5
II. FINDINGS	6
III. DISCHARGE PROHIBITIONS	17
IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS	18
A. Effluent Limitations.....	18
B. Land Discharge Specifications.....	21
C. Reclamation Specifications.....	21
V. RECEIVING WATER LIMITATIONS	22
A. Surface Water Limitations.....	22
B. Groundwater Limitations	25
VI. PROVISIONS	26
A. Standard Provisions.....	26
B. Monitoring and Reporting Program (MRP) Requirements	29
C. Special Provisions.....	29
1. Reopener Provisions	29
2. Special Studies, Technical Reports and Additional Monitoring Requirements....	31
3. Best Management Practices and Pollution Prevention	38
4. Construction, Operation and Maintenance Specifications	40
5. Special Provisions for Municipal Facilities (POTWs Only)	40
6. Spill Reporting Requirements	42
7. Compliance Schedules	45
VII. COMPLIANCE DETERMINATION.....	46

List of Tables

Table 1. Discharger Information	1
Table 2. Discharge Location	1
Table 3. Administrative Information	1
Table 4. Facility Information.....	5
Table 5. Basin Plan Beneficial Uses	12
Table 6. Effluent Limitations	18

List of Attachments

Attachment A – Definitions	A-1
Attachment B – Map	B-1
Attachment C – Flow Schematic.....	C-1
Attachment D – Standard Provisions	D-1
Attachment E – Monitoring and Reporting Program (MRP)	E-1
Attachment F – Fact Sheet.....	F-1
Attachment G – Generic Toxicity Reduction Evaluation (TRE) Workplan.....	G-1
Attachment H – Storm Water Pollution Prevention Plan Requirements.....	H-1
Attachment I – Biosolids/Sludge Management	I-1
Attachment K – Non-priority Pollutants Effluent Data	K-1
Attachment L – Non-priority Pollutants Effluent RPA	L-1

Attachment M – Projections of Ammonia Concentrations in Receiving Water..... M-1
Attachment N – Reasonable Potential Analyses and Limit DerivationsN-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title, and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99
	Ventura, CA 93002-0099
	Ventura County
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	14 Million Gallons per Day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

- A. Background.** The City of San Buenaventura (hereinafter Discharger) is currently discharging pursuant to Order No. 00-143 and National Pollutant Discharge Elimination System (hereinafter NPDES) Permit No. CA0053651. The Discharger submitted a Report of Waste Discharge (ROWD), dated April 18, 2005, and applied for an NPDES permit renewal to discharge up to 14 millions gallons per day (MGD) of tertiary treated wastewater from Ventura Water Reclamation Facility, hereinafter Facility. The application was deemed complete on March 14, 2007.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), originally adopted by the State Water Resources Control Board in 1974 and updated as Resolution No. 95-84 on November 16, 1995, states that:

“It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.”

The Enclosed Bay and Estuaries Policy does not define what is meant by “enhancement”. That determination is left to the discretion of the Regional Board.

Section I.A. of Order No. 00-143 states that “The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd.” The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Santa Clara River Estuary (Estuary) is beneficial and enhances the Estuary, or has adverse impacts to the Estuary.

Between October 12, 2000 and December 14, 2006, the Regional Board issued seven individual Time Schedule Orders (TSOs) to the City. These TSOs provided time to address the issue of whether the saltwater or the fresh water California Toxic Rule Criteria (CTR) should be applied for the effluent limitation calculations. The City was required to conduct the Salinity Study in 2001. The result showed that the Estuary is more like a blackish environment. Therefore, the more stringent Saltwater CTR was chosen to calculate the final effluent limitations.

A second, more fundamental issue is whether the discharge from the Facility should be allowed to continue, in view of the Bays and Estuaries Policy. Specifically, the discharge may be allowed under the Policy if it enhances the receiving waters (i.e., the Estuary) and endangered species habitat.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study (May 2005). This Study was performed by Nautilus Environmental hired by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, concern was expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging, endocrine disrupting, and pharmaceutical chemicals. This monitoring effort could determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

During a stakeholder meeting on October 19, 2007, the possible impacts of maintaining and eliminating discharge to the Estuary were discussed. "Pros" and "cons" expressed, however, no consensus was reached on the issues discussed. Resource agencies, environmental groups, interested parties, and stakeholders, all had varying opinions. The Regional Board agrees that scientific disagreement exists, and most of the commentors' opinions may have technical merit.

In addition, while the Regional Board has previously determined that the discharge enhances the Estuary, the Regional Board presently has inadequate information with which to determine whether and to what extent the discharge that could be authorized by this permit continues to constitute an enhancement. The Board also presently lacks the information necessary to determine what if any negative impacts would occur to the Estuary if the discharge was prohibited, and therefore lacks the current information necessary dispute the previous enhancement finding. The Board has conflicting, yet credible opinions from a variety of experts about harm to endangered species, habitat, and recreation, among other uses of the Estuary and areas impacted by the discharge, both with and without the discharge. In view of the aforesaid, the Regional Board finds that the best approach at this time is to cap the allowable discharge at present levels (9 MGD, as an annual average) and to require a watershed-wide study and dialogue, to determine the best approach for the Estuary that considers at a minimum:

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

1. A system-wide analysis that examines the biological, recreational, physical, chemical and hydrological relationships implicated in the watershed; and,
2. A Comprehensive Plan that addresses the function of the sub-watershed and Estuary as a single unit.

To ensure compliance with the Bays and Estuaries Policy, this study should be completed as soon as practicable.

At the stakeholder meeting held on January 29, 2008, the revised tentative Order (January 7, 2008), Watershed-wide Study, and Work Plan was discussed. At this meeting, the Discharger expressed interest in exploring construction of wetlands near the Facility to improve the receiving water quality. This order contains a requirement for the Discharger to submit a Wetlands Feasibility Study (See Section VI.C.2.a.iv of Order). Once the Feasibility Study has been reviewed by Regional Board staff, the permit will be reopened (see Reopener provision in section VI.C.1.k. of the Order) and a time frame will be established by the Regional Board for further action. It is anticipated that, if feasible, the City will pursue the activity, and will begin the planning and CEQA process in order to begin the project construction activities prior to the permit expiration date.

B. Facility Description. The Discharger owns and operates the Facility. The treatment system consists of screenings, grit removal, primary sedimentation, flow equalization, activated sludge nitrification and partial denitrification¹ (NDN), tertiary filters, ammonia addition², chlorination and dechlorination, primary sludge thickener,

¹ For the nitrification process, there are two steps for ammonia being oxidized into nitrate.

Step 1: Ammonia → Nitrite

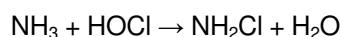
Step 2: Nitrite → Nitrate

For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.

Nitrate → Nitrogen

The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2008-0012 and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

² Ammonia (NH₃) has been added into chlorine contact basin since April 2004. Ammonia reacts with hypochlorous acid (HOCl) to form chloramine (NH₂Cl). Here is the reaction below:



dissolved air flotation (DAF) secondary sludge thickener, anaerobic digestion, and dewatering (using plate and frame filter presses). All of the Class B anaerobically digested sludge is dewatered and composted to Class A at Lost Hills, Kern County and then land applied to a cotton farm in Kings County. Screenings and grits are disposed of at the Toland Road landfill. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Treated wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds³ with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

The most problematic metals were copper, nickel, and zinc prior to improving primary clarifier performance. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. Prior to the addition of iron salt between October 2000 and December 2002, the average effluent concentrations of copper, nickel, and zinc were 18, 9.7, and 69 µg/L, respectively. The addition of iron salt greatly improved removal of copper, nickel, and zinc. Between August 2003 and August 2007, the average effluent concentrations of copper, nickel, and zinc were 7.2, 3.9, and 37 µg/L, respectively. Neither antimony (reported detection limit: 1.0 µg/L), arsenic (reported detection limit: 2.0 µg/L), beryllium (reported detection limit: 0.2 µg/L), cadmium (reported detection limit: 4.0 µg/L), lead (reported detection limit: 5.0 µg/L), mercury (reported detection limit: 0.2 µg/L), silver (reported detection limit: 0.2 µg/L), nor thallium (reported detection limit: 1.0 µg/L), was detected between February 2006 and August 2007. Chromium, copper, nickel, and selenium were detected for one time during this period; however, these metals except copper were all less than the CTR-based criteria. Zinc was all less than its CTR-based criteria since November 2004. Permanent facilities for iron salt addition were completed in November 2007. The final effluent concentrations of copper, nickel, and zinc are expected to be further reduced or non-detected. Due to the major upgrade on the primary clarifier in 2003 and consideration of the representative effluent data, the effluent data collected after July 2003 were used to calculate the final effluent limitations for metals.

Chloramine is used as a disinfectant in municipal water systems as an alternative to chlorination and also exhibits less tendency to convert organic materials into chlorocarbons such as chloroform, dichlorobromomethane, dibromochloromethane, and carbon tetrachloride.

³ Optimal water amounts for bird populations in the estuary probably include both a large open water surface area during California Least Tern nesting and exposed mudflats created when the estuary bar breaches during the fall in September. During the winter months the open water areas of the estuary and the wildlife ponds provide safe sleeping areas for ducks where they can't be reached by predators like the coyote. The above information was based upon the Ventura Audubon Society's February 3, 2008 comment letter for the January 7, 2008 tentative Ventura NPDES Permit.

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

To date, the City has invested \$29.5 million for Upgrades (Phase I) and a new Influent Headworks. Upgrades (Phase II) will restore biological capacity decommissioned during Phase I, and add new nutrient removal facilities. Phase II is currently estimated at \$28 million with a final design and construction period of 36 to 48 months following the adoption of this Order.

The City of Ventura conducted the "Chloramine Disinfection Investigation" at the Facility between April 2 and June 30, 2004. The results indicated that chloramine resulting from ammonia reacting with hypochlorous acid greatly reduces the effluent concentrations of dibromochloromethane, and dichlorobromomethane. These compounds were all well below the CTR-based criteria or non-detected Between May 2004 and August 2007. The maximum effluent concentration and CTR-based criterion for dibromochloromethane are 5.5 µg/L and 34 µg/L, respectively. The maximum effluent concentration and CTR-based criterion for dichlorobromomethane are 8.6 µg/L and 46 µg/L, respectively.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the ROWD and application, through Monitoring and Reporting Programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through N are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations⁴, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed

⁴ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

discussion of the technology-based effluent limitations development is included in the Fact Sheet.

- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in Section IV.C.2 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	<u>Existing:</u> Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species ⁵ (RARE), migration of aquatic organisms ⁶ (MIGR), spawning, reproduction, and/or early development ⁵ (SPWN), and wet land ⁷ (WET).
	Pacific Ocean, Nearshore ⁸	<u>Existing:</u> IND, NAV, REC-1, REC-2, COMM, MAR, WILD, Preservation of Biological Habitats ⁹ (BIOL), RARE ⁴ , MIGR ⁵ , SPWN ⁵ , and shellfish harvesting (SHELL).

Requirements of this Order specifically implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater and saltwater criteria.

1. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.

2. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Charatistic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for*

⁵ One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
⁶ Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.
⁷ Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
⁸ Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.
⁹ Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Femin Marine Life Refuge.

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
 February 20, 2008, and March 6, 2008

Protection of Aquatic Life. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

If salinity sampled at a particular receiving water station indicates brackish conditions, then the more stringent of the freshwater or saltwater objectives shall apply except where the Regional Water Board, by adoption of a resolution, approves the use of either freshwater or saltwater objectives per Implementation Provision 1(3)(a). However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in the accompanying Attachment F, and Attachment M).

The saltwater ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.
- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

pollutants. The technology-based effluent limitations consist of restrictions on Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), and pH. Restrictions on BOD₅, TSS, and pH are discussed in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for BOD and TSS that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in Section IV.B. of the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1).

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As

discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for ensuring that its activities do not result in an unlawful take of federally or state protected species.
- Q. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program (MRP) is provided in Attachment E.

Time Schedule Order (TSO) No. R4-2006-0093 adopted on December 14, 2006 requested the Discharger to monitor the possible impacts of incrementally decreasing discharge on the ecosystem of the Estuary. This TSO expired on December 31, 2007. The Discharger is required to provide a Workplan (see Section IX. of MRP) to monitor the impacts of the discharge on the Santa Clara River Watershed.

- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

- U. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

- A. The discharge from the Facility may not exceed its current annual average of 9 MGD. This prohibition shall be in effect pending the results of studies specified in section VI.C.2.a.ii. of this order.
- B. Discharge of wastewater at a location different from that described in this Order is prohibited.
- C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
- D. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD. This prohibition is not applicable during wet weather storm events.
- E. The Discharger shall not cause degradation of any water supply.
- F. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.
- G. The discharge of any substances in concentrations toxic to animal or plant is prohibited.
- H. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Effluent Transfer Station

- a. The Discharger shall maintain compliance with the following effluent limitations with compliance measured at the Effluent Transfer Station as described in the attached MRP:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	20	30	45	--	--
	lbs/day ¹⁰	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day ¹⁰	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10	--	15	--	--
	lbs/day ¹⁰	1,200	--	1,800	--	--
Settleable Solids	ml/L	0.1	--	0.3	--	--
Total Residual Chlorine	mg/L	0.1	--	--	--	--
	lbs/day ¹⁰	12	--	--	--	--
MBAS	mg/L	0.5	--	--	--	--
	lbs/day ¹⁰	59	--	--	--	--
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--
	lbs/day ¹⁰	5.3	--	35	--	--
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--
	lbs/day ¹⁰	9.3	--	62	--	--
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--
	lbs/day ¹⁰	1,200	--	--	--	--
Nitrite as Nitrogen	mg/L	1	--	--	--	--
	lbs/day ¹⁰	120	--	--	--	--

¹⁰ The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.37 (Lxbs/MGxmg) = lbs/day. During wet weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nitrate as Nitrogen	mg/L	10	--	--	--	--
	lbs/day ¹⁰	1,200	--	--	--	--
Copper	µg/L	4.2 ¹¹	--	8.8 ¹¹	--	--
	lbs/day ¹²	0.49	--	1.0	--	--
Mercury	µg/L	0.051	--	0.10	--	--
	lbs/day ¹²	0.0060	--	0.012	--	--
Silver	µg/L	0.71	--	2.2	--	--
	lbs/day ¹²	0.083	--	0.26	--	--
Zinc	µg/L	45 ¹³	--	107 ¹³	--	--
	lbs/day ¹²	5.3	--	13	--	--

- b. **Percent Removal:** The average monthly removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.
- c. The temperature of wastes discharged shall not exceed 86°F, except as a result of external ambient temperature.
- d. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
- e. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last seven (7) days for which an analysis has been completed. Samples shall

¹¹ Based on the results of Copper Water Effect Ratio (WER) Study in the Updated Enhancement Study conducted by Nautilus Environmental and Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, WER of 1.58 and MTF of 0.86 were applied for copper final effluent limitations. This WER of 1.58 was the lowest one among 15 data.

¹² The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (µg/L) x 0.00837 (Lxlbs/MGxµg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

¹³ Based on the result of Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, MTF of 0.84 was applied for zinc final effluent limitations.

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008, February 20, 2008, and March 6, 2008

be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.

- f. For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed any of the following: (a) an average of 2 Nephelometric turbidity units (NTUs) within a 24-hour period; (b) 5 NTUs more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.
- g. To protect the underlying ground water basins, pollutants shall not be present in the wastes discharged at concentrations that pose a threat to ground water quality.
- h. Acute Toxicity Limitation:
 - i. The acute toxicity of the effluent shall be such that:
 - (i). the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and,
 - (ii). no single test producing less than 70% survival.
 - ii. If either of the above requirements IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
 - iii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.
 - iv. The Discharger shall conduct acute toxicity monitoring as specified in Attachment E - Monitoring and Reporting Program (MRP).

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

i. Chronic Toxicity Trigger and Requirements:

- i. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

- ii. There shall be no chronic toxicity in the effluent discharge.
- iii. If the chronic toxicity of the effluent exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall immediately implement accelerated chronic toxicity testing according to Attachment E - MRP, Section V.B.3. If any three out of the initial test and the six accelerated tests results exceed 1.0 TU_c, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan, as specified in Attachment E – MRP, Section V.D.
- iv. The Discharger shall conduct chronic toxicity monitoring as specified in Attachment E – MRP.

2. Interim Effluent Limitations

Not applicable.

B. Land Discharge Specifications

Not Applicable.

C. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Estuary:

1. For waters designated with a warm freshwater habitat (WARM) beneficial use, the temperature of the receiving water at any time or place and within any given 24-hour period shall not be altered by more than 5⁰F above the natural temperature (or above 70⁰F if the ambient receiving water temperature is less than 60⁰F) due to the discharge of effluent at the receiving water station located downstream of the discharge. Natural conditions shall be determined on a case-by-case basis.
2. The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of wastes discharged. Natural conditions shall be determined on a case-by-case basis.
3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged.
4. The fecal coliform concentration in the receiving water shall not exceed the following, as a result of wastes discharged:
 - a. Geometric Mean Limits
 - i. E.coli density shall not exceed 126/100 mL.
 - ii. Fecal coliform density shall not exceed 200/100 mL.
 - b. Single Sample Limits
 - i. E.coli density shall not exceed 235/100 mL.
 - ii. Fecal coliform density shall not exceed 400/100 mL.
5. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits, as a result of wastes discharged:
 - a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%; and,

- b. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.
6. The wastes discharged shall not produce concentrations of toxic substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.
7. The wastes discharged shall not cause concentrations of contaminants to occur at levels that are harmful to human health in waters which are existing or potential sources of drinking water.
8. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the wastes discharged.
9. The wastes discharged shall not contain substances that result in increases in BOD, which adversely affect the beneficial uses of the receiving waters.
10. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
11. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.
12. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.
13. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.
14. The wastes discharged shall not result in visible floating particulates, foams, and oil and grease in the receiving waters.
15. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the receiving waters.
16. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life as a result of the wastes discharged.
17. Acute Toxicity Receiving Water Quality Objective

- a. There shall be no acute toxicity in ambient waters as a result of wastes discharged.
- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
- c. The acute toxicity of the receiving water, at the Stations R-005 and R-003 located upstream and downstream, respectively, of the discharge, shall be such that: (i) the average survival in the undiluted receiving water for any three (3) consecutive 96-hour static, static-renewal, or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival. Static-renewal bioassay tests may be used, as allowed by the most current USEPA test method for measuring acute toxicity.
- d. If the upstream acute toxicity of the receiving water is greater than the downstream acute toxicity but the effluent acute toxicity is in compliance, the acute toxicity accelerated monitoring in the receiving water specified in MRP Section V.A.2.d does not apply.

18. Chronic Toxicity Receiving Water Quality Objective

- a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.
- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
- c. If the chronic toxicity in the receiving water at the monitoring station(s) immediately downstream of the discharge, exceeds the monthly median of 1.0 TU_c trigger in a critical life stage test and the toxicity cannot be attributed to upstream toxicity, as assessed by the Discharger, then the Discharger shall immediately implement an accelerated chronic toxicity testing according to Monitoring and Reporting Program CI 1822, section V.B.3. If two of the six tests exceed a monthly median of 1.0 TU_c trigger, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan.
- d. If the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TU_c of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented.

B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the Regional Water Board-specific Standard Provisions as follows:
 - a. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
 - b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Water Board, are prohibited.
 - c. All facilities used for collection, transport, treatment, or disposal of "wastes" shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.
 - d. Collection, treatment, and disposal systems shall be operated in a manner that precludes public contact with wastewater.
 - e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Water Board.
 - f. The provisions of this order are severable. If any provision of this order is found invalid, the remainder of this Order shall not be affected.
 - g. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.
 - h. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties to which the discharger is or may be subject to under Section 311 of the CWA.
 - i. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

- regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.
- j. Discharge of wastes to any point other than specifically described in this Order is prohibited, and constitutes a violation thereof.
 - k. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal CWA and amendments thereto.
 - l. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - m. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
 - n. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
 - o. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
 - p. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
 - q. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.
 - r. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

\$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

- s. Under CWC 13387, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order and is subject to a fine of not more than \$25,000 or imprisonment of not more than two years, or both. For a second conviction, such a person shall be punished by a fine of not more than \$25,000 per day of violation, or by imprisonment of not more than four years, or by both.
- t. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- u. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical;
 - ii. Frequency of use;
 - iii. Quantities to be used;
 - iv. Proposed discharge concentrations; and,
 - v. USEPA registration number, if applicable.
- v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, or receiving water limitation of this Order, the Discharger shall notify David Hung at the Regional Water Board by telephone (213) 576-6664 within 24 hours of having knowledge of such noncompliance, and shall confirm this

Limitations and Discharge Requirements

notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:
 - i. Violation of any term or condition contained in this Order;
 - ii. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; and,
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliances does not stay any condition of this Order.

- b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- c. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 and 124 to include requirements for the implementation of the watershed protection management approach.

- d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.
- e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the District for an Order modification, revocation and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- f. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 to 124, to include new MLs.
- g. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, or the adoption of a TMDL for the Santa Clara River Estuary.
- h. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.
- i. This Order may be reopened and modified to revise the chronic toxicity effluent limitation, to the extent necessary, to be consistent with State Board precedential decisions, new policies, new laws, or new regulations.
- j. This Order may be reopened to modify final effluent limits, if at the conclusion of necessary studies conducted by the Discharger, the Regional Water Board determines that dilution credits, attenuation factors, water effects ratio, or metal translators are warranted.
- k. This Order will be reopened upon completion of the Wetlands Feasibility Study specified in Section VI.C.2.a.iv. of this Order.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Special Studies** – Under the supervision of the Regional Board, and with ongoing input from, and in collaboration with the Regional Board, the City will prepare special studies on an integrated and coordinated basis as set forth in this section. All studies will be approved by the Executive Officer of the Regional Board.
- i. Several special studies have been conducted since 2001. These studies were all associated with the influences of the discharge on the Estuary and included the *Salinity study*, *Residence Species Study*, *Metal Translator Study*, *Updated Enhancement Study*, and the copper *Water Effect Ratio Study*.
- ii. **Estuary Subwatershed Study.** In order to optimize discharge conditions under the Bays and Estuaries Policy and to avoid negative impacts from the Facility's flows to the Estuary and to protect beneficial uses within the Estuary system and subwatershed, including those related to sensitive, endangered and threatened species as well as human recreation, the discharger shall submit a Work Plan within 6 months of the effective date of this Order, subject to the approval of the Executive Officer, to conduct a system-wide Estuary Subwatershed Study. The Regional Board will encourage participation in the development and implementation of this Work Plan by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Department of Parks and Recreation (CDPR), the National Marine Fisheries Service (NMFS), Heal the Bay, Audubon Society, other dischargers and water users, and other interested stakeholders in the Estuary subwatershed (collectively "Stakeholders"). The City will consider all input received from participating Stakeholders in preparing and implementing the Work Plan .This Work Plan must address the following:
- (a). An Estuary water balance study to:
- Quantify the average monthly, seasonal and annual flows to the Estuary from all quantifiable sources, including groundwater exfiltration, surface water runoff, Santa Clara River flows, and Facility discharges;
 - More specifically define the relationship between incoming flows and Estuary and habitat area, depth and volume; and,

- Identify alternatives for future discharge flows, volumes and practices and map spatial inundation characteristics correlated with each discharge alternative, including the inundation boundaries for the existing and proposed treatment wetlands, the Estuary and adjacent McGrath State Park areas, and the areas, depths and volumes for the Estuary and its habitats, including critical habitat areas for listed aquatic species and nesting and foraging habitat areas for birds such as the California least tern.
- (b). The function of the sub-watershed and Estuary as a single unit.
- (c). The following monitoring requirements:
- Continuation of the “Fish Survey” and “Macroinvertebrate Monitoring Plan” to assess population and number trends (An Index of Biological Integrity score should be calculated from annual macroinvertebrate surveys);
 - The influences of groundwater on the Estuary water volume and quality;
 - An evaluation of the breaching frequency and impacts on the water quality and endangered species of the Estuary, and subwatershed water quality, including impacts on beach water quality downshore;
 - The establishment of temporary receiving water monitoring station in a portion of the Estuary that temporally extends beyond the normal boundaries of the Estuary;
 - The influences of discharge on the McGrath State Park bird habitat areas;
 - An inventory of existing and potential bird nesting and foraging habitats within the Estuary, and a quarterly inventory of bird species and their numbers using the Estuary and wildlife/treatment ponds throughout the year, and the relationship of habitat types present and the success of California Least Tern and other sensitive avian species using the Estuary.
 - The potential for all impacts on the Tidewater Goby and all listed species, plant and animal and aquatic invertebrates that shorebirds depend on.

- An evaluation of dissolved oxygen (DO) conditions in the Estuary taking into account daily natural background DO levels and cycles within healthy, highly functioning Estuaries, including diurnal, or more frequent monitoring including predawn sampling within the Estuary for DO and preparation of a DO trend analysis based on existing data and new data obtained.
- (d). The Work Plan shall provide that the work products discussed in sections (a) and (b) above, and other related work products determined to be necessary and appropriate by the Executive Officer, shall be completed and submitted to the Regional Board no later than 3 years and from the effective date of this Order.
- iii. **Recycled Water Market Study.** Based on information in, and conclusions of the Estuary Subwatershed Study discussed in section ii above, and the Treatment Wetlands Study discussed in section iv below the City will develop and implement a work plan to identify, research and evaluate feasibility of alternatives for increasing water reuse throughout the City and other areas within five miles of the Waste Water Reclamation Facility (based on sufficient proximity to infrastructure and facilities locations).
- (a). The Study and Work Plan will be designed to determine the maximum volume of recycled water that should be planned for in order to meet the following goals:
- Optimize discharge flows, volume and practices for protection of beneficial uses, and environmental functions and values of the Estuary, including uses and functions related to provision of habitat for aquatic, terrestrial and avian sensitive, endangered, and threatened species;
 - Implement the best feasible configuration for treatment wetlands to further enhance surface flow water quality prior to discharge to the Estuary and subwatershed environmental functions and values; and,
 - Most appropriately conserve and recycle water, in light of the foregoing goals, and anticipated increases in influent, increases in water demand, and the potential for decreasing supplies.
- (b). A phased Work Plan for the Recycled Water Market Study shall be submitted on the date that is six months after the effective date of this Order. Phase 1 of the Recycled Water Market

Study shall address macro-level supply and demand issues and their impact on a local recycled water market, together with potential local recycled water supply that could potentially be generated and demand for local supply from both anticipated population growth and expansion of the City's service area. Phase 1 of the Recycled Water Study shall be completed within 2 years of the effective date of this Order.

Phase 2 of the Recycled Market Study shall commence on or before the date that is 3 years from the effective date of this Order, and shall address identify, research and evaluate feasibility of alternatives for increasing effluent reclamation and use of recycled water based on information in, and conclusions of the Estuary Water Balance Study, the Treatment/Wildlife Pond Study, and Phase 1 of the Recycled Market Study, in order to meet the goals set forth in this Permit and developed within the Study.

Phases 1 and 2 of the Recycled Water Study shall be completed prior to the expiration of the term of this Order.

iv. **Treatment Wetlands Feasibility Study.** The City will complete a Treatment Wetlands Feasibility Study within two years of the effective date of this Order. The Regional Board will encourage participation in the development and implementation of this study by the Stakeholders (the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Department of Parks and Recreation (CDPR), the National Marine Fisheries Service (NMFS), Heal the Bay, Audubon Society, other dischargers and water users, and other interested stakeholders in the Estuary subwatershed). The City will consider all input received from participating Stakeholders in preparing and implementing the Work Plan.

(a). The Treatment Wetlands Feasibility Study will include:

- Identification of a preferred proposed wetland site location and preliminary, planning level design specifications for additional treatment wetlands;
- Preliminary planning level specifications and measures to maximize treatment for nutrients and to address other contaminants appropriate for wetlands treatment;
- Modeling to predict projected discharge-related pollutant loads and concentrations entering the treatment wetlands,

pollutant loads and concentrations leaving the treatment wetlands;

- Preliminary planning level design and operational specifications and measures that can enhance wildlife use of the treatment wetlands without adversely affecting or limiting treatment functions; and,
 - Preliminary construction, maintenance and operation cost estimates and the shortest realistic and practicable proposed schedule for environmental approval, permitting and construction of additional treatment wetlands.
- (b). At the conclusion of the Treatment Wetlands Study and upon concurrence of participating Stakeholders or the Executive Officer of the Regional Board with the recommended additional wetlands treatment project, the City will begin during the term of this Order to implement the environmental approval, permitting and construction processes for the additional treatment wetlands in accordance with the recommendations and schedules established by the Study. Accordingly, the City will undertake, without limitation, the following tasks:
- Preparation of documentation, and initiation of public review and hearing processes and other required activities related to incorporation of the recommended additional wetlands treatment project into the City's integrated long-range water resource plan;
 - Preparation of documentation, and initiation of public review and hearing processes and other required activities related to review and approval of the additional wetlands treatment project under the California Environmental Quality Act;
 - Preparation of permit applications, supporting plans and materials, and other activities related to incorporation of the recommended additional wetlands treatment project under local land use regulations and applicable state and federal environmental laws;
 - Preparation of design documents and construction plans for the additional wetlands treatment project; and,

- Upon receipt of all required permits, approvals and environmental clearances, construction activities related to implementation of the additional wetlands treatment project.

In the event the stakeholders do not concur, the Regional Board staff will consider the opinions submitted by all stakeholders. The EO will advise the City as to how to proceed, if she feels it is appropriate, may bring the matter to the Regional Board, and the permit may be reopened to consider such recommendations or other relevant matters.

- (c). The Regional Board shall reopen this Permit to consider revision of permit provisions to require implementation of the additional wetlands treatment project determined by the Wetlands Feasibility Study to be appropriate for implementation, and concurred with by the Regional Board and participating stakeholders. Any new or revised permit requirements considered or adopted pursuant to this re-opener shall be consistent with the approval, permitting, design and construction actions and schedules developed in the Treatment Wetlands Feasibility Study, and shall allow reasonable time frames for completion of identified activities. The re-opened permit, if adopted, shall be for a term of 5 years, and shall require during that term the completion of all approval, permitting, and design processes and commencement of construction activities. The new permit requirements shall further expressly acknowledge that permitting and approval processes are subject to the potential for delays that are not reasonably within the control of Discharger, and Discharger shall not be held in violation of the permit as revised for any failure to comply with its terms resulting from delays in those processes that are not reasonably within its control, including, by way of example, third party appeal or litigation of any required approvals or permits.

b. Toxicity Reduction Requirements

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days from the date in which it was received, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the initial investigation TRE workplan must contain the provisions in Attachment E. This workplan shall describe the

steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

- i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,
- iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

If the effluent toxicity test result exceeds the limitation, then the Discharger shall immediately implement accelerated toxicity testing that consists of six additional tests, approximately every two weeks, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within 3 days of receipt of the test results exceeding the toxicity limitation.

If the results of any two of the six tests (any two tests in a 12-week period) exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).

If results of the implementation of the facility's initial investigation TRE workplan (as described above) indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE.

Detailed toxicity testing and reporting requirements are contained in Section V of the MRP, (Attachment E).

c. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer of the Regional Water Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter, which transmits that report and certifies that the discharger's policy-making body is adequately informed of the report's contents. The report shall include the following:

- i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;
- ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,
- iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable to those facilities which have not reached 75 percent of capacity as of the effective date of this Order. For those facilities that have reached 75 percent of capacity by that date but for which no such report has been previously submitted, such report shall be filed within 90 days of the issuance of this Order.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

Within 90 days of the effective date of this Order the Discharger shall submit an updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State to the Regional Water Board. The SWPPP shall be developed in accordance with the requirements in *Storm Water Pollution Prevention Plan Requirements* (Attachment H). If all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the Facility, the Discharge shall provide certification with descriptions of on-site storm water management to the Regional Water Board.

b. Spill Contingency Plan (SCP)

Within ninety days, the Discharger is required to submit a Spill Clean-up Contingency Plan, which describes the activities and protocols, to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Discharger's collection system or treatment facilities, that reach water bodies, including dry channels and beach sands. At a minimum, the Plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Discharger shall review and amend the Plan as appropriate after each spill from the facility or in the service area of the facility. The Discharger shall include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. Pollutant Minimization Program

Reporting protocols in the Monitoring and Reporting Program, Attachment E, Section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a Reported Minimum Level (RML) and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a Pollution Minimization Program (PMP) as follows:

The Discharger shall develop a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- (1). The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,
- (2). The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost-effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- (1). An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- (2). Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
- (3). Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

- (4). Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and,
- (5). An annual status report that shall be sent to the Regional Water Board including:
 - i. All PMP monitoring results for the previous year;
 - ii. A list of potential sources of the reportable priority pollutant(s);
 - iii. A summary of all actions undertaken pursuant to the control strategy; and,
 - iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

- a. Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations (Section 13625 of the California Water Code).
- b. The Discharger shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Disposal Requirements

- (1) All sludge generated at the wastewater treatment plant will be disposed of, treat, or applied to land in accordance with Federal Regulations 40 CFR Part 503. These requirements are enforceable by USEPA.
- (2) The Discharger shall ensure compliance with the requirements in SWRCB Order No. 2004-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities” for those sites receiving the Discharger’s

biosolids which a Regional Water Quality Control Board has placed under this general order, and with the requirements in individual Waste Discharge Requirements (WDRs) issued by a Regional Water Board for sites receiving the Discharger's biosolids.

- (3) The Discharger shall comply, if applicable, with WDRs issued by other Regional Water Boards to which jurisdiction the biosolids are transported and applied.
- (4) The Discharger shall furnish this Regional Water Board with a copy of any report submitted to USEPA, State Board or other Regional Water Board, with respect to municipal sludge or biosolids.

b. Pretreatment Requirements

- (1) This Order includes the Discharger's Pretreatment Program as previously submitted to this Regional Water Board. Any change to the Program shall be reported to the Regional Water Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR, 403.18.
- (2) The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act with timely, appropriate, and effective enforcement actions. The Discharger shall require industrial users to comply with Federal Categorical Standards and shall initiate enforcement actions against those users who do not comply with the standards. The Discharger shall require industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
- (3) The Discharger shall perform the pretreatment functions as required in Federal Regulations 40 CFR, Part 403 including, but not limited to:
 - i. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
 - ii. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
 - iii. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and,
 - iv. Provide the requisite funding of personnel to implement the Pretreatment Program as provided in 40 CFR 403.8(f)(3).

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

- (4) The Discharger shall submit semiannual and annual reports to the Regional Water Board, with copies to the State Board, and USEPA Region 9, describing the Discharger's pretreatment activities over the period. The annual and semiannual reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment P), or an approved revised version thereof. If the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.
 - (5) The Discharger shall be responsible and liable for the performance of all control authority pretreatment requirements contained in 40 CFR, Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Water Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Water Board or USEPA may initiate enforcement action against an industrial user for noncompliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.
- c. The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Attachment D, subsections I.D, V.E, V.H, and I.C.

6. Spill Reporting Requirements

- a. **Notification** – For certain spills, overflows and bypasses, the Discharger shall make notifications as required below:
 - (1). For any spills or overflows of any volume, discharged where they are, or will probably be discharged, to waters of the State, the Discharger shall immediately notify the local health agency in accordance with the California Health and Safety Code section 5411.5. This

notification shall occur no later than two hours after the knowledge of the incident.

- (2). For any spills or overflows of 1000 gallons or more discharged where they are, or probably be discharged to waters of the State, the Discharger shall immediately notify the State Office of Emergency Services pursuant to Water Code section 13271. This notification shall occur no later than two hours after the knowledge of the incident.
 - (3). For spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer or has public exposure, the Discharger shall notify such spills to the Regional Water Board, by telephone or electronically as soon as possible but not later than two hours of knowledge of the incident. The following information shall be included in the initial notification: location; date and time of spill; volume and nature of the spill; cause(s) of the spill; mitigation measures implemented, if known at time.
- b. **Monitoring** – For certain spills, overflows and bypasses, the Discharger shall monitor as required below:
- (1). To define the geographical extent of spill's impact the Discharger shall obtain grab samples for spills, overflows or bypasses of any volume that reach receiving waters. The Discharger shall analyze the samples for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible and safe). This monitoring shall be done on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Health Services authorizes cessation of monitoring.
 - (2). The Discharger shall obtain a grab sample for spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer, and all spills, overflows and bypasses of 1,000 gallons or more. The Discharger shall analyze the sample for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern depending on the area and nature of spills or overflows if feasible, accessible and safe.
- c. **Reporting** – The Regional Water Board initial notification shall be followed by:

- (1). A written preliminary report five working days after disclosure of the incident. Within 30 days after submitting the preliminary report, the Discharger shall submit the final written report to this Regional Water Board. (A copy of the final written report, for a given incident, already submitted pursuant to a Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies, may be submitted to the Regional Water Board to satisfy this requirement.) The written report shall document the information required in paragraph D. below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences. The Executive Officer for just cause can grant an extension for submittal of the final written report.
 - (2). The Discharger shall include a certification in the annual summary report (due according to the schedule in the Monitoring and Reporting Program) that states—the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Discharger's Preventative Maintenance Plan. Any deviations from or modifications to the Plan shall be discussed.
- d. **Records** – The Discharger shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:
- (1). the date and time of each spill, overflow or bypass;
 - (2). the location of each spill, overflow or bypass;
 - (3). the estimated volume of each spill, overflow or bypass including gross volume, amount recovered and amount not recovered, monitoring results;
 - (4). the cause of each spill, overflow or bypass;
 - (5). whether each spill, overflow or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;
 - (6). mitigation measures implemented; and,

- (7). corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
- e. **Activities Coordination** – In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a MS4 NPDES permit that may contain spill prevention, sewer maintenance, reporting requirements and (iii) the SSO WDR will coordinate their compliance activities for consistency and efficiency.
- f. **Consistency with Sanitary Sewer Overflows WDRs** – The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under a NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory approach to address Sanitary Sewer Overflows (SSOs). The SSOs WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Sections VI.C.3.b. (Spill Contingency Plan Section), VI.C.4. (Construction, Operation and Maintenance Specifications Section), and VI.C.6. (Spill Reporting Requirements) are intended to be consistent with the requirements of the SSO WDR. The Regional Board recognizes that there may be some overlap between the NPDES permit provisions and SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b., VI.C.4., and VI.C.6. provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

- g. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

7. Compliance Schedules

The compliance provisions for ammonia as nitrogen, nitrate as nitrogen, and nitrite plus nitrate as nitrogen are contained in the accompanying Time Schedule Order No. R4-2008-0012, because the final effluent limitations for these constituents are not CTR-based.

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL, for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger may be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no

sample (daily discharge) is taken, no compliance determination can be made for that calendar month

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Discharger will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Discharger shall collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" Section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated

D. Average Weekly Effluent Limitation (AWEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger may be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, the Discharger may be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger may be considered out of compliance for that parameter for that single sample. Non-compliance for each

sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger may be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. Percent Removal.

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

$$\text{Percent Removal (\%)} = [1 - (\text{CEffluent}/\text{CInfluent})] \times 100 \%$$

When preferred, the Discharger may substitute mass loadings and mass emissions for the concentrations.

I. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

J. Compliance with Single Constituent Effluent Limitations

Dischargers may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see Section B "Multiple Sample Data Reduction" above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the Reporting Level (RL).

K. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

Dischargers may be considered out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

L. Mass Emission Rate.

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

M. Bacterial Standards and Analysis.

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.
3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR 136 (revised March 12, 2007), unless alternate methods have been approved by USEPA pursuant to 40 CFR 136, or improved methods have been determined by the Executive Officer and/or USEPA.
4. Detection methods used for enterococcus shall be those presented in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure* or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

N. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.
3. For purpose outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purpose of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the

Limitations and Discharge Requirements

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Attachment A – Definitions

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if

Attachment A – Definitions

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

A-3

required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

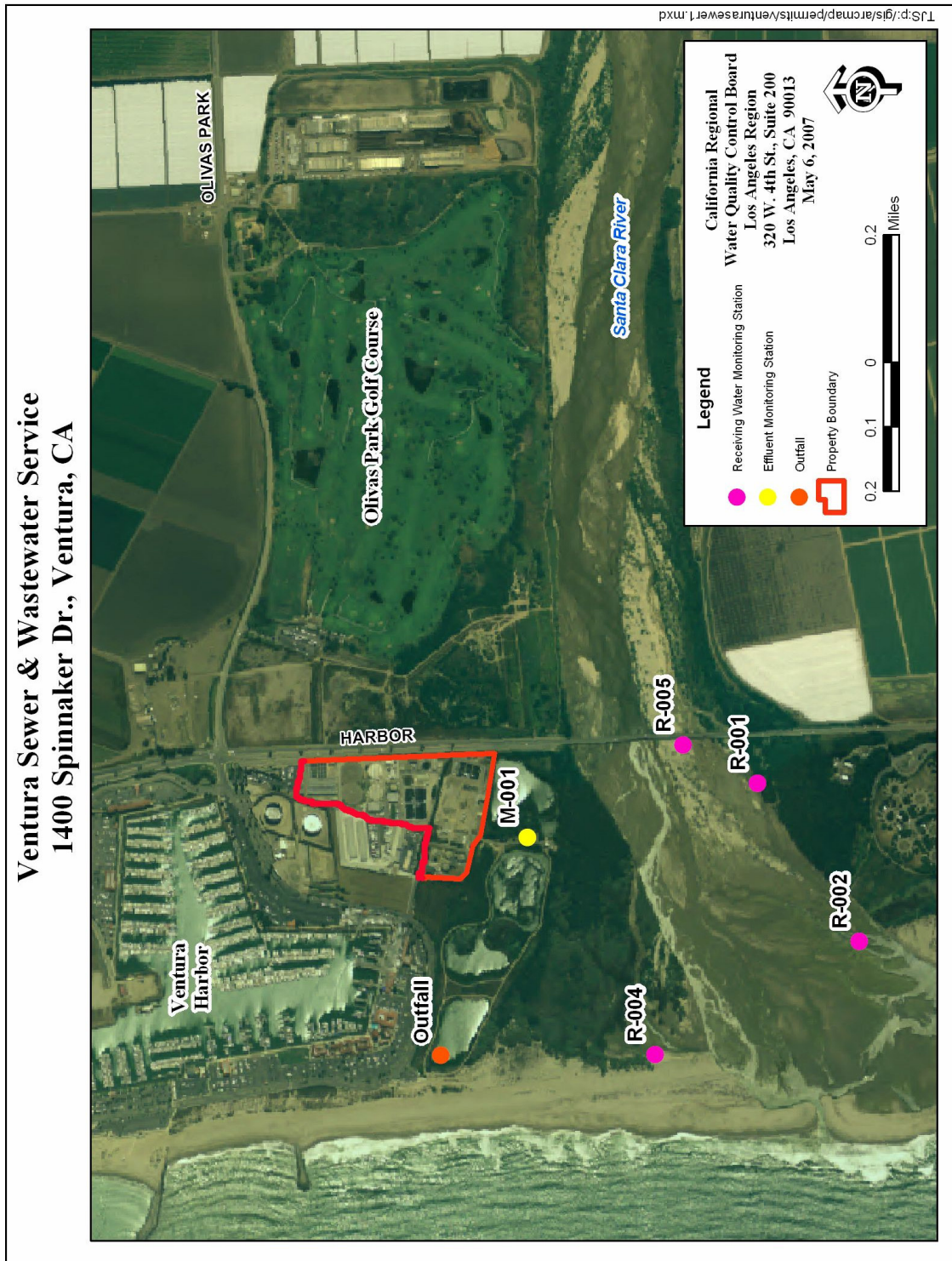
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s)

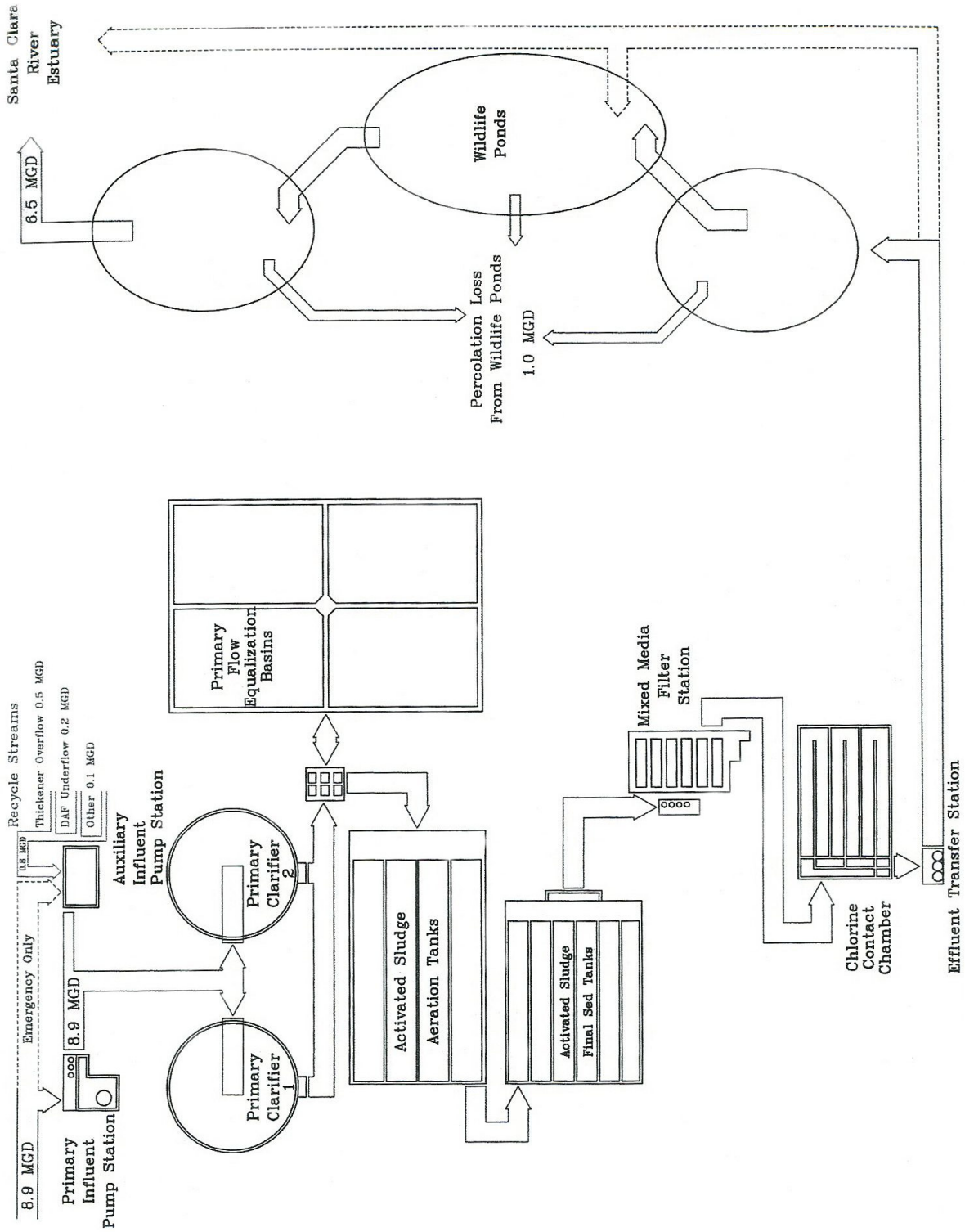
responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Water Effect Ratio (WER) is a criteria adjustment factor accounting for the effect of site-specific water characteristics for certain metals from national and state aquatic life criteria that were originally developed using laboratory toxicity data. These aquatic life criteria for metals are intended to protect the aquatic life in most, but not all, surface waters. In some cases, such a criterion might not adequately protect the aquatic life at a given site. More commonly, though, these criteria are overprotective because most surface waters have greater hardness and often higher pH than the laboratory water which was used in toxicity tests which formed the basis for the standard.

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are

- not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
 4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
 5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity

such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included

in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and,
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP)	E-2
I. GENERAL MONITORING PROVISIONS	E-2
II. MONITORING LOCATIONS	E-5
III. INFLUENT MONITORING REQUIREMENTS	E-5
A. Monitoring Location – Influent Pump Station (Inf-001)	E-6
IV. EFFLUENT MONITORING REQUIREMENTS	E-6
A. Monitoring Location – Effluent Transfer Station (M-001).....	E-7
V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS	E-9
VI. LAND DISCHARGE MONITORING REQUIREMENTS	E-17
VII. RECLAMATION MONITORING REQUIREMENTS	E-17
VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER	E-18
IX. OTHER MONITORING REQUIREMENTS	E-20
X. REPORTING REQUIREMENTS	E-26
A. General Monitoring and Reporting Requirements.....	E-26
B. Self Monitoring Reports (SMRs)	E-26
C. Discharge Monitoring Reports (DMRs)	E-29
D. Other Reports	E-29

List of Tables

Table 1. Monitoring Station Locations	E-5
Table 2. Influent Monitoring	E-6
Table 3. Effluent Monitoring.....	E-7
Table 4a. Receiving Water Monitoring Requirements	E-18
Table 4b. Receiving Water Monitoring Requirements	E-18
Table 4c. Receiving Water Monitoring Requirements.....	E-19
Table 5. Monitoring Periods and Reporting Schedule	E-27

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. All samples shall be representative of the waste discharge under conditions of peak load. Quarterly effluent analyses shall be performed during the months of February, May, August, and November. Semiannual analyses shall be performed during the months of February and August. Annual analyses shall be performed during the month of August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and annual analyses shall be reported in the monthly monitoring report following the analysis.
- B. Pollutants shall be analyzed using the analytical methods described in 40 CFR, Part 136.3, 136.4, and 136.5 (revised March 12, 2007); or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- C. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR, Part 136.3 (revised March 12, 2007). All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Discharger shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.
- D. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- E. For any analyses performed for which no procedure is specified in the USEPA guidelines, or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

Attachment E – MRP

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

E-2

- F. Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the Department of Health Services or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP.”
- G. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the reporting Level (RL) [the Minimum Level (ML) or the Reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the reported minimum level.
- H. The Discharger shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR, Part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section J. below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Discharge must select the method with the lowest ML for compliance purposes. The Discharger shall include in the Annual Summary Report a list of the analytical methods employed for each test.
- I. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section J. below, the Discharger’s laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.
- J. In accordance with Section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board’s Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the discharger’s permit in any of the following situations:
 - a. When the pollutant under consideration is not included in Appendix 4, SIP;
 - b. When the discharger and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR, Part 136 (revised as of May 14, 1999);

- c. When a discharger agrees to use an ML that is lower than those listed in Appendix 4;
- d. When a discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,
- e. When the discharger uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the discharger, the Regional Water Board, and the State Water Resources Control Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the State Implementation Policy (SIP), the provisions stated in the SIP (Section 2.4) shall prevail.

- K. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this Program using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.
- L. The Discharger shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.
- M. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.
 - a. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007), unless alternate methods have been approved in advance by the United State Environmental Protection Agency (USEPA) pursuant to 40 CFR Part 136.
 - b. Detection methods used for enterococcus shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007) or in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By*

Membrane Filter Procedure, or any improved method determined by the Regional Water Board to be appropriate.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
Influent Monitoring Station		
Inf-001	Influent Pump Station	The sampling location (Lat. 34 ⁰ , 14'25.44" N; Long. 119 ⁰ , 15'25.53" W) is located in the main stream of the influent channel prior to the head work adjacent to Harbor Boulevard.
Effluent Monitoring Station		
M-001	Effluent Transfer Station (Point of Compliance)	The effluent sampling station (Lat. 34 ⁰ , 14'21.45" N; Long. 119 ⁰ , 15'31.26" W) is located downstream of all treated effluent passing through this station, including the final disinfection process.
Receiving Water Monitoring Station		
R-001	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 13'55.58" N; Long. 119 ⁰ , 15'27.59" W) is located at the upstream from the Santa Clara River Estuary.
R-002	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 13'47.37" N; Long. 119 ⁰ , 15'43.15" W) is located at the south shoreline of the Santa Clara River Estuary.
R-003	Receiving Water Sample Station	This sampling location (Variable at the mouth of the outlet) is located at the west shoreline of the Santa Clara River Estuary.
R-004	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 14'04.15" N; Long. 119 ⁰ , 15'54.19" W) is located at the northwest shoreline of the Santa Clara River Estuary.
R-005	Receiving Water Sample Station	This sampling location (Lat. 34 ⁰ , 14'01.63" N; Long. 119 ⁰ , 15'23.79" W) is located at the upstream from the Santa Clara River Estuary and at the Harbor Boulevard Bridge crossing. R-005 was labeled as Station L-5 in the previous permit.

III. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program.

A. Monitoring Location – Influent Pump Station (Inf-001)

1. The Discharger shall monitor influent to the facility at Influent Pump Station as follows:

Table 2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder/totalizer	continuous ¹	1
Total suspended solids	mg/L	24-hour composite	weekly	2
BOD ₅ 20°C	mg/L	24-hour composite	weekly	2
Nitrogen compounds	mg/L	grab	quarterly	2
Copper	µg/L	grab	quarterly	2
Mercury	µg/L	grab	quarterly	2
Silver	µg/L	grab	quarterly	2
Zinc	µg/L	grab	quarterly	2
Cyanide	µg/L	grab	semiannually ³	2
Chlorodibromomethane	µg/L	grab	semiannually ³	2
Dichlorobromomethane	µg/L	grab	semiannually ³	2
Bis(2-ethylhexyl)phthalate	µg/L	grab	semiannually ³	2
Remaining priority pollutants ⁴ excluding asbestos	µg/L	24-hour composite/grab for VOCs and Chromium VI	semiannually	2
Pesticides ⁵	µg/L	24-hour composite	semiannually	2

IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

- Determine compliance with NPDES permit conditions and water quality standards.
- Assess plant performance, identify operational problems and improve plant performance.

¹ Total daily flow and instantaneous peak daily flow (24-hr basis). Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board.

³ If any effluent result of this chemical exceeds the CTR-based criteria after the effective date of this Order, the influent monitoring frequency of this chemical shall be increased from semiannually to quarterly.

⁴ Priority pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment.

⁵ Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

A. Monitoring Location – Effluent Transfer Station (M-001)

1. The Discharger shall monitor the discharge of tertiary-treated effluent at Effluent Transfer Station as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total waste flow	MGD	recorder	continuous ^{6,7}	1
Turbidity	NTU	recorder	continuous ⁶	5
Total residual chlorine	mg/L	recorder	continuous ^{6,8,9}	2
Total residual chlorine	mg/L	grab ¹⁰	daily ¹¹	2
Total and fecal coliform	MPN/100 mL	grab	daily	2
Settleable solids	ml/L	grab	daily	2
BOD ₅ 20°C	mg/L	24-hr comp.	daily	2
Suspended solids	mg/L	24-hr comp.	daily	2
Dissolved oxygen	mg/L	grab	daily	2
Temperature	°F	grab	weekly	2
pH	pH units	grab	weekly	2
Oil and grease	mg/L	grab	weekly	2

⁶ Where continuous monitoring of a constituent is required, the following shall be reported:
 Total waste flow – Total daily and peak daily flow (24-hr basis);
 Total residual chlorine – Maximum daily value (24-hr basis);
 Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

⁷ The City can temporarily use the existing total flow meter, located after tertiary filters and before chlorination, to monitor the total waste flow. By December 31, 2009, the total waste flow device must be installed and function properly at the Effluent Transfer Station.

⁸ Total residual chlorine (TRC) shall be continuously recorded. The recorded charts shall be maintained by the Permittee for at least five years. The maximum daily peak, minimum daily peak, and daily average total residual chlorine shall be reported on the monthly monitoring reports. The City can temporarily use the existing chlorine sensor, located at Chlorine Contact Chamber, to monitor the total residual chlorine (TRC). By December 31, 2009, the chlorine sensor must be installed and function properly at the Effluent Transfer Station. Prior to the completion of the chlorine sensor installed at the Effluent Transfer Station, a daily grab sample of TRC shall be collected at the Effluent Transfer Station and analyzed for the purpose of reconfirming the TRC results analyzed at the Outfall, or see footnote 9.c.

⁹ Continuous monitoring of TRC at the current location shall serve as an internal trigger for increased TRC end of pipe grab sampling if either of the following occur, except as noted in footnote 9.c:
 a. TRC concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or
 b. TRC concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.
 c. Additional end of pipe grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

¹⁰ Grab samples shall be collected at end of pipe during peak flow.

¹¹ Daily grab samples shall be collected Monday through Friday only, except for holidays; and not on weekends.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total dissolved solids	mg/L	24-hr comp.	monthly	2
Fluoride	mg/L	24-hr comp.	monthly	2
Phosphate as P	mg/L	24-hr comp.	monthly	2
Phosphorous	mg/L	24-hr comp.	monthly	2
Ammonia nitrogen	mg/L	24-hr comp.	monthly	2
Nitrate nitrogen	mg/L	24-hr comp.	monthly	2
Nitrite nitrogen	mg/L	24-hr comp.	monthly	2
Organic nitrogen	mg/L	24-hr comp.	monthly	2
Total Kjeldahl nitrogen	mg/L	24-hr comp.	monthly	2
Detergents (as MBAS)	mg/L	24-hr comp.	monthly	2
Chlorophyll a	mg/L	grab	monthly	2
Cyanide	µg/L	grab	monthly ¹²	2
Chronic toxicity	TUc	24-hr comp.	monthly	See Section V.B.2.a
Acute toxicity	TUa	24-hr comp.	annually	See Section V.A.2.a
Aluminum	µg/L	24-hr comp.	semiannually	2
Antimony	µg/L	24-hr comp.	semiannually	2
Arsenic	µg/L	24-hr comp.	semiannually	2
Barium	µg/L	24-hr comp.	semiannually	2
Beryllium	µg/L	24-hr comp.	semiannually	2
Cadmium	µg/L	24-hr comp.	semiannually	2
Chromium VI	µg/L	grab	semiannually	2
Cobalt	µg/L	24-hr comp.	semiannually	2
Copper	µg/L	24-hr comp.	monthly	2
Iron	µg/L	24-hr comp.	semiannually	2
Lead	µg/L	24-hr comp.	semiannually	2
Mercury	µg/L	24-hr comp.	monthly	2
Molybdenum	µg/L	24-hr comp.	semiannually	2
Nickel	µg/L	24-hr comp.	semiannually	2
Selenium	µg/L	24-hr comp.	semiannually	2
Silver	µg/L	24-hr comp.	monthly	2
Thallium	µg/L	24-hr comp.	semiannually	2
Vanadium	µg/L	24-hr comp.	semiannually	2
Zinc	µg/L	24-hr comp.	monthly	2
Chlorodibromomethane	µg/L	grab	monthly ¹²	2
Dichlorobromomethane	µg/L	grab	monthly ¹²	2
Bis(2-ethylhexyl)phthalate	µg/L	grab	monthly ¹²	2
Acetone	µg/L	grab	semiannually	2

¹² This chemical needs to be monthly monitored until the end of Year 2008. If the results are non-detected or less than the CTR-based criteria, then the monitoring frequency can be reduced from monthly to semiannually. If any result exceeds the CTR-based criteria after the effective date (to be determined), the monitoring frequency shall remain as monthly.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total xylene	µg/L	24-hr comp.	semiannually	2
TCDD	µg/L	24-hr comp.	semiannually	13
Remaining priority pollutants (excluding asbestos)	µg/L	grab/24-hr comp. for VOC	semiannually	2
Pesticides ⁴	µg/L	24-hr comp.	semiannually	2
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	µg/L	24-hr comp.	semiannually	14
Emerging chemicals ¹⁵	µg/L	24-hr comp.	biannually	15
Endocrine disrupting chemicals ¹⁶	µg/L	24-hr comp.	biannually	Approved by CDPH
Pharmaceuticals ¹⁷	µg/L	24-hr comp.	biannually	Approved by CDPH

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity

¹³ In accordance with the SIP, the Discharger shall conduct effluent monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-002, located downstream of the discharge point. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i), (i.e., TEQ_i = C_i x TEF_i). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{i=1}^{17} (\text{TEQ}_i) = \sum_{i=1}^{17} (C_i)(\text{TEF}_i)$$

¹⁴ Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium.

Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for Tritium, Strontium-90 and uranium.

¹⁵ Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

¹⁶ Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. These chemicals need to be monitored, only when the analytical methods for these chemicals are applicable and approved by the CDPH. These chemicals need to be monitored during August.

¹⁷ Pharmaceuticals include acetaminopen, amoxicillin, azithromycin, caffeine, carbamazepine, ciprofloxacin, ethylenediamine tetra-acetic acid (EDTA), gemfibrozil, ibuprofen, iodinated contrast media, lipitor, methadone, morphine, salicylic acid, and triclosan. These chemicals need to be monitored, only when the analytical methods for these chemicals are applicable and approved by the CDPH. These chemicals need to be monitored in August.

Attachment E – MRP

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
 February 20, 2008, and March 6, 2008

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

- a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
- b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program

- a. **Method.** The Discharger shall conduct acute toxicity tests on 100% effluent and receiving water grab samples by methods specified in 40 CFR Part 136, which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October, 2002 (EPA-821-R-02-012) or a more recent edition to ensure compliance.
- b. **Test Species.** The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish discharges. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverside, *Menidia beryllina*, instead of the topsmelt. The method for topsmelt is found in USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October, 2002 (EPA-821-R-02-012).
- c. **Alternate Reporting.** In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, but only if the Discharger uses USEPA's August 2002 Method (EPA-821-R-02-013) to conduct the chronic toxicity test.
- d. **Acute Toxicity Accelerated Monitoring.** If the effluent toxicity requirements in Section IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) of this Order is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing.

However, if the extent of the acute toxicity of the receiving water upstream of the discharge is greater than the downstream and the results of the effluent acute toxicity test comply with acute toxicity limitation, the accelerated monitoring need not be implemented for the receiving water.

e. **Toxicity Identification Evaluation (TIE).**

- (1). If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
- (2) If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. Once the sources are identified the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity Testing

1. Definition of Chronic Toxicity

Chronic toxicity is a measure of adverse sub-lethal effects in plants, animals, or invertebrates in a long-term test. The effects measured may include lethality or decreases in fertilization, growth, and reproduction.

2. Chronic Toxicity Effluent Monitoring Program

- a. **Test Methods.** The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 % effluent samples or receiving water grab samples in accordance with EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, October 2002 (EPA-821-R-02-013) or EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, October 2002 (EPA-821-R-02-014), or current version.

b. **Frequency**

- (1). **Screening and Monitoring.** - The Discharger shall conduct the first chronic toxicity test screening for three consecutive months in 2008. The Discharger shall conduct short-term tests with the cladoceran, water flea (*Ceriodaphnia dubia* - survival and reproduction test), the

fathead minnow (*Pimephales promelas* - larval survival and growth test), and the green alga (*Selenastrum capricornutum* - growth test) as an initial screening process for a minimum of three, but not to exceed, five suites of tests to account for potential variability of the effluent / receiving water. After this screening period, monitoring shall be conducted using the most sensitive species.

- (2). **Re-screening** is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.
- (3). Regular toxicity tests - After the screening period, monitoring shall be conducted monthly using the most sensitive species.

- c. **Toxicity Units.** The chronic toxicity of the effluent shall be expressed and reported in Chronic Toxic Units, TU_c, where,

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

3. Accelerated Monitoring

If the chronic toxicity of the effluent or the receiving water downstream the discharge exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The samples shall be collected and the tests initiated no less than 7 days apart. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result. However, if the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TU_c of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented for the receiving water.

- a. If any three out of the initial test and the six additional tests results exceed 1.0 TU_c the Discharger shall immediately implement the Initial Investigation of the TRE.

- b. If implementation of the initial investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Table 3 and Table 4 of this MRP.
- c. If all of the six additional tests required above do not exceed 1 TUc, then the Discharger may return to the normal sampling frequency.
- d. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manual (EPA-821-R-02-012 and/or EPA-821-R-02-013), then the Discharger must re-sample and re-test within 14 days.
3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Workplan must contain the provisions in Attachment G. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,

3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3. for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE. The detailed workplan shall include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and,
 - c. A schedule for these actions.
2. The following section summarizes the stepwise approach used in conducting the TRE:
 - a. Step 1 includes basic data collection.
 - b. Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals.
 - c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity.
 - d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options.
 - e. Step 5 evaluates in-plant treatment options.
 - f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements.

By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there are no longer toxicity violations.

3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/R-96-054 (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), as guidance.
4. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Section V.D. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer .
5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.
6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.
 - a. If all the results of the six additional tests are in compliance with the chronic toxicity limitation, the Discharger may resume regular monthly testing.
 - b. If the results of any of the six accelerated tests exceeds the limitation, the Discharger shall continue to monitor weekly until six consecutive weekly tests are in compliance. At that time, the Discharger may resume regular monthly testing.
 - c. If the results of two of the six tests, or any two tests in a six-week period, exceed the limitation, the Discharger shall initiate a TRE.
 - d. If implementation of the initial investigation TRE workplan (see item D.3, above) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of increasing test pH* when conducting the toxicity test. It is important to

distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

- a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board , and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

G. Reporting

The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month, as required by this permit. Test results shall be reported in Acute Toxicity Units (TUa) or Chronic Toxicity Units (TUc), as required, with the self-monitoring report (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section V.A.2.d. and V.B.3., then those results also shall be submitted with the SMR for the period in which the Investigation occurred.

1. The full report shall be received by the Regional Water Board by the 15th day of the second month following sampling.
2. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the toxicity limit; and, (4) printout of the toxicity program (ToxCalc or CETIS).

3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test, as appropriate:
 - a. sample date(s)
 - b. test initiation date
 - c. test species
 - d. end point value(s) for each dilution (e.g. number of young, growth rate, percent survival)
 - e. NOEC values in percent effluent
 - f. TUc value(s), where $TU_c = \frac{100}{NOEC}$
 - g. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable)
 - h. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s)
 - i. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
4. The Discharger shall provide a compliance summary that includes a summary table of toxicity data from at least eleven of the most recent samples.
5. The Discharger shall notify this Regional Water Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of an effluent limit. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Ventura Water Reclamation Facility is recycling wastewater under separate Water Recycling Requirements contained in Order No. 87-45.

Attachment E – MRP

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

E-17

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water

1. Monitoring Locations – R-003, R-004, and R-005 (See Attachment B)

The Discharger shall monitor receiving water at R003, R-004, and R-005 as follows:

Table 4a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper	µg/L	grab	monthly	2
Mercury	µg/L	grab	monthly	2
Silver	µg/L	grab	monthly	2
Zinc	µg/L	grab	monthly	2
Cyanide	µg/L	grab	semiannually ¹⁸	2
Chlorodibromomethane	µg/L	grab	semiannually ¹⁸	2
Dichlorobromomethane	µg/L	grab	semiannually ¹⁸	2
Bis(2-ethylhexyl)phthalate	µg/L	grab	semiannually ¹⁸	2
Dioxin	pg/L	grab	semiannually	13
Remaining priority pollutants excluding as asbestos	µg/L	grab	semiannually	2
Chronic toxicity	TUc	grab	quarterly	See Section V.B.2.a
Acute toxicity ¹⁹	TUa	grab	annually	See Section V.A.2.a

2. Monitoring Locations – R-001 to R-005 (See Attachment B)

The Discharger shall monitor receiving water at R-001 through R-005 as follows:

Table 4b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total and fecal coliform	MPN/100 mL	grab	weekly	2
Residual chlorine ²⁰	mg/L	grab	weekly	2
Hardness	mg/L	grab	weekly	2
Salinity	ppt	field	weekly	2
pH	pH units	grab	weekly	2
Temperature	°F	field	weekly	2

¹⁸ If any result of this chemical exceeds the CTR-based criteria after the effective date of the Order, the receiving water monitoring frequency of this chemical shall be increased from semiannually to monthly.

¹⁹ Acute toxicity test for the receiving water is conducted in Stations R-005 and R-003 only.

²⁰ Residual chlorine test for the receiving water is conducted in Stations R-001 to R-004.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved oxygen ²¹	mg/L	field	weekly	2
Total phosphorous as P	mg/L	grab	monthly	2
Ammonia nitrogen	mg/L	grab	monthly	2
Nitrate nitrogen	mg/L	grab	monthly	2
Nitrite nitrogen	mg/L	grab	monthly	2
Organic nitrogen	mg/L	grab	monthly	2
Total Kjeldahl nitrogen	mg/L	grab	monthly	2
Chlorophyll a	mg/L	grab	monthly	2

3. Observation – R-001 to R-004 (See Attachment B)

Table 4c. Receiving Water Monitoring Requirements

Parameter	Minimum Sampling Frequency
Sludge banks or deposits	weekly
Oil, grease, or slicks	weekly
Foam	weekly
Solids of waste origin	weekly

B. Sediment

1. Monitoring Locations – R-003, R-004, and R-005 (See Attachment B)

a. Local Benthic Trends Survey:

This survey addresses the question whether benthic conditions under the influence of the discharge are changing over time. The data collected are used for regular assessment of trends in sediment contamination and biological response along a fixed grid of sites within the influence of the discharge.

- i. Until the stakeholder group has determined the appropriate number and locations of sediment monitoring stations, at a minimum, three monitoring stations (R-003 to R-005, Attachment B) shall be sampled annually during the 3rd quarter (July, August, and September) for benthic monitoring. The sampling method has to be approved by the Executive Officer.

²¹ Measuring DO in the receiving water shall continue weekly for a period of no more than six months from the Effective Date of this Order, at which time a diurnal sampling program will be implemented that includes at least one pre-dawn sample to fully evaluate the possible impact of the low DO levels on the Estuary given natural DO cycles in enclosed bays and estuaries and recognizing that there is no photosynthesis to generate oxygen during the night and all aquatic life depletes DO during the night. Following this study, the Executive Officer may consider modifications to the monitoring and reporting program.

- ii. The following determinations shall be made for each station, where appropriate: identification of all organisms to lowest possible taxon; community structure analysis for each station; mean, range standard deviation, and 95% confidence limits, if appropriate, for value determined in the community analysis. The Discharger may be required to conduct additional “statistical analyses” to determine temporal and spatial trends in the marine environment.

b. Sediment/Chemical Monitoring

One grab sample (upper five centimeters) shall be collected at three monitoring stations (R-003 to R-005) and analyzed for the following parameters:

Annual samples during the 3rd quarter (July, August, and September) - arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds (chlorinated), phenolic compounds (non-chlorinated), total halogenated organic compounds, aldrin and dieldrin, endrin, HCH, chlordane, total DDT, DDT derivatives, total PCB, PCB derivatives, toxaphene, total PAH, PAH derivatives, detected priority pollutants, compounds on the local 303(d) list, dissolved sulfides (pore water), TOC and grain size (sufficiently detailed to calculate percent weight in relation to phi size).

c. Sediment Toxicity

Until the stakeholder group has determined the appropriate number and locations of sediment monitoring stations, at a minimum, three monitoring stations (R-003 to R-005, Attachment B) shall be sampled annually during the 3rd quarter (July, August, and September) for sediment toxicity monitoring following protocol described in the *Evaluation of Methods for Measuring Sediment Toxicity in California Bays and Estuaries, March 2007*. The most sensitive species have to be used.

All sediment samples must be collected on the same day.

IX. OTHER MONITORING REQUIREMENTS

A. Focused Subwatershed Study of the Estuary

In order to optimize discharge conditions under the Bays and Estuaries Policy and to avoid negative impacts from the Facility’s flows to the Estuary and to protect beneficial uses within the Estuary system and subwatershed, including those related to sensitive, endangered and threatened species as well as human recreation, the discharger shall submit a Work Plan within 6 months of the effective date of this

Order, subject to the approval of the Executive Officer, to conduct a system-wide Estuary Subwatershed- Study. The Regional Board will encourage participation in the development and implementation of this Work Plan by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Department of Parks and Recreation (CDPR), the National Marine Fisheries Service (NMFS), Heal the Bay, Audubon Society, other dischargers and water users, and other interested stakeholders in the Estuary subwatershed (collectively "Stakeholders"). The City will consider all input received from participating Stakeholders in preparing and implementing the Work Plan .This Work Plan must address the following:

1. An Estuary water balance study to:
 - a. Quantify the average monthly, seasonal and annual flows to the Estuary from all quantifiable sources, including groundwater exfiltration, surface water runoff, Santa Clara River flows, and Facility discharges;
 - b. More specifically define the relationship between incoming flows and Estuary and habitat area, depth and volume; and,
 - c. Identify alternatives for future discharge flows, volumes and practices and map spatial inundation characteristics correlated with each discharge alternative, including the inundation boundaries for the existing and proposed treatment wetlands, the Estuary and adjacent McGrath State Park areas, and the areas, depths and volumes for the Estuary and its habitats, including critical habitat areas for listed aquatic species and nesting and foraging habitat areas for birds such as the California least tern.
2. The function of the sub-watershed and Estuary as a single unit.
3. The following monitoring requirements:
 - a. Continuation of the "Fish Survey" and "Macroinvertebrate Monitoring Plan" to assess population and number trends (An Index of Biological Integrity score should be calculated from annual macroinvertebrate surveys);
 - b. The influences of groundwater on the Estuary water volume and quality;
 - c. An evaluation of the breaching frequency and impacts on the water quality and endangered species of the Estuary, and subwatershed water quality, including impacts on beach water quality downshore;
 - d. The establishment of temporary receiving water monitoring station in a portion of the Estuary that temporally extends beyond the normal boundaries of the Estuary;

- e. The influences of discharge on the McGrath State Park bird habitat areas;
 - f. An inventory of existing and potential bird nesting and foraging habitats within the Estuary, and a quarterly inventory of bird species and their numbers using the Estuary and wildlife/treatment ponds throughout the year, and the relationship of habitat types present and the success of California Least Tern and other sensitive avian species using the Estuary.
 - g. The potential for all impacts on the Tidewater Goby and all listed species, plant and animal and aquatic invertebrates that shorebirds depend on.
 - h. An evaluation of dissolved oxygen (DO) conditions in the Estuary taking into account daily natural background DO levels and cycles within healthy, highly functioning Estuaries, including diurnal, or more frequent monitoring including predawn sampling within the Estuary for DO and preparation of a DO trend analysis based on existing data and new data obtained.
4. The Work Plan shall provide that the work products discussed in sections (a) and (b) above, and other related work products determined to be necessary and appropriate by the Executive Officer, shall be completed and submitted to the Regional Board no later than 3 years and from the effective date of this Order.

B. Recycled Water Market Study

Based on information in, and conclusions of the Estuary Subwatershed Study discussed in section IX.A. above, and the Treatment Wetlands Study discussed in section IX.C. below the City will develop and implement a work plan to identify, research and evaluate feasibility of alternatives for increasing water reuse throughout the City and other areas within five miles of the Waste Water Reclamation Facility (based on sufficient proximity to infrastructure and facilities locations).

1. The Study and Work Plan will be designed to determine the maximum volume of recycled water that should be planned for in order to meet the following goals:
 - a. Optimize discharge flows, volume and practices for protection of beneficial uses, and environmental functions and values of the Estuary, including uses and functions related to provision of habitat for aquatic, terrestrial and avian sensitive, endangered, and threatened species;
 - b. Implement the best feasible configuration for treatment wetlands to further enhance surface flow water quality prior to discharge to the Estuary and subwatershed environmental functions and values; and,

- c. Most appropriately conserve and recycle water, in light of the foregoing goals, and anticipated increases in influent, increases in water demand, and the potential for decreasing supplies.
2. A phased Work Plan for the Recycled Water Market Study shall be submitted on the date that is six months after the effective date of this Order. Phase 1 of the Recycled Water Market Study shall address macro-level supply and demand issues and their impact on a local recycled water market, together with potential local recycled water supply that could potentially be generated and demand for local supply from both anticipated population growth and expansion of the City's service area. Phase 1 of the Recycled Water Study shall be completed within 2 years of the effective date of this Order.

Phase 2 of the Recycled Market Study shall commence on or before the date that is 3 years from the effective date of this Order, and shall address identify, research and evaluate feasibility of alternatives for increasing effluent reclamation and use of recycled water based on information in, and conclusions of the Estuary Water Balance Study, the Treatment/Wildlife Pond Study, and Phase 1 of the Recycled Market Study, in order to meet the goals set forth in this Permit and developed within the Study.

Phases 1 and 2 of the Recycled Water Study shall be completed prior to the expiration of the term of this Order.

C. Treatment Wetlands Feasibility Study

The City will complete a Treatment Wetlands Feasibility Study within two years of the effective date of this Order. The Regional Board will encourage participation in the development and implementation of this study by the Stakeholders (the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Department of Parks and Recreation (CDPR), the National Marine Fisheries Service (NMFS), Heal the Bay, Audubon Society, other dischargers and water users, and other interested stakeholders in the Estuary subwatershed). The City will consider all input received from participating Stakeholders in preparing and implementing the Work Plan.

1. The Treatment Wetlands Feasibility Study will include:
 - a. Identification of a preferred proposed wetland site location and preliminary, planning level design specifications for additional treatment wetlands;
 - b. Preliminary planning level specifications and measures to maximize treatment for nutrients and to address other contaminants appropriate for wetlands treatment;

- c. Modeling to predict projected discharge-related pollutant loads and concentrations entering the treatment wetlands, pollutant loads and concentrations leaving the treatment wetlands;
 - d. Preliminary planning level design and operational specifications and measures that can enhance wildlife use of the treatment wetlands without adversely affecting or limiting treatment functions; and,
 - e. Preliminary construction, maintenance and operation cost estimates and the shortest realistic and practicable proposed schedule for environmental approval, permitting and construction of additional treatment wetlands.
2. At the conclusion of the Treatment Wetlands Study and upon concurrence of participating Stakeholders or the Executive Officer of the Regional Board with the recommended additional wetlands treatment project, the City will begin during the term of this Order to implement the environmental approval, permitting and construction processes for the additional treatment wetlands in accordance with the recommendations and schedules established by the Study. Accordingly, the City will undertake, without limitation, the following tasks:
- a. Preparation of documentation, and initiation of public review and hearing processes and other required activities related to incorporation of the recommended additional wetlands treatment project into the City's integrated long-range water resource plan;
 - b. Preparation of documentation, and initiation of public review and hearing processes and other required activities related to review and approval of the additional wetlands treatment project under the California Environmental Quality Act;
 - c. Preparation of permit applications, supporting plans and materials, and other activities related to incorporation of the recommended additional wetlands treatment project under local land use regulations and applicable state and federal environmental laws;
 - d. Preparation of design documents and construction plans for the additional wetlands treatment project; and,
 - e. Upon receipt of all required permits, approvals and environmental clearances, construction activities related to implementation of the additional wetlands treatment project.

In the event the stakeholders do not concur, the Regional Board staff will consider the opinions submitted by all stakeholders. The EO will advise the City as to how to proceed, if she feels it is appropriate, may bring the matter to

the Regional Board, and the permit may be reopened to consider such recommendations or other relevant matters.

3. The Regional Board shall reopen this Permit to consider revision of permit provisions to require implementation of the additional wetlands treatment project determined by the Wetlands Feasibility Study to be appropriate for implementation, and concurred with by the Regional Board and participating stakeholders. Any new or revised permit requirements considered or adopted pursuant to this re-opener shall be consistent with the approval, permitting, design and construction actions and schedules developed in the Treatment Wetlands Feasibility Study, and shall allow reasonable time frames for completion of identified activities. The re-opened permit, if adopted, shall be for a term of 5 years, and shall require during that term the completion of all approval, permitting, and design processes and commencement of construction activities. The new permit requirements shall further expressly acknowledge that permitting and approval processes are subject to the potential for delays that are not reasonably within the control of Discharger, and Discharger shall not be held in violation of the permit as revised for any failure to comply with its terms resulting from delays in those processes that are not reasonably within its control, including ,by way of example, third party appeal or litigation of any required approvals or permits.

D. Regional Watershed-Wide Monitoring Program for the Santa Clara River Watershed

Pursuant of 40 CFR 122.41(j) and 122.48(b), the monitoring program for a Discharger receiving an NPDES Permit must determine compliance with NPDES permit terms and conditions, and demonstrate that water quality standards are met.

Compliance monitoring focuses only on the quality of the discharge, it is not designed to assess the impact of the discharge on the receiving water in combination with other point source discharges or with any other sources of pollution (e.g., non-point source runoff, aerial fallout). Likewise, it is not designed to evaluate the current status of important ecological resources on a regional basis. However, to support the Watershed Approach, a watershed-wide Regional Monitoring Program may be designed for the Santa Clara River Watershed, with input of stakeholders, to determine: compliance with receiving water objectives; trends in surface water quality; impacts to beneficial uses; and data needs for modeling contaminants of concern.

Once this Regional Monitoring Program has been designed, the Executive Officer may require the Discharger to participate in the Regional Program and/or revise the existing monitoring program.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs in accordance with the requirements described in subsection B.5 below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies (ex, the Work Plan specified in TSO R4-2006-0093), acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	By the 15 th day of the second month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 15 August 15 November 15 February 15
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 15 February 15
Annually	January 1 following (or on) permit effective date	January 1 through December 31	April 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below: (Reference the reports to Compliance File No. 1822 to facilitate routing to the appropriate staff and file.)

California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Attention: Information Technology Unit

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. Annual Summary Report

By April 1 of each year, the Discharger shall submit an annual report containing a discussion of the previous year’s influent/effluent analytical results and receiving water bacterial monitoring data. The annual report shall contain graphical and tabular summaries of the monitoring analytical data. The annual report shall also contain an overview of any plans for upgrades to the treatment plant’s collection system, the treatment processes, or the outfall system. The Discharger shall submit a hard copy annual report to the Regional Water Board in accordance with the requirements described in subsection B.5 above.

Each annual monitoring report shall contain a separate section titled “Reasonable Potential Analysis” which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement:” The analytical results for this sampling period did/ did not trigger reasonable potential.” If reasonable potential was triggered, then the following information should also be provided:

- a. A list of the pollutant(s) that triggered reasonable potential;

- b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;
 - c. The concentration of the pollutant(s);
 - d. The test method used to analyze the sample; and,
 - e. The date and time of sample collection.
2. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.
3. The Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:
 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

ATTACHMENT F – FACT SHEET

Table of Contents

Attachment F – Fact Sheet.....	F-3
I. PERMIT INFORMATION	F-3
II. FACILITY DESCRIPTION	F-6
A. Description of Wastewater and Biosolids Treatment or Controls.....	F-6
B. Discharge Points and Receiving Waters.....	F-7
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data.....	F-8
D. Compliance Summary.....	F-11
E. Planned Changes to Treatment Systems.....	F-15
III. APPLICABLE PLANS, POLICIES, AND REGULATIONS	F-16
A. Legal Authorities.....	F-16
B. California Environmental Quality Act (CEQA).....	F-17
C. State and Federal Regulations, Policies, and Plans.....	F-17
D. Impaired Water Bodies on CWA 303(d) List.....	F-21
E. Other Plans, Polices and Regulations.....	F-21
IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS ..	F-22
A. Discharge Prohibitions.....	F-23
B. Technology-Based Effluent Limitations.....	F-23
1. Scope and Authority.....	F-23
2. Applicable Technology-Based Effluent Limitations.....	F-23
C. Water Quality-Based Effluent Limitations (WQBELs).....	F-24
1. Scope and Authority.....	F-24
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives.....	F-25
3. Determining the Need for WQBELs.....	F-36
4. WQBEL Calculations.....	F-40
5. Whole Effluent Toxicity (WET).....	F-45
D. Final Effluent Limitations.....	F-47
E. Interim Effluent Limitations.....	F-49
F. Land Discharge Specifications.....	F-50
G. Reclamation Specifications.....	F-50
V. RATIONALE FOR RECEIVING WATER LIMITATIONS	F-50
A. Surface Water.....	F-50
B. Groundwater.....	F-51
VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS	F-51
A. Influent Monitoring.....	F-51
B. Effluent Monitoring.....	F-51
C. Whole Effluent Toxicity Testing Requirements.....	F-54
D. Receiving Water Monitoring.....	F-55
1. Surface Water.....	F-55
2. Groundwater.....	F-56
E. Other Monitoring Requirements.....	F-56
VII. RATIONALE FOR PROVISIONS	F-56

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

F-1

- A. Standard Provisions..... F-56
- B. Special Provisions..... F-57
 - 1. Reopener Provisions F-57
 - 2. Special Studies and Additional Monitoring Requirements F-57
 - 3. Best Management Practices and Pollution Prevention F-57
 - 4. Construction, Operation, and Maintenance Specifications..... F-58
 - 5. Special Provisions for Municipal Facilities (POTWs Only) F-58
 - 7. Compliance Schedules F-59
- VIII. **PUBLIC PARTICIPATION** F-59
 - A. Notification of Interested Parties F-59
 - B. Written Comments F-60
 - C. Public Hearing F-60
 - D. Waste Discharge Requirements Petitions..... F-60
 - E. Information and Copying..... F-61
 - F. Register of Interested Persons F-61
 - G. Additional Information F-61

List of Tables

- Table 1. Facility Information..... F-3
- Table 2. Historic Effluent Limitations and Monitoring Data F-9
- Table 3. Summary of Compliance History F-11
- Table 4. Basin Plan Beneficial Uses F-17
- Table 5. Summary of Technology-based Effluent Limitations..... F-24
- Table 6. Applicable Water Quality Criteria F-35
- Table 7. Summary of Reasonable Potential Analysis F-37
- Table 8. Summary of Water Quality-based Effluent Limitations..... F-44
- Table 9. Summary of Final Effluent Limitations F-48
- Table 10. Effluent Monitoring Program Comparison Table F-52
- Table 11. Receiving Water Monitoring Program Comparison Table F-55

ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following Table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	4A560107001
Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility, Ventura
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Authorized Person to Sign and Submit Reports	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99, Ventura, CA 93002-0099
Billing Address	P.O. Box 99, Ventura, CA 93002-0099
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer
Facility Permitted Flow	14 million gallons per day
Facility Design Flow	14 million gallons per day
Watershed	Santa Clara River Watershed
Receiving Water	Santa Clara River Estuary via Wildlife Ponds
Receiving Water Type	Estuary

- A.** City of San Buenaventura (hereinafter Discharger) is the owner and operator of Ventura Water Reclamation Facility (hereinafter Facility), a Publicly Owned Treatment Works.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), originally adopted by the State Water Resources Control Board in 1974 and updated as Resolution No. 95-84 on November 16, 1995, states that:

“It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.”

The Enclosed Bay and Estuaries Policy does not define what is meant by “enhancement”. The determination is left to the discretion of the Regional Board.

Section I.A. of Order No. 00-143 states that “The running 30-day average volume of treated wastewater discharged to the Santa Clara River shall not be less than 5.6 mgd.” The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Estuary is beneficial and enhances the Estuary, or has adverse impacts to the Santa Clara River Estuary (Estuary).

Between October 12, 2000 and December 14, 2006, the Regional Board issued seven individual Time Schedule Orders (TSOs) to the City. These TSOs provided time to address the issue of whether the saltwater or the fresh water California Toxic Rule Criteria (CTR) should be applied for the effluent limitation calculations. The City was required to conduct the Salinity Study in 2001. The result showed that the Estuary is more like a blackish environment. Therefore, the more stringent Saltwater CTR was chosen to calculate the final effluent limitations.

A second, more fundamental issue is whether the discharge from the Facility should be allowed to continue, in view of the Bays and Estuaries Policy. Specifically, the discharge may be allowed under the Policy if it enhances the receiving waters (i.e., the Estuary) and endangered species habitat.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study. This

Study was performed by Nautilus Environmental hired by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, concern was expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging and pharmaceutical chemicals. This monitoring effort could determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

During a stakeholder meeting on October 19, 2007, the possible impacts of maintaining and eliminating discharge to the Estuary were discussed. "Pros" and "cons" expressed, however, no consensus was reached on the issues discussed. Resource agencies, environmental groups, interested parties, and stakeholders, all had varying opinions. The Regional Board agrees that scientific disagreement exists, and most of the commentors' opinions may have technical merit.

In addition, while the Regional Board has previously determined that the discharge enhances the Estuary, the Regional Board presently has inadequate information with which to determine whether and to what extent the discharge that could be authorized by this permit continues to constitute an enhancement. The Board also presently lacks the information necessary to determine what if any negative impacts would occur to the Estuary if the discharge was prohibited, and therefore lacks the current information necessary dispute the previous enhancement finding. The Board has conflicting, yet credible opinions from a variety of experts about harm to endangered species, habitat, and recreation, among other uses of the Estuary and areas impacted by the discharge, both with and without the discharge. In view of the aforesaid, the Regional Board finds that the best approach at this time is to cap the allowable discharge at present levels (9 MGD, as an annual average) and to require a watershed-wide study and dialogue, to determine the best approach for the Estuary that considers at a minimum:

1. A system-wide analysis that examines the biological, recreational, physical, chemical and hydrological relationships in the watershed; and,
2. A Comprehensive Plan that addresses the function of the sub-watershed and Estuary as a single unit.

To ensure compliance with the Bays and Estuaries Policy, this study should be completed as soon as practicable.

At the stakeholder meeting held on January 29, 2008, the revised tentative Order (January 7, 2008), Watershed-wide Study, and Work Plan was discussed. At this meeting, the Discharger expressed interest in exploring construction of wetlands near the Facility to improve the receiving water quality. This order contains a requirement for the Discharger to submit a Wetlands Feasibility Study (See Section VI.C.2.a.iv of Order). This order contains a requirement for the Discharger to submit

a Wetlands Feasibility Study that includes preliminary design specifications and proposed site location, to the Regional Board two years from the adoption of this order. Additional time can be granted by the Executive Officer for just cause.

- B.** The Facility discharges wastewater to the Estuary, a water of the United States, and is currently regulated by Order No. 00-143, which was adopted on October 12, 2000.
- C.** The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on April 18, 2005. A site visit was conducted on February 1, 2007, to observe operations and collect additional data to develop permit limitations and conditions.

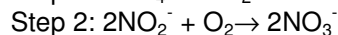
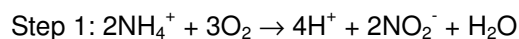
II. FACILITY DESCRIPTION

The Discharger owns and operates the Facility, a tertiary wastewater treatment facility located at 1400 Spinnaker Road, Ventura, California. Figure 1 shows the location of the Facility. Figure 1 shows the location of the Facility. The Facility currently receives wastewater generated from the City of San Buenaventura. The wastewater is a mixture of domestic, commercial, and industrial wastewater that is pre-treated pursuant to 40 CFR Part 403. The Facility has a design capacity of 14 mgd and serves an estimated population of 105,000 people.

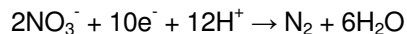
A. Description of Wastewater and Biosolids Treatment or Controls

The treatment system consists of screenings and grit removal, primary sedimentation, flow equalization, activated sludge nitrification and partial denitrification¹, tertiary filters, ammonia addition², chlorination and dechlorination,

¹ For the nitrification process, there are two steps for ammonia being oxidized into nitrate.



For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.



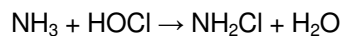
The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2008-0012 and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

² Ammonia (NH₃) has been added into chlorine contact basin since April 2004. Ammonia reacts with hypochlorous acid (HOCl) to form chloramine (NH₂Cl). Here is the reaction below:

primary sludge thickener, dissolved air flotation (DAF) secondary sludge thickener, anaerobically digested, and dewatered (using plate and frame filter presses). All of the Class B anaerobically digested sludge is dewatered and composted to Class A at Lost Hills, Kern County and then land applied to a cotton farm in Kings County. Screenings and grits are disposed of at the Toland Road landfill. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds³ with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

B. Discharge Points and Receiving Waters

1. The treated wastewater is discharged into the Estuary through the Wildlife Ponds with approximately 4-day retention, a water of the United State, at latitude 34° 14' 22.46", and longitude 119° 15' 54.84" (Discharge Serial No. 001).
2. The mouth of the Santa Clara River is sometimes closed off by a sand bar so that a shallow lagoon is created. However, at times when the sand bar is breached, either by floodwaters or by mechanical means, the lagoon empties directly into the Pacific Ocean.



Chloramine is used as a disinfectant in municipal water systems as an alternative to chlorination and also exhibits less tendency to convert organic materials into chlorocarbons such as chloroform, dichlorobromomethane, dibromochloromethane, and carbon tetrachloride.

³ Optimal water amounts for bird populations in the estuary probably include both a large open water surface area during California Least Tern nesting and exposed mudflats created when the estuary bar breaches during the fall in September. During the winter months the open water areas of the estuary and the wildlife ponds provide safe sleeping areas for ducks where they can't be reached by predators like the coyote. The above information was based upon the Ventura Audubon Society's February 3, 2008 comment letter for the January 7, 2008 tentative Ventura NPDES Permit.

3. The State of California Department of Parks and Recreation has declared McGrath State Beach and the surrounding 160 acres a natural preserve. The preserve includes the main channel of the Santa Clara River and adjacent natural lands of riparian shrub land and saltwater marsh. The purpose of the natural preserve is to protect and perpetuate the river ecosystem at the mouth of the Santa Clara River. Resource values of particular significance include: estuarine waters, which are used extensively by a wide variety of waterfowl and other water-associated birds; nesting habitat of the endangered California least tern; and riparian shrub land and saltwater marsh communities.
4. The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time. At locations where salinities fall between 1 and 10 ppt, the more stringent of either fresh or marine waters apply. The Santa Clara River Estuary typically experiences more tidal influence during winter and spring when the sand bar is open, while during the summer and fall the bar is closed and less tidal influence occurs. Data obtained from U.S. Fish and Wildlife Service demonstrate that the discharge point is classified as in-between freshwater and saltwater according to the definitions in the CTR. In this Order, the saltwater criteria were used to calculate the final effluent limits for CTR-based pollutants and ammonia.
5. A small portion of the treated wastewater is reused for turf and landscape irrigation. Approximately 1.0 MGD of the treated wastewater percolates into groundwater from three wildlife ponds on site at the treatment facility. The reuse of the treated wastewater and the percolation to groundwater are regulated under water reclamation requirements which are contained in a separate order (Order No. 87-45), adopted by this Board on April 27, 1987.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the existing Order for discharges from the Effluent Transfer Station and Outfall and representative monitoring data from the term of the previous Order are as follows:

Table 2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (January 2003 – August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ⁴	Highest Daily Discharge
BOD ₅ 20°C	mg/L	20	30	45	5.1	3.8	8.6
Suspended solids	mg/L	15	40	45	2.7	6.1	7.2
Oil and Grease	mg/L	10	--	15	2.7	--	2.77
Settleable solids	ml/L	01	--	0.3	<0.1	--	<0.1
Residual chlorine	mg/L	--	--	0.1	--	--	<0.1
Arsenic	µg/L	29.4	--	59	1.9	--	1.9
Cadmium	µg/L	9.3	--	43	0.3	--	0.3
Chromium (VI)	µg/L	3.7	--	11	8.05	--	8.05
Copper	µg/L	2.0	--	2.9	17	--	17
Lead	µg/L	7.0	--	14	63	--	63
Mercury	µg/L	0.025	--	0.12	0.7	--	0.7
Nickel	µg/L	5.3	--	15.2	8	--	8
Selenium	µg/L	2.9	--	8.8	6.7	--	6.7
Silver	µg/L	--	--	2.3	9.3	--	9.3
Thallium	µg/L	6.3	--	6.3	0.6	--	0.6
Zinc	µg/L	38	--	95	239	--	239
Cyanide	µg/L	0.41	--	0.99	<5	--	<5
Dioxin	µg/L	1.4×10 ⁻⁸	--	2.8×10 ⁻⁸	<8.8×10 ⁻⁶	--	<8.8×10 ⁻⁶
Benzene	µg/L	--	--	71	<0.23	--	<0.23
Bromoform	µg/L	360	--	778	4.9	--	4.9
Carbon Tetrachloride	µg/L	--	--	4.4	<0.12	--	<0.12
Chlorodibromomethane	µg/L	34	--	82	43.3	--	43.3
Chlorofom	µg/L	--	--	470	122	--	122
Dichlorobromomethane	µg/L	--	--	22	91.9	--	91.9
Ethylbenzene	µg/L	29,000	--	58,290	<0.34	--	<0.34
Methylene Chloride	µg/L	1,600	--	3,216	<0.25	--	<0.25
Tetrachloroethylene	µg/L	--	--	8.9	<0.03	--	<0.03
Toluene	µg/L	200,000	--	402,000	<0.2	--	<0.2
Pentachlorophenol	µg/L	7.9	--	13	<3.6	--	<3.6
Phenol	µg/L	4,600,000	--	9,246,000	8.04	--	8.04
2,4,6-Trichlorophenol	µg/L	--	--	6.5	<2.7	--	<2.7
Benzidine	µg/L	0.00054	--	0.0011	<4.4	--	<4.4
Benzo(a)Anthracene	µg/L	0.049	--	0.098	<7.8	--	<7.8
Benzo(a)Pyrene	µg/L	0.049	--	0.098	<2.5	--	<2.5
Benzo(b)Fluoranthene	µg/L	0.049	--	0.098	<4.8	--	<4.8
Benzo(k)Fluoranthene	µg/L	0.049	--	0.098	<2.5	--	<2.5

⁴ The highest average weekly discharge concentration is reported for constituents that are monitored at weekly or more frequent intervals.

Parameter	Units	Effluent Limitation			Monitoring Data (January 2003 – August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ⁴	Highest Daily Discharge
Bis(2-Chloroethyl)Ether	µg/L	1.4	--	2.8	<5.7	--	<5.7
Bis(2-Ethylhexyl)Phthalate	µg/L	--	--	5.9	<2.5	--	<2.5
Chrysene	µg/L	0.049	--	0.098	<2.0	--	<2.0
1,4-Dichlorobenzene	µg/L	2,600	--	5,226	<4.4	--	<4.4
3,3-Dichlorobenzidine	µg/L	0.077	--	0.15	<16.5	--	<16.5
Diethyl Phthalate	µg/L	120,000	--	241,000	<2.2	--	<2.2
Di-n-Butyl Phthalate	µg/L	12,000	--	24,120	<2.5	--	<2.5
1,2-Diphenylhydrazine	µg/L	0.54	--	1.09	<10	--	<10
Hexachlorobenzene	µg/L	0.00077	--	0.0015	<1.9	--	<1.9
Hexachloroethane	µg/L	8.9	--	18	<1.6	--	<1.6
Indeno(1,2,3-cd)Pyrene	µg/L	0.049	--	0.098	<3.7	--	<3.7
N-Nitrosodi-n-Propylamine	µg/L	1.4	--	2.8	<10	--	<10
Aldrin	µg/L	0.00014	--	0.00028	<0.004	--	<0.004
Alpha-BHC	µg/L	0.013	--	0.026	<0.003	--	<0.003
Beta-BHC	µg/L	0.046	--	0.092	<0.006	--	<0.006
Gamma-BHC	µg/L	0.063	--	0.13	<0.004	--	<0.004
Chlordane	µg/L	0.00059	--	0.0012	<0.014	--	<0.014
p,p'-DDT	µg/L	0.00059	--	0.0012	<4.7	--	<4.7
p,p'-DDE	µg/L	0.00059	--	0.0012	<5.6	--	<5.6
p,p'-DDD	µg/L	0.00084	--	0.0017	<2.8	--	<2.8
Dieldrin	µg/L	0.00014	--	0.00028	<0.002- <0.009	--	<0.002- <0.009
Endosulfan I	µg/L	0.007	--	0.014	0.009- <0.038	--	0.009- <0.038
Endosulfan II	µg/L	0.007	--	0.014	<0.004- <0.029	--	<0.004- <0.029
Endrin	µg/L	0.0019	--	0.0038	<0.006- <0.023	--	<0.006- <0.023
Heptachlor	µg/L	0.00021	--	0.00042	<0.003	--	<0.003
Heptachlor Epoxide	µg/L	0.00011	--	0.00022	<0.083	--	<0.083
PCB 1016	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1221	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1232	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1242	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1248	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

Parameter	Units	Effluent Limitation			Monitoring Data (January 2003 – August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ⁴	Highest Daily Discharge
PCB 1254	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
PCB 1260	µg/L	0.00017	--	0.00034	<0.039- <0.398	--	<0.039- <0.398
Toxaphene	µg/L	0.00016	--	0.00033	<0.529- <10	--	<0.529- <10

D. Compliance Summary

Data submitted revealed the following effluent limitation violations during the permit term. These violations had been reviewed and taken proper action.

Table 3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/8/2000	Nov-00	Monthly	Aldrin	0.168	0.00014	ug/L	119,900	NOV issued 2/2/04
11/8/2000	Nov-00	Daily	Aldrin	0.168	0.00028	ug/L	59,900	NOV issued 2/2/04
11/13/2000	Nov-00	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
12/12/2000	Dec-00	Maximum	Chronic Toxicity	3.13	1	TUc	NA	NOV issued 2/2/04
1/10/2001	Jan-01	Monthly	Zinc	92	38	ug/L	142	NOV issued 2/2/04
2/7/2001	Feb-01	Monthly	Cyanide	29	0.41	ug/L	6,973	NOV issued 2/2/04
2/7/2001	Feb-01	Daily	Cyanide	29	0.99	ug/L	2,829	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Chromium	27	11	ug/L	145	NOV issued 2/2/04
2/14/2001	Feb-01	Monthly	Dibromochloromethane	66	34	ug/L	94	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Nickel	25	15.2	ug/L	64	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Dichlorobromomethane	28.9	22	ug/L	31	NOV issued 2/2/04
2/28/2001	Feb-01	Monthly	Zinc	52.5**	38	ug/L	38	NOV issued 2/2/04
3/6/2001	Mar-01	5 NTU >72 min.	Turbidity	9.7	5*	NTU	NA	NOV issued 2/2/04
3/7/2001	Mar-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
5/4/2001	May-01	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
5/5/2001	May-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Cyanide	10	0.41	ug/L	2,339	NOV issued 2/2/04
5/9/2001	May-01	Daily	Cyanide	10	0.99	ug/L	910	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Mercury	0.2	0.025	ug/L	700	NOV issued 2/2/04
5/9/2001	May-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Copper	22.3	18	ug/L	24	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Nickel	5.6	5.3	ug/L	6	NOV issued 2/2/04
7/11/2001	Jul-01	Monthly	Zinc	116.4	38	ug/L	206	NOV issued 2/2/04
7/11/2001	Jul-01	Monthly	Copper	35.2	18	ug/L	96	NOV issued 2/2/04
7/11/2001	Jul-01	Daily	Zinc	116.4	95	ug/L	23	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
7/18/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/18/2001	Jul-01	Daily Ave.	Turbidity	4.7	2	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	Daily Ave.	Turbidity	5.2	2	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	30-day	Coliform	1600	23	MPN/100 mL	NA	NOV issued 2/2/04
7/20/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Cyanide	52	0.41	ug/L	12,583	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Cyanide	52	0.99	ug/L	5,153	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Aldrin	0.003	0.00014	ug/L	2,043	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Aldrin	0.003	0.00028	ug/L	971	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Copper	66.2	52	ug/L	27	NOV issued 2/2/04
8/31/2001	Aug-01	Monthly	Zinc	52.6**	38	ug/L	38	NOV issued 2/2/04
10/15/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/15/2001	Oct-01	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	Daily Ave.	Turbidity	4	2	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	Daily Ave.	Turbidity	7.2	2	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	Daily Ave.	Turbidity	8.7	2	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	5 NTU >72 min.	Turbidity	7.2	5*	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
10/25/2001	Oct-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/3/2001	Nov-01	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/4/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/5/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/6/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	Monthly	Mercury	0.5	0.025	ug/L	1,900	NOV issued 2/2/04
11/7/2001	Nov-01	Monthly	Cyanide	6	0.41	ug/L	1,363	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Cyanide	6	0.99	ug/L	506	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Dichlorobromomethane	46.7	22	ug/L	112	NOV issued 2/2/04
11/8/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/9/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Zinc	209.8	38	ug/L	452	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Nickel	24.7	5.3	ug/L	366	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Zinc	209.8	95	ug/L	121	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Copper	34.5	18	ug/L	92	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Nickel	24.7	15.2	ug/L	63	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Lead	7.7	7	ug/L	10	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Zinc	61.2	38	ug/L	61	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Copper	26.5	18	ug/L	47	NOV issued 2/2/04

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
1/9/2002	Jan-02	Monthly	Nickel	7.7	5.3	ug/L	45	NOV issued 2/2/04
2/6/2002	Feb-02	Daily	Mercury	1	0.12	ug/L	733	NOV issued 2/2/04
2/13/2002	Feb-02	Monthly	Dibromochloromethane	40.6	34	ug/L	19	NOV issued 2/2/04
2/14/2002	Feb-02	Daily	Dichlorobromomethane	73.7	22	ug/L	235	NOV issued 2/2/04
2/28/2002	Feb-02	Monthly	Zinc	65.2**	38	ug/L	72	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Zinc	110.2	38	ug/L	190	NOV issued 2/2/04
3/6/2002	Mar-02	Daily	Zinc	110.2	95	ug/L	16	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Copper	19.6	18	ug/L	9	NOV issued 2/2/04
3/13/2002	Mar-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
3/13/2002	Mar-02	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Mercury	0.9	0.025	ug/L	3,500	NOV issued 2/2/04
5/1/2002	May-02	Daily	Mercury	0.9	0.12	ug/L	650	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Zinc	55.3	38	ug/L	46	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Copper	25.8	18	ug/L	43	NOV issued 2/2/04
5/8/2002	May-02	Daily	Dichlorobromomethane	45	22	ug/L	105	NOV issued 2/2/04
5/15/2002	May-02	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/16/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	30-day	Coliform	130	23	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	30-day	Coliform	49	23	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	7-day median	Coliform	11	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	30-day	Coliform	27	23	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/20/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/21/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/22/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/23/2002	May-02	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
6/12/2002	Jun-02	Monthly	Copper	56.1	18	ug/L	212	NOV issued 2/2/04
6/12/2002	Jun-02	Daily	Copper	56.1	52	ug/L	8	NOV issued 2/2/04
8/7/2002	Aug-02	Monthly	Cyanide	60	0.41	ug/L	14,534	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Cyanide	60	0.99	ug/L	5,961	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Nickel	17.1	15.2	ug/L	13	NOV issued 2/2/04
8/12/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	Daily	Dichlorobromomethane	23.1	22	ug/L	5	NOV issued 2/2/04
8/16/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/17/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/18/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/31/2002	Aug-02	Monthly	Zinc	57.9**	38	ug/L	52	NOV issued 2/2/04
9/4/2002	Sep-02	Monthly	Nickel	7.6	5.3	ug/L	43	NOV issued 2/2/04
9/16/2002	Sep-02	Daily Ave.	Turbidity	2.7	2	NTU	NA	NOV issued 2/2/04
10/23/2002	Oct-02	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
10/28/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
10/29/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008, February 20, 2008, and March 6, 2008

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
10/30/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
10/31/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/1/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/2/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/3/2002	Nov-02	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Nickel	77	5.3	ug/L	1,353	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Nickel	77	15.2	ug/L	407	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Zinc	161.9	38	ug/L	326	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Dichlorobromomethane	54.9	22	ug/L	150	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Zinc	161.9	95	ug/L	70	NOV issued 2/2/04
1/3/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/4/2003	Jan-03	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/5/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/6/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/7/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	Monthly	Zinc	44.7	38	ug/L	18	NOV issued 2/2/04
1/8/2003	Jan-03	Monthly	Nickel	5.8	5.3	ug/L	9	NOV issued 2/2/04
1/9/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/10/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/23/2003	Jan-03	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
2/5/2003	Feb-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Dichlorobromomethane	69.7	22	ug/L	217	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Selenium	3.8**	2.9	ug/L	31	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Zinc	49.1**	38	ug/L	29	NOV issued 2/2/04
3/4/2003	Mar-03	Monthly	Nickel	5.5	5.3	ug/L	4	NOV issued 2/2/04
3/16/2003	Mar-03	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
3/17/2003	Mar-03	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 2/2/04
5/7/2003	May-03	Monthly	Mercury	0.3	0.025	ug/L	1,100	NOV issued 2/2/04
5/7/2003	May-03	Daily	Dichlorobromomethane	67	22	ug/L	205	NOV issued 2/2/04
5/7/2003	May-03	Daily	Mercury	0.3	0.12	ug/L	150	NOV issued 2/2/04
6/11/2003	Jun-03	Monthly	Zinc	41.8	38	ug/L	10	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Dichlorobromomethane	58.9	22	ug/L	168	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Selenium	6.6	2.9	ug/L	128	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Zinc	66.2	38	ug/L	74	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Dibromochloromethane	35.2	34	ug/L	4	NOV issued 2/2/04
9/3/2003	Sep-03	Monthly	Zinc	45.5	38	ug/L	20	NOV issued 2/2/04
10/1/2003	Oct-03	Monthly	Zinc	51.6	38	ug/L	35	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
11/5/2003	Nov-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008,
February 20, 2008, and March 6, 2008

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/5/2003	Nov-03	Daily	Dichlorobromomethane	91.9	22	ug/L	318	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Selenium	3.8	2.9	ug/L	31	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Dibromochloromethane	40.7	34	ug/L	20	NOV issued 2/2/04
12/3/2003	Dec-03	Monthly	Nickel	10.8	5.3	ug/L	104	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Bis(2-ethylhexyl)phthalate	36.7	5.9	ug/L	522	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Dichlorobromomethane	76.3	22	ug/L	247	NOV issued 11/30/04
2/4/2004	Feb-04	Monthly	Dibromochloromethane	43.3	34	ug/L	27	NOV issued 11/30/04
7/29/2004	Jul-04	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 11/30/04
10/18/2004	Oct-04	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 06/21/05
1/10/2005	Jan-05	Daily Ave.	Turbidity	2.9	2	NTU	NA	NOV issued 06/21/05
1/14/2005	Jan-05	30-day	Coliform	110	23	MPN/100 mL	NA	NOV issued 06/21/05
1/26/2005	Jan-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 06/21/05
2/20/2005	Feb-05	30-day	Coliform	33	23	MPN/100 mL	NA	NOV issued 06/21/05
2/22/2005	Feb-05	30-day	Coliform	540	23	MPN/100 mL	NA	NOV issued 06/21/05
3/17/2005	Mar-05	Maximum	Chronic Toxicity	1.8	1	TUc	NA	NOV issued 06/21/05
6/25/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/25/2005	Jun-05	30-day	Coliform	30	23	MPN/100 mL	NA	Verbal 11/28/05
6/26/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/27/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/28/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/29/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/30/2005	Jun-05	7-day median	Coliform	8	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/1/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/2/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/3/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/4/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/5/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/6/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05

E. Planned Changes to Treatment Systems

1. The most problematic metals were copper, nickel, and zinc. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. Prior to the addition of iron salt between October 2000 and December 2002, the average effluent concentrations of copper, nickel, and zinc were 19, 9.7, and 69 µg/L, respectively. The addition of iron salt greatly improved removal of copper, nickel, and zinc. Between August 2003 and August 2007, the average effluent concentrations of copper, nickel, and zinc were 7.1, 4.0, and 38.7 µg/L, respectively. Neither antimony (reported detection limit: 1.0 µg/L), arsenic (reported detection limit: 2.0 µg/L), beryllium (reported detection limit: 0.2 µg/L), cadmium (reported detection limit: 4.0 µg/L), copper (reported detection limit: 6 µg/L), lead (reported detection limit: 5.0 µg/L), mercury (reported detection limit: 0.2 µg/L), silver (reported detection limit: 0.2

µg/L), nor thallium (reported detection limit: 1.0 µg/L), was detected between February 2006 and August 2007. Chromium, nickel, and selenium were detected for one time during this period; however, they were all less than the CTR-based criteria. Zinc was all less than its CTR-based criteria since November 2004. Permanent facilities for iron salt addition were completed in November 2007. The final effluent concentrations of copper, nickel, and zinc are expected to be further reduced or non-detected. Due to the major upgrade on the primary clarifier in 2003 and consideration of the representative effluent data, the effluent data collected after July 2003 were used to calculate the final effluent limitations for metals.

2. To date the City has invested \$29.5 million for the Upgrades (Phase 1) and a new Influent Headworks. Upgrades (Phase II) will restore biological capacity decommissioned during Phase I, and add new nutrient removal facilities. Phase II is currently estimated at \$28 million with a final design and construction period of 36 to 48 months following the adoption of this Order.
3. The City of Ventura conducted the "Chloramine Disinfection Investigation" at the Facility between April 2 and June 30, 2004. The results indicated that chloramine resulting from ammonia reacting with hypochlorous acid greatly reduces the effluent concentrations of dibromochloromethane and dichlorobromomethane. These compounds were all well below the CTR-based criteria or non-detected Between May 2004 and August 2007. The maximum effluent concentration and CTR-based criterion for dibromochloromethane are 5.5 µg/L and 34 µg/L, respectively. The maximum effluent concentration and CTR-based criterion for dichlorobromomethane are 8.6 µg/L and 46 µg/L, respectively.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

Table 4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	<u>Existing:</u> Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species ⁵ (RARE), migration of aquatic organisms ⁶ (MIGR), spawning, reproduction, and/or early development ⁶ (SPWN), and wet land ⁷ (WET).
Discharge Point	Receiving Water Name	<u>Beneficial Use(s)</u>
	Pacific Ocean, Nearshore ⁸	<u>Existing:</u> IND, NAV, REC-1, REC-2, COMM, MAR, WILD, Preservation of Biological Habitats ⁹ (BIOL), RARE ⁵ , MIGR ⁶ , SPWN ⁶ , and shellfish harvesting (SHELL).

Requirements of this Order implement the Basin Plan.

⁵ One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
⁶ Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.
⁷ Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
⁸ Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.
⁹ Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Femin Marine Life Refuge.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon fresh and saltwater criteria.

- a. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.
- b. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River

Estuary. Therefore, the saltwater ammonia water objective will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in this Fact Sheet, and Attachment M).

The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

2. **Enclosed Bay and Estuaries Policy.** The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that *"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*
3. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.
4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
6. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
7. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations¹⁰ section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Section 402(o)(2) also provides that the establishment of less stringent limits may be allowed where:

¹⁰ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

- a. There have been material and substantial alternations or additions to the permitted facility which justify this relaxation. See Section II. E. of the Fact Sheet.
- b. New information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance which would have justified a less stringent effluent limitations. Based on the results of Copper Water Effect Ratio (WER) Study in the Updated Enhancement Study conducted by Nautilus Environmental and Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, WER of 1.58 and MTF of 0.86 were applied for copper final effluent limitations. In addition, based on the result of Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, MTF of 0.84 was applied for zinc final effluent limitations.

D. Impaired Water Bodies on CWA 303(d) List

The 2006 303(d) list of impaired waters classifies the Santa Clara River Estuary as impaired by Chem A (unknown source), coliform bacteria and toxaphene (nonpoint source).

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** Section 133 of 40 CFR establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.
2. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR, Section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 in State Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

The Discharger developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Water Board's (Order No. 97-03-DWQ).

3. **Sanitary Sewer Overflows.** The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless

authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Sections VI.C.3.b, VI.C.4, and VI.C.6. are intended to be consistent with the requirements in the SSO WDR. The Regional Water Board recognizes that there are areas of overlapping interest between the NPDES permit conditions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order NO. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittee under the SSO WDR for compliance purposes, as satisfying the requirements in Sections .C.3.b, VI.C.4, and VI.C.6, provided for any more specific or stringent provisions enumerated in this Order, have also been addressed.

4. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA), to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about the Santa Clara River Watershed and other watersheds in the region can be obtained from the Regional Water Board's web site at <http://www.waterboards.ca.gov/losangeles> and clicking on the word "Watersheds".

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Board 's plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater through Discharge Point 001 only. It does not authorize any other types of discharges.
2. Until the watershed-wide study has been completed, the discharge from the Facility may not exceed its current annual average of 9 MGD, because impacts on the endangered species due to the discharge of additional wastewater into the Estuary is unknown at this time.
3. Discharge of wastewater at a location different from that described in this Order is prohibited.
4. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
5. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD. This prohibition is not applicable during wet weather storm events.
6. The Discharger shall not cause degradation of any water supply.
7. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133.

2. Applicable Technology-Based Effluent Limitations

This facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅20°C, TSS,

and pH as summarized in Table F-5. Previous Order No. 00-143 established technology-based effluent limits to meet applicable secondary treatment standards. These effluent limitations have been carried over from the previous Order to avoid backsliding. Furthermore, mass-based effluent limitations based on a design flow rate of 14 MGD are also included. The following table summarizes the technology-based effluent limitations for the discharge from the Facility:

**Summary of Technology-based Effluent Limitations
 Effluent Transfer Station**

Table 5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	20	30	45	--	--
	lbs/day ¹¹	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day ¹¹	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in the Section IV.C.2. of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where

¹¹ The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.37 (Lxlbs/MGxmg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles River (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Santa Clara River Estuary are summarized in Section III.C.1. of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

a. Biochemical Oxygen Demand (BOD) and Suspended solids

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady supply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR, Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

- i. the 30-day average shall not exceed 30 mg/L; and,
- ii. the 7-day average shall not exceed 45 mg/L.

The Ventura WRF provides tertiary treatment, as such, the limits in the permit being more stringent than secondary treatment requirements are

based on Best Professional Judgment. The Facility achieves solids removal that are better than secondary-treated wastewater by adding chemical coagulants to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the weekly average, and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Those limits were all included in the previous permit (Order No. 00-143) and the Discharger has been able to meet all three limits (monthly average, the weekly average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the Facility also has a percent removal requirement for these two constituents. In accordance with 40 CFR, Sections 133.102(a)(3) and 133.102(b)(3), the 30-day (monthly) average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day (monthly) average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day (monthly) average values of the effluent pollutant concentrations for a given time period

b. Settleable solids

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

c. Oil and grease

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can

also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

d. Residual chlorine

Disinfection of wastewaters with chlorine produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day (monthly) average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

e. Total Dissolved Solids, Chloride, Sulfate, and Boron

The effluent discharge from the Facility flows into the Estuary. Page 3-12 of the Basin Plan indicates that there is no waterbody specific objectives for TDS, chloride, sulfate and boron.

f. Methylene Blue Activated Substances (MBAS)

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface and ground waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of both surface and ground waters.

Given the nature of the facility (a POTW) which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for prohibition of floating material such as foams and scums. Therefore an effluent limitation is required based upon Best Professional Judgement.

g. Total inorganic nitrogen ($NO_2 + NO_3$ as N)

Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments, ex. algae¹². Although there are no waterbody specific objectives for nitrogen in the Estuary, the discharge has reasonable potential to exceed the numeric Nitrate plus Nitrite as nitrogen 10 mg/L of water quality objective (WQO) specified in the Basin Plan page 3-11. An effluent limitation is required based upon Best Professional Judgement. Therefore, the Discharger will have to meet the 10 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time.

h. Nitrite as Nitrogen

Chapter 3 of the Basin Plan (page 3-11) contains the following water quality objective, "Waters shall not exceed the 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen ($NO_3-N + NO_2-N$), 45 mg/L as nitrate (NO_3), 10 mg/L as nitrate-nitrogen (NO_3-N), or 1 mg/L as nitrite-nitrogen (NO_2-N) or as otherwise designated in Table 3-8." The Discharger will have to meet the 1 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time. See the detailed explanation available in Footnote 1 on Page F-5.

i. Ammonia as Nitrogen

Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able

¹² Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. There is no groundwater recharge in this reach. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on March 4, 2004, by the Regional Water Board with the adoption of Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

(i). Freshwater Ammonia Criteria Maximum Concentration (CMC)

The Facility discharges into a receiving waterbody that has "MIGR" beneficial use designation. It is assumed that salmonids may be

present in waters designated in the Basin Plan as “MIGR” and that salmonids cannot be absent in water not designated in the Basin Plan as “MIGR,” in the absence of additional information to the contrary. Since the receiving water has “MIGR” designation, it will be assumed that salmonids are present in the water.

The one-hour average objective according to the Basin Plan amendment will be set as the CMC or equivalent to the Maximum Daily Effluent Limitation (MDEL) for ammonia nitrogen in mg/L. For waters not designated COLD and/or MIGR, the CMC or MDEL shall not exceed the values described in the equation below:

$$\text{One-hour Average Concentration} = \frac{0.411}{1 + 10^{7.204 - \text{pH}}} + \frac{58.4}{1 + 10^{\text{pH} - 7.204}}$$

(ii). Freshwater Ammonia Criteria Continuous Concentration (CCC)

The 30-day average objective according to the Basin Plan amendment Resolution No. 2002-011 will be set as the CCC or equivalent to the Average Monthly Effluent Limitation (AMEL) for ammonia nitrogen in mg/L. The Facility discharges into a receiving water that has a “SPWN” beneficial use designation. For freshwaters designated SPWN, the thirty-day average concentration of total ammonia as nitrogen (in mg/L) shall not exceed the values described in the equation below:

$$\text{30-day Average Concentration} = \left(\frac{0.0577}{1 + 10^{7.688 - \text{pH}}} + \frac{2.487}{1 + 10^{\text{pH} - 7.688}} \right) * \text{MIN} \left(2.85, 1.45 * 10^{0.028 * (25 - T)} \right)$$

Where T = temperature expressed in °C.

The 30-day average objective¹³ is dependent on pH and temperature. At lower temperatures, the 30-day average objective also is dependent on the presence or absence of early life stages of fish (ELS). Water bodies with Basin Plan designation of “SPWN”

¹³ This is the current Basin Plan definition of the 30-day average objective, according to the Ammonia Basin Plan Amendment, Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of “Aquatic Life,”* adopted by the Los Angeles Regional Water Board on April 25, 2002. It will be superseded by Resolution No. 2005-014, adopted by the Regional Water Board on December 1, 2005, following State Water Board, and Office of Administrative Law approval of the Ammonia Basin Plan Amendment. This new Resolution will implement ELS Provision as described under “implementation”, subparagraph 3. Currently, the Discharger’s receiving waterbody is designated as ELS already. Whether the new Resolution No. 2005-014 would be approve or disapprove by EPA, the calculated effluent limitation based upon Resolution No. 2002-011 definition of the 30-day average objective will remain the same until the receiving water is reclassified as being “ELS Absent” condition.

support high quality aquatic habitats suitable for reproduction and early development of fish and, therefore waterbodies are designated as ELS present waters.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the freshwater ammonia water objective will not be used to calculate the final ammonia effluent limitations for the Facility.

(iii). Saltwater Ammonia Criteria Maximum Concentration (CMC)

$$\text{Total ammonia} = 0.233 + 0.233 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature ($^{\circ}$ K)
 $pK_a^S = 0.116 * I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 * S(1000 - 1.005109S)^{-1}$, the molar ionic strength of saltwater based on S, S = salinity

(iv). Saltwater Ammonia Criteria Continuous Concentration (CCC)

$$\text{Total ammonia} = 0.035 + 0.035 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature ($^{\circ}$ K)
 $pK_a^S = 0.116 * I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 * S(1000 - 1.005109S)^{-1}$, the molar ionic strength of saltwater based on S, S = salinity

Ammonia-N, other Nitrogen Species – Reasonable potential analysis (RPA) was conducted for Ammonia as nitrogen, Nitrate plus Nitrite as nitrogen, Nitrate as nitrogen, and Nitrite as nitrogen using the Discharger's effluent data from their self monitoring reports. The RPA compares the effluent data with the Basin Plan WQOs. The Discharger's effluent exceeded the Basin Plan WQOs for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as nitrogen during the last permit cycle. In addition, the Facility currently only has a full nitrification and a partial denitrification process. Once the full nitrification and denitrification process is on line, the effluent nitrate concentration shall be further reduced. However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best

Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2008-0011 and the Discharger may request to have interim nitrite effluent limitations in the future.

Based on this information, the Regional Water Board has determined that there is a reasonable potential that the discharge will cause or contribute to an exceedance of the Basin Plan WQOs and, consistent with 40 CFR 122.44(d), the Order contains numeric effluent limitations for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as Nitrogen.

Ammonia saltwater criteria are salinity, pH, and temperature dependent. Because there is such a wide temperature fluctuation in the Estuary during summer and winter months (74.5°F vs. 52.2°F), seasonal ammonia effluent limitations have been placed into the Order. The summer and winter ammonia effluent limitations cover May to October and November to April, respectively. The lowest monthly average and daily maximum of total ammonia projected among receiving water quality monitoring stations (R-001 to R-005), based on three years of monthly receiving water data, were used as monthly average and daily maximum ammonia effluent concentrations in this Order. The calculations are available in Attachment M.

j. Coliform/Bacteria

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

i. Effluent Limitations:

- The 7 day median number of coliform organisms at some point in the treatment process must not exceed 2.2 Most Probable Number (MPN) per 100 milliliters;
- The number of coliform organisms must not exceed 23 MPN per 100 milliliters in more than one sample within any 30-day period; and,
- No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements

established by the Department of Health Services. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

ii. Receiving Water Limitation

- Geometric Mean Limits
 - * E.coli density shall not exceed 126/100 mL.
 - * Fecal coliform density shall not exceed 200/100 mL.
- Single Sample Limits
 - * E.coli density shall not exceed 235/100 mL.
 - * Fecal coliform density shall not exceed 400/100 mL.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Water Board on October 25, 2001. The Resolution was approved by State Water Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

k. pH

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR section 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan (page 3-15) which reads "the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.

l. Temperature

The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal

Plan and a white paper developed by Regional Water Board staff and comments previously received from staff of California Department of Fish and Game entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F (except as a result of external ambient temperature) is included in the tentative Order. The temperature limit is consistent with the limits in other POTW permits in the region. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature is not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective.

m. Turbidity

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period," is based on the Basin Plan (page 3-17) and Section 60301.320 of Title 22, Chapter 3, "Filtered Wastewater" of the California Code of Regulations.

n. Radioactivity

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The existing effluent limitation for radioactivity which reads, "Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life." is based on the *Radioactivity substances* specified in the Basin Plan in order to protect the surface water beneficial use and human health.

o. Biostimulatory Substances

Biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth. In addition to being aesthetical unpleasant (causing taste, odor, or color problems), this

excessive growth can also cause other water quality problems. The limits for biostimulatory substances are based on the Basin Plan (page 3-8) narrative, “Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.”

p. CTR and SIP

Priority pollutant water quality criteria in the CTR are applicable to the Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply in accordance with 40 CFR § 131.38(c)(3): freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this condition occurs 95 percent or more of the time; saltwater criteria apply at salinities of 10 ppt and above at locations where this occurs 95 percent or more of the time; and at salinities between 1 and 10 ppt the more stringent of the two apply. The CTR criteria for freshwater or human health for consumption of organisms, whichever is most stringent, are used to prescribe the effluent limitations in the tentative Order to protect the beneficial uses of the Estuary.

Some water quality criteria are hardness dependent. The Discharger provided hardness data collected from the Estuary. The receiving water hardness values ranged from 250 to 7700 mg/L. Since most of the receiving water hardness data (963 of 967) and their average hardness as CaCO₃ (1848 mg/L) are greater than 400 mg/L as CaCO₃, in accordance with the SIP/CTR procedures, the 400 mg/L hardness cap will be used in calculating metals criteria for evaluation of reasonable potential.

The following Table summarizes the applicable water quality criteria for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for the tentative Order.

Table 6. Applicable Water Quality Criteria

CTR No.	Constituent	Most Stringent Criteria µg/L	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute µg/L	Chronic µg/L	Acute µg/L	Chronic µg/L	Water & Organisms µg/L	Organisms only µg/L
6	Copper	3.7	52	31	5.8	3.7	--	--
8	Mercury	0.051	--	--	--	--	--	0.051
11	Silver	2.2	44	--	2.2	--	--	--
13	Zinc	86	388	388	95	86	--	--

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

In accordance with section 13267 of the CWC, the Regional Water Board required the Discharger to conduct an interim monitoring program of the effluent and the receiving water from January 2001 to April 2003 on a quarterly basis. At least nine data sets for effluent and receiving water monitoring for the period from January 2001 through April 2003 were available. In addition, samples for certain priority pollutants were collected as required by the existing MRP; these data were also used to complete the RPA.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Based on the RPA, pollutants that demonstrate

reasonable potential are copper, mercury, silver, and zinc. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

Table 7. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	58.2	8.55	No	C>B, C>MEC
2	Arsenic	150	1.9	24.9	No	C>B, C>MEC
3	Beryllium	Narrative	0.04	0.82	No	No criteria
4	Cadmium	3.75	0.3	<4.0	No	C>B, C>MEC
5a	Chromium III	321	ND<10	--	No	C>MEC
5b	Chromium VI	11.4	8.05	--	No	C>MEC
6	Copper	3.7	17	14.8	Yes	MEC>C
7	Lead	8.5	63	<5.0	No	C>MEC
8	Mercury	0.051	0.7	--	Yes	MEC>C
9	Nickel	82.13	8	21.4	No	C>B, C>MEC
10	Selenium	71	6.7	12.7	No ¹⁴	C>B, C>MEC
11	Silver	2.2	9.3	15.8	Yes	MEC>C
12	Thallium	6.3	0.6	<1.0	No	C>B, C>MEC
13	Zinc	188.77	239	117	Yes	MEC>C
14	Cyanide ¹⁵	5.2	<5	100	No	C>MEC
15	Asbestos	7x10 ⁶ fibers/L	No sample	--	No	N/A
16	2,3,7,8-TCDD (Dioxin)	1.4x10 ⁻⁰⁸	<8.8x10 ⁻⁰⁶	<0.00062- <0.00089	No	All ND in Effluent
17	Acrolein	780	<0.6	<0.60	No	C>B, C>MEC
18	Acrylonitrile	0.66	<0.5	<0.50	No	C>B, C>MEC
19	Benzene	71	0.23	<0.20	No	C>B, C>MEC
20	Bromoform	360	4.9	0.70	No	C>B, C>MEC
21	Carbon Tetrachloride	4.4	<0.12	<0.12	No	C>B, C>MEC
22	Chlorobenzene	21,000	<0.2	<0.20	No	C>B, C>MEC
23	Dibromochloromethane ¹⁴	34	5.4	40.7	No	C>MEC
24	Chloroethane	No criteria	<0.52	<0.52	No	No criteria
25	2-chloroethyl vinyl ether	No criteria	<0.13	<0.13	No	No criteria
26	Chloroform	No criteria	122	10.6	No	No criteria
27	Dichlorobromomethane ¹⁴	46	8.6	2.9	No	C>MEC
28	1,1-dichloroethane	No criteria	<0.07	<0.07	No	No criteria

¹⁴ Step 6 of SIP, page 4, states that if B is greater than C and the pollutant was not detected in any of the effluent samples, effluent limitation is not required.

¹⁵ The effluent data between April 2004 and December 2006 were used due to the City modifying the treatment processes through an installation of an ammonia addition device since April 2004.

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
29	1,2-dichloroethane	99	<0.03	<0.03	No	C>B, C>MEC
30	1,1-dichloroethylene	3.2	<0.13	<0.13	No	C>B, C>MEC
31	1,2-dichloropropane	39	<0.04	<0.34	No	C>B, C>MEC
32	1,3-dichloropropylene	1,700	<0.34	<0.34	No	C>B, C>MEC
33	Ethylbenzene	29,000	<0.34	<0.34	No	C>B, C>MEC
34	Methyl bromide	4,000	<0.5	<0.50	No	C>B, C>MEC
35	Methyl chloride	No criteria	<0.08	<0.08	No	No criteria
36	Methylene chloride	1,600	<0.25	<0.25	No	C>B, C>MEC
37	1,1,2,2-tetrachloroethane	11	<0.03	<0.03	No	C>B, C>MEC
38	Tetrachloroethylene	8.85	<0.03	<0.03	No	C>B, C>MEC
39	Toluene	200,000	<0.2	1.3	No	C>B, C>MEC
40	Trans 1,2-Dichloroethylene	140,000	<0.1	<0.1	No	C>B, C>MEC
41	1,1,1-Trichloroethane	200	<0.03	<0.03	No	C>B, C>MEC
42	1,1,2-Trichloroethane	42	<0.02	<0.02	No	C>B, C>MEC
43	Trichloroethylene	81	<0.12	<0.12	No	C>B, C>MEC
44	Vinyl Chloride	525	<0.18	<0.18	No	C>B, C>MEC
45	2-chlorophenol	400	<3.3	<3.3	No	C>B, C>MEC
46	2,4-dichlorophenol	790	<2.7	<2.7	No	C>B, C>MEC
47	2,4-dimethylphenol	2,300	<2.7	<2.7	No	C>B, C>MEC
48	2-methyl-4,6-dinitrophenol	765	<10	<10	No	C>B, C>MEC
49	2,4-dinitrophenol	14,000	<42	<42	No	C>B, C>MEC
50	2-nitrophenol	No criteria	<3.6	<3.6	No	No criteria
51	4-nitrophenol	No criteria	<2.4	<2.4	No	No criteria
52	3-Methyl-4-Chlorophenol	No criteria	<3	<3.0	No	No criteria
53	Pentachlorophenol	8.2	<3.6	<3.6	No	C>B, C>MEC
54	Phenol	4,600,000	<1.5	<1.5	No	C>B, C>MEC
55	2,4,6-trichlorophenol	6.5	<2.7	<2.7	No	C>B, C>MEC
56	Acenaphthene	2,700	<2	<2.0	No	C>B, C>MEC
57	Acenaphthylene	No criteria	<1.9	<1.9	No	No criteria
58	Anthracene	110,000	<1.9	<1.9	No	C>B, C>MEC
59	Benzidine	0.00054	<4.4	<4.4	No	All ND in Effluent
60	Benzo(a)Anthracene	0.049	<7.8	<7.8	No	All ND in Effluent
61	Benzo(a)Pyrene	0.049	<2.5	<2.5	No	All ND in Effluent
62	Benzo(b)Fluoranthene	0.049	<4.8	<4.8	No	All ND in Effluent
63	Benzo(ghi)Perylene	No criteria	<4.1	<4.1	No	No criteria
64	Benzo(k)Fluoranthene	0.049	<2.5	<2.5	No	All ND in Effluent
65	Bis(2-Chloroethoxy) methane	No criteria	<5.3	<5.3	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	<5.7	<5.7	No	All ND in Effluent
67	Bis(2-Chloroisopropyl) Ether	170,000	<5.7	<5.7	No	C>B, C>MEC
68	Bis(2-Ethylhexyl)Phthalate ¹⁵	5.9	<2.5	2.92	No	C>MEC

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008, February 20, 2008, and March 6, 2008

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
69	4-Bromophenyl Phenyl Ether	No criteria	<1.9	<1.9	No	No criteria
70	Butylbenzyl Phthalate	5,200	<2.5	<2.5	No	C>B, C>MEC
71	2-Chloronaphthalene	4,300	<1.9	<1.9	No	C>B, C>MEC
72	4-Chlorophenyl Phenyl Ether	No criteria	<4.2	<4.2	No	No criteria
73	Chrysene	0.049	<2.0	<2.0	No	All ND in Effluent
74	Dibenzo(a,h) Anthracene	0.049	<2.5	<2.5	No	All ND in Effluent
75	1,2-Dichlorobenzene	17,000	<1.9	<1.9	No	C>B, C>MEC
76	1,3-Dichlorobenzene	2,600	<1.9	<1.9	No	C>B, C>MEC
77	1,4-Dichlorobenzene	2,600	<4.4	<4.4	No	C>B, C>MEC
78	3-3'-Dichlorobenzidine	0.077	<16.5	<16.5	No	All ND in Effluent
79	Diethyl Phthalate	120,000	<2.2	<2.2	No	C>B, C>MEC
80	Dimethyl Phthalate	2,900,000	<1.6	<1.6	No	C>B, C>MEC
81	Di-n-Butyl Phthalate	12,000	<2.5	<2.5	No	C>B, C>MEC
82	2-4-Dinitrotoluene	9.1	<5.7	<5.7	No	C>B, C>MEC
83	2-6-Dinitrotoluene	No criteria	<1.9	<1.9	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	<2.5	<2.5	No	No criteria
85	1,2-Diphenylhydrazine	0.54	<10	<10	No	All ND in Effluent
86	Fluoranthene	370	<2.2	<2.2	No	C>B, C>MEC
87	Fluorene	14,000	<1.9	<1.9	No	C>B, C>MEC
88	Hexachlorobenzene	50	<1.9	<1.9	No	C>B, C>MEC
89	Hexachlorobutadiene	50	<0.9	<0.9	No	C>B, C>MEC
90	Hexachlorocyclopentadiene	17,000	<1.9	<1.9	No	C>B, C>MEC
91	Hexachloroethane	8.9	<1.6	<1.6	No	C>B, C>MEC
92	Indeno(1,2,3-cd)Pyrene	0.049	<3.7	<3.7	No	All ND in Effluent
93	Isophorone	600	<2.2	<2.2	No	C>B, C>MEC
94	Naphthalene	No criteria	<10	<10	No	No criteria
95	Nitrobenzene	1,900	<1.9	<1.9	No	C>B, C>MEC
96	N-Nitrosodimethylamine	8.1	<1.5	<1.5	No	C>B, C>MEC
97	N-Nitrosodi-n-Propylamine	1.4	<10	<10	No	All ND in Effluent
98	N-Nitrosodiphenylamine	16	<10	<10	No	C>B, C>MEC
99	Phenanthrene	No criteria	<5.4	<5.4	No	No criteria
100	Pyrene	11,000	<1.9	<1.9	No	C>B, C>MEC
101	1,2,4-Trichlorobenzene	No criteria	<1.9	<1.9	No	No criteria
102	Aldrin	0.00014	<0.004	<0.004	No	All ND in Effluent
103	Alpha-BHC	0.013	<0.011	<0.003	No	C>B, C>MEC
104	Beta-BHC	0.046	<0.007	<0.006	No	C>B, C>MEC
105	Gamma-BHC (Lindane)	0.063	<0.007	<0.004	No	C>B, C>MEC
106	delta-BHC	No criteria	<0.039	<0.009	No	No criteria
107	Chlordane	0.00059	<0.360	<0.014	No	All ND
108	4,4'-DDT	0.00059	<4.7	<4.7	No	C>B, C>MEC

Attachment F – Fact Sheet

April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008, February 20, 2008, and March 6, 2008

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
109	4,4'-DDE	0.00059	<5.6	<5.6	No	All ND in Effluent
110	4,4'-DDD	0.00084	<2.8	<2.8	No	All ND in Effluent
111	Dieldrin	0.00014	<0.009	0.007	No	All ND in Effluent
112	Alpha-Endosulfan	0.056	<0.038	<0.014	No	C>B, C>MEC
113	Beta-Endosulfan	0.056	<0.029	<0.014	No	C>B, C>MEC
114	Endosulfan Sulfate	240	<0.066	<0.066	No	C>B, C>MEC
115	Endrin	0.036	<0.014	<0.006	No	C>B, C>MEC
116	Endrin Aldehyde	0.81	<0.023	<0.023	No	C>B, C>MEC
117	Heptachlor	0.00021	<0.014	<0.003	No	All ND in Effluent
118	Heptachlor Epoxide	0.00011	<0.083	<0.083	No	All ND in Effluent
119	PCB 1016	0.00017	<0.39	<0.39	No	All ND in Effluent
120	PCB 1221	0.00017	<0.39	<0.65	No	All ND in Effluent
121	PCB 1232	0.00017	<0.39	<0.65	No	All ND in Effluent
122	PCB 1242	0.00017	<0.39	<0.65	No	All ND in Effluent
123	PCB 1248	0.00017	<0.39	<0.65	No	All ND in Effluent
124	PCB 1254	0.00017	<0.39	<0.65	No	All ND in Effluent
125	PCB 1260	0.00017	<0.39	<0.65	No	All ND in Effluent
126	Toxaphene	0.00075	<0.05	<10	No	All ND in Effluent

4. WQBEL Calculations

a. Water quality-based effluent limits (final) are based on monitoring results and following the calculation process outlined in Section 1.4 of the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California. A table providing the calculation for all applicable WQBELs for this Order is provided in Attachment J of this Order.

b. WQBELs Calculation Example

Using copper as an example, the following demonstrates how WQBELs based on human health criterion were established for this Order. The process for developing these limits is in accordance with Section 1.4 of the SIP. Attachment I summarizes the development and calculation of all WQBELs for this Order using the process described below.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

the effluent concentration allowance (ECA) using the following steady state equation:

$$\begin{aligned} \text{ECA} &= C + D(C-B) \quad \text{when } C > B, \text{ and} \\ \text{ECA} &= C \quad \text{when } C \leq B, \end{aligned}$$

where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 400 mg/L (as CaCO₃) was used for development of hardness-dependent criteria.
D = The dilution credit, and
B = The ambient background concentration

For this Order, dilution was not allowed due to nature of the receiving water and quantity of the effluent, however, Water Effect Ratio, 1.58 is applicable for copper, therefore:

$$\text{ECA} = C \times 1.58$$

For copper, the applicable saltwater quality criteria are:

$$\begin{aligned} \text{ECA}_{\text{acute}} &= 5.58 \mu\text{g/L} \times 1.58 = 8.82 \mu\text{g/L} \\ \text{ECA}_{\text{chronic}} &= 3.60 \mu\text{g/L} \times 1.58 = 5.70 \mu\text{g/L} \end{aligned}$$

5.58 and 3.60 result from 4.8 (Acute Saltwater Dissolved Fraction Limit)/0.86 and 3.1 (Chronic Saltwater Dissolved Fraction Limit)/0.86, respectively. 0.86 is Copper Translator Factor.

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$\text{LTA}_{\text{acute}} = \text{ECA}_{\text{acute}} \times \text{Multiplier}_{\text{acute}}$$

$$\text{LTA}_{\text{chronic}} = \text{ECA}_{\text{chronic}} \times \text{Multiplier}_{\text{chronic}}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or

at least 80% of the samples in the data set are reported non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

<u>No. of Samples</u>	<u>CV</u>	<u>Multiplier_{acute}</u>	<u>Multiplier_{chronic}</u>
25	0.64	0.3026	0.5064

$$LTA_{acute} = 8.82 \text{ } \mu\text{g/L} \times 0.3026 = 2.61 \text{ } \mu\text{g/L}$$

$$LTA_{chronic} = 5.70 \text{ } \mu\text{g/L} \times 0.5064 = 2.84 \text{ } \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or $LTA_{chronic}$
 For copper, the most limiting LTA was the LTA_{acute}

$$LTA = 2.61 \text{ } \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation (MDEL). The multiplier is statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides the pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic \text{ life}} = LTA \times AMEL_{multiplier}$$

$$MDEL_{aquatic \text{ life}} = LTA \times MDEL_{multiplier}$$

AMEL multipliers are based on 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP.

<u>No. of Samples</u>	<u>CV</u>	<u>Multiplier_{MDEL}</u>	<u>Multiplier_{AMEL}</u>
25	0.66	3.3850	1.6127

$$AMEL_{\text{aquatic life}} = 2.61 \times 1.6127 = 4.20 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 2.61 \times 3.3850 = 8.82 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{\text{human health}}$

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

For copper:

$$AMEL_{\text{human health}} = \text{NONE}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

A copper $MDEL_{\text{human health}}$ could not be calculated because a copper $AMEL_{\text{human health}}$ was not available. However, for illustrative purposes, if a $AMEL_{\text{human health}}$ was available, the following data and equation would have been used to develop the $MDEL_{\text{human health}}$:

<u>No. of Samples Per Month</u>	<u>CV</u>	<u>Multiplier_{MDEL}</u>	<u>Multiplier_{AMEL}</u>	<u>Ratio</u>
25	0.66	3.3850	1.6127	2.0990

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times Multiplier_{MDEL} / Multiplier_{AMEL}$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health water quality based effluent limit for this Order.

For copper:

<u>AMEL_{aquatic life}</u>	<u>MDEL_{aquatic life}</u>	<u>AMEL_{human health}</u>	<u>MDEL_{human health}</u>
4.20 $\mu\text{g/L}$	8.82 $\mu\text{g/L}$	Not available	Not available

The lowest (most restrictive) effluent limits, those based on aquatic life criteria, were incorporated into this Order. Due to rounding of digits in the abovementioned calculation, the final limit for copper in this exercise is slightly different than the limit derived using the SIP spreadsheet, in which the numbers are not rounded off.

c. Mass based limits

40 CFR section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

d. Final WQBELs

Summaries of the WQBELs required by this Order are described in Table 8 below. Mass-based effluent limitations are based on a design capacity of 14 MGD.

**Summary of Water Quality-based Effluent Limitations
 Effluent Transfer Station**

Table 8. Summary of Water Quality-based Effluent Limitations

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	0.30
	lbs/day ¹¹	5.3	35
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	0.53
	lbs/day ¹¹	9.3	62
Nitrite + Nitrate as Nitrogen	mg/L	10	--
	lbs/day ¹¹	1,200	--
Nitrite as Nitrogen	mg/L	1	--
	lbs/day ¹¹	120	--
Nitrate as Nitrogen	mg/L	10	--
	lbs/day ¹¹	1,200	--

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Copper	µg/L	4.2 ¹⁶	8.8 ¹⁶
	lbs/day ¹⁷	0.49	1.0
Mercury	µg/L	0.051	0.10
	lbs/day ¹⁷	0.0060	0.012
Silver	µg/L	0.71	2.2
	lbs/day ¹⁷	0.083	0.26
Zinc	µg/L	45 ¹⁸	107 ¹⁸
	lbs/day ¹⁷	5.3	13

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the Facility’s effluent, or could have synergistic or additive effects. Also, because numeric limits for certain toxic constituents that did not show RP have been removed, the acute toxicity limit may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts. In addition, 12 out of the 85 chronic toxicity tests conducted from January 2003 through December 2006 exceeded the monthly median chronic toxicity trigger of 1.0 TUc. Although all 4 acute toxicity testing results reported during the term of the previous Order exhibited 100% survival rates and thus did not exceed any acute toxicity requirements, Regional Water Board staff determined that, pursuant to the SIP, reasonable potential exists for chronic toxicity. As such, the permit contains effluent trigger limitations for chronic toxicity.

¹⁶ Based on the results of Copper Water Effect Ratio (WER) Study in the Updated Enhancement Study conducted by Nautilus Environmental and Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, WER of 1.58 and MTF of 0.86 were applied for copper final effluent limitations.

¹⁷ The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (µg/L) x 0.00837 (Lbs/MGxµg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

¹⁸ Based on the result of Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, MTF of 0.84 was applied for zinc final effluent limitations.

The toxicity numeric effluent limitations are based on:

- a. 40 CFR 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;
- b. 40 CFR 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent limits using numeric water quality criterion;
- c. Basin Plan objectives and implementation provisions for toxicity;
- d. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;
- e. Whole Effluent Toxicity (WET) Control Policy July 1994; and,
- f. Technical Support Document (several chapters and Appendix B).

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Water Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUC trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar chronic toxicity effluent limitation. This Order also contains a reopener to allow the Regional Water Board to modify the permit, if necessary, consistent with any new policy, law, or regulation.

a. Acute Toxicity Limitation:

The Dischargers may test for acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

b. Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TU_c for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the 1.0 TU_c chronic criterion should be expressed as a monthly median. The “median” is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limit: using 2.0 TU_c as the maximum daily limit; or using a statistical approach outlined in the TSD to develop a maximum daily effluent limitation. In this permit, neither maximum daily limitation nor trigger for chronic toxicity is prescribed.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. The effluent limitations for 122 priority pollutants are deleted because they did not show reasonable potential to cause or contribute to an excursion above the respective water quality standards. The new average monthly and daily maximum effluent limitations for copper, mercury, and zinc that are less stringent than those in the previous permit are derived from the calculation in the SIP. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

On October 28, 1968, the State Board adopted Resolution No. 68-16, *Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Water Boards. The State Board has, in State Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR, Section 131.12) require that all permitting actions be consistent with the

federal antidegradation policy. Together, the State and Federal policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The provisions of this Order are consistent with the antidegradation policies.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS, pH are discussed in Section IV.B. of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

Summary of Final Effluent Limitations Effluent Transfer Station

Table 9. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
BOD ₅ 20°C	mg/L	20	30	45	--	--	Existing
	lbs/day ¹¹	2,300	3,500	5,300	--	--	
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--	Existing
	lbs/day ¹¹	1,800	4,700	5,300	--	--	

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	standard units	--	--	--	6.5	8.5	Existing
Oil and Grease	mg/L	10	--	15	--	--	Existing
	lbs/day ¹¹	1,200	--	1,800	--	--	
Settleable Solids	ml/L	0.1	--	0.3	--	--	Existing
Total Residual Chlorine	mg/L	0.1	--	--	--	--	Existing
	lbs/day ¹¹	12	--	--	--	--	
MBAS	mg/L	0.5	--	--	--	--	Basin Plan, RPA
	lbs/day ¹¹	59	--	--	--	--	
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--	Basin Plan
	lbs/day ¹¹	5.3	--	35	--	--	
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--	Basin Plan
	lbs/day ¹¹	9.3	--	62	--	--	
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day ¹¹	1,200	--	--	--	--	
Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan, BPJ
	lbs/day ¹¹	1,200	--	--	--	--	
Nitrate as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day ¹¹	1,200	--	--	--	--	
Copper	µg/L	4.2 ¹⁶	--	8.8 ¹⁶	--	--	CTR, SIP
	lbs/day ¹⁷	0.49	--	1.0	--	--	
Mercury	µg/L	0.051	--	0.10	--	--	CTR, SIP
	lbs/day ¹⁷	0.0060	--	0.012	--	--	
Silver	µg/L	0.71	--	2.2	--	--	CTR, SIP
	lbs/day ¹⁷	0.083	--	0.26	--	--	
Zinc	µg/L	45 ¹⁸	--	107 ¹⁸	--	--	CTR, SIP
	lbs/day ¹⁷	5.3	--	12	--	--	

E. Interim Effluent Limitations

Interim limits have been set as follows:

1. The SIP requires that the Regional Water Board establish interim requirements such as requiring the discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations.

2. The Discharger may not be able to achieve immediate compliance with the new non-CTR-based limits for ammonia nitrogen prescribed in this Order. Based on effluent and receiving monitoring data submitted by the Discharger, a comparison between the MEC (3.6 mg/L) and calculated AMEL (0.045 mg/L for summer and 0.079 for winter) and MDEL (0.30 mg/L for summer and 0.53 for winter) values shows that the Discharger may not be able to consistently comply with the AMEL and MDEL established in this Order for ammonia nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2008-0012.
3. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.6 mg/L) and the Basin Plan WQO for nitrate as nitrogen (10 mg/L), shows that the Discharger may be unable to comply with the Basin Plan WQO established in this Order for nitrate as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2008-0012.
4. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.8 mg/L) and the Basin Plan WQO for nitrate + nitrite as nitrogen (10 mg/L), shows that the Discharger may be unable to consistently comply with the Basin Plan WQO established in this Order for nitrate + nitrite as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2008-0012.

F. Land Discharge Specifications

Not Applicable.

G. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 CFR § 131.12) and State Water Board Resolution No. 68-16. Receiving water

limitations in the tentative Order are included to ensure protection of beneficial uses of the receiving water.

B. Groundwater

Not Applicable.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program

Influent monitoring in this Order follows the influent monitoring requirements in the previous Order with minor modification. The monitoring frequencies for parameters have been increased due to RP with those parameters.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed Monitoring and Reporting Program (Attachment E). This provision requires compliance with the Monitoring and Reporting Program, and is based on 40 CFR 122.44(i), 122.62, 122.63, and 124.5. The Monitoring and Reporting Program is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board policies. The Monitoring and Reporting Program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling

stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the facility, will be required as shown on the proposed Monitoring and Reporting Program (Attachment E) and as required in the SIP.

The effluent monitoring in this Order follows the effluent monitoring requirements in the existing Order. The changes are summarized in the following table.

Table 11. Effluent Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Total residual chlorine	continuous	continuous ¹⁹
Total residual chlorine	--	5 days/week ²⁰
Total waste flow	continuous	continuous ²¹
Turbidity	continuous	continuous ²⁰
Total and fecal coliform	daily	daily
Settleable solids	daily	daily
BOD ₅ 20°C	daily	daily
Suspended solids	daily	daily
Dissolved oxygen	daily	daily
Temperature	weekly	weekly
pH	weekly	weekly
Oil and grease	weekly	weekly
Total dissolved solids	monthly	monthly
Fluoride	monthly	monthly
Phosphate as P	monthly	monthly
Phosphorous	monthly	monthly
Ammonia nitrogen	monthly	monthly

¹⁹ Total residual chlorine shall be continuously recorded. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak, minimum daily peak, and daily average from the recorded data and shall make available upon request of the Regional Water Board. The continuous monitoring data are not intended to be used for the compliance determination purposes.

²⁰ Daily grab samples shall be collected at monitoring location M-001, Monday through Friday only, except for holidays. Analytical results of daily grab samples will be used to determine compliance with total residual chlorine effluent limitation. Furthermore, additional monitoring requirements as specified in section IV.A.2. shall be followed.

²¹ Where continuous monitoring of a constituent is required, the following shall be reported:
 Total waste flow – Total daily and peak daily flow (24-hr basis);
 Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Nitrate nitrogen	monthly	monthly
Nitrite nitrogen	monthly	monthly
Organic nitrogen	monthly	monthly
Total Kjeldahl nitrogen	monthly	monthly
Detergents (as MBAS)	monthly	monthly
Chlorophyll <i>a</i>	monthly	monthly
Cyanide	quarterly	monthly ²²
Chronic toxicity	monthly	monthly
Acute toxicity	annually	annually
Aluminum	quarterly	semiannually
Antimony	quarterly	semiannually
Arsenic	quarterly	semiannually
Barium	quarterly	semiannually
Beryllium	quarterly	semiannually
Cadmium	quarterly	semiannually
Chromium VI	quarterly	semiannually
Cobalt	quarterly	semiannually
Copper	quarterly	monthly
Iron	quarterly	semiannually
Lead	quarterly	semiannually
Mercury	quarterly	monthly
Molybdenum	quarterly	semiannually
Nickel	quarterly	semiannually
Selenium	quarterly	semiannually
Silver	quarterly	monthly
Thallium	quarterly	semiannually
Vanadium	quarterly	semiannually
Zinc	quarterly	monthly
Chlorodibromomethane	quarterly	monthly ²¹
Dichlorobromomethane	quarterly	monthly ²¹
Bis(2-ethylhexyl)phthalate	quarterly	monthly ²¹
Acetone	quarterly	semiannually
TCDD	semiannually	semiannually
Benzene	quarterly	semiannually
Bromoform	quarterly	semiannually
Carbon tetrachloride	quarterly	semiannually
Chloroform	quarterly	semiannually
Dichloromethane	quarterly	semiannually
Tetrachloroethylene	quarterly	semiannually

²² This chemical needs to be monthly monitored until the end of Year 2008. If the results are non-detected or less than the CTR-based criteria, then the monitoring frequency can be reduced from monthly to semiannually. If any result exceeds the CTR-based criteria before or/and after Year 2008, the monitoring frequency shall remain as monthly.

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Phenols (chlorinated & non chlorinated)	quarterly	semiannually
PCBs	quarterly	semiannually
Aldrin	quarterly	semiannually
Dieldrin	quarterly	semiannually
Chlordane	quarterly	semiannually
Endrin	quarterly	semiannually
Heptachlor	quarterly	semiannually
Heptachlor epoxide	quarterly	semiannually
Endosulfan	quarterly	semiannually
Toxaphene	quarterly	semiannually
DDT	quarterly	semiannually
Total xylene	quarterly	semiannually
Remaining priority pollutants (excluding asbestos)	semiannually	semiannually
Pesticides ²³	semiannually	semiannually
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	semiannually	semiannually
Emerging chemicals ²⁴	--	biannually
Endocrine disrupting chemicals ²⁵	--	biannually
Pharmaceuticals ²⁶	--	biannually

The reduction of monitoring frequencies for priority pollutants listed in the above table is based on the fact that previous monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants with RP to exceed the WQOs is increased.

C. Whole Effluent Toxicity Testing Requirements

²³ Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

²⁴ Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

²⁵ Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. These chemicals need to be monitored, only when the analytical methods for these chemicals are applicable and approved by the CDPH. These chemicals need to be monitored during August.

²⁶ Pharmaceuticals include acetaminopen, amoxicillin, azithromycin, caffeine, carbamazepine, ciprofloxacin, ethylenediamine tetra-acetic acid (EDTA), gemfibrozil, ibuprofen, iodinated contrast media, lipitor, methadone, morphine, salicylic acid, and triclosan. These chemicals need to be monitored, only when the analytical methods for these chemicals are applicable and approved by the CDPH. These chemicals need to be monitored during August.

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as ‘triggers’ for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan. The receiving water monitoring program in this Order includes the following modifications to the existing receiving water monitoring program:

- a. Monitoring for priority pollutants and chronic toxicity in the previous Order No. 00-143 was at Stations R-001, R-003, and R-005. Monitoring for these constituents in the renewal MRP are Stations R-003, R-005, and Station R-004 replacing Station R-001.
- b. The reduction of monitoring frequencies for priority pollutants listed in Table 12 is based on the fact that previous effluent monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants and chronic toxicity with RP to exceed the WQOs is increased.

Table 12. Receiving Water Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Copper	quarterly	monthly
Mercury	quarterly	monthly
Silver	quarterly	monthly

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Zinc	quarterly	monthly
Cyanide	quarterly	monthly ²⁷
Chlorodibromomethane	quarterly	monthly ²⁷
Dichlorobromomethane	quarterly	monthly ²⁷
Bis(2-ethylhexyl)phthalate	quarterly	monthly ²⁷
Remaining priority pollutants (excluding asbestos)	quarterly	semiannually
Chronic toxicity	semiannually	quarterly

c. Annual acute toxicity test is added at Stations R-005 and R-003 to fulfill Section V.A.14.d of Order.

2. Groundwater

Not Applicable.

E. Other Monitoring Requirements

1. Biosolids/Sludge Monitoring

This section establishes monitoring and reporting requirements for the storage, handling and disposal practices of sludge generated from the operation of this Facility.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address

²⁷ If any result of this chemical exceeds the CTR-based criteria after the effective date of this Order, the receiving water monitoring frequency of this chemical shall be increased from semiannually to monthly.

enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This provision is based on 40 CFR Part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceed an effluent limitation for toxicity, the Discharger needs to conduct TIE/TRE detailed in Section V of the MRP (Attachment E). The TRE will help the Discharger identify the possible source(s) of toxicity. Once the source(s) of toxicity is identified, the Discharger shall take all reasonable steps to reduce toxicity to the required level.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR 122.26 that established requirements for storm water discharges under an NPDES permit. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 as State Board Order No. 97-03-DWQ. JWPCP is covered under this general permit and an updated SWPPP is required.

b. **Spill Contingency Plan (SCP)**

Since spill or overflow is a common event in the treatment plant service areas, this Order requires the Discharger to review and update, if necessary, SCP after each incident. The Discharger shall ensure that the up-to-date SPC is readily available to the sewage system personnel at all times and that the sewage personnel are familiar with it.

c. **Pollutant Minimization Program.**

This provision is based on the requirements of Section 2.4.5 of the SIP.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of 40 CFR 122.41(e) and the previous Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Biosolids Requirements.** To implement CWA Section 405(d), on February 19, 1993, USEPA promulgated 40 CFR 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Discharger to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Discharger is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.

b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order.

7. Compliance Schedules

- a. This Order establishes final effluent limitations for ammonia, nitrate plus nitrite as nitrogen, nitrite as nitrogen, copper, mercury, silver, and zinc.
- b. For the aforementioned non-CTR-based pollutants, the interim limits and compliance dates are provided in the accompanying Time Schedule Order No. R4-2008-0012.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Ventura Water Reclamation Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following newspapers: (Ventura County Star and date).

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on February 7, 2008.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: March 6, 2008
Time: 9:00 a.m.
Location: City of Simi Valley, Council Chambers
2929 Tapo Canyon Road
Simi Valley, California

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/losangeles/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Don Tsai at (213) 576-6665.

Appendix E

Brown & Caldwell's Technical Memo No. 1



Ventura WRF Upgrade Project Secondary Treatment Technical Memorandum No. 1

September 8, 2006

**BROWN AND
CALDWELL**

CONTENTS

Appendices

- A – Wastewater Characterization Sampling Results
- B – Candidate Pump Selections and Motors
- C – Preliminary Pumping Layouts
- D – Recommended Demolition and Mechanical Layout Drawings
- E – Recommended Adjustable Crane
- F – City’s Comments and Brown and Caldwell’s Response

List of Tables

- Table 1 – Design Flows and Loadings
- Table 2 – Stage 2 Design Criteria

List of Figures

- Figure 1 – Historical SVI
- Figure 2 – Historical Influent Flows
- Figure 3 – Historical TSS Loading
- Figure 4 – Historical BOD Loading
- Figure 5 – Historical COD Loading
- Figure 6 – Historical Nitrogen Loading
- Figure 7 – Process Configuration Alternatives
- Figure 8 – Winter Capacities for (a) MLE and (b) BAR Processes
- Figure 9 – Secondary Treatment Facilities Layout
- Figure 10 – Secondary Treatment Schematic
- Figure 11 – Secondary Treatment Facilities Configuration
- Figure 12 – Secondary Treatment Schematic – Alternative Operations

Ventura WRF Upgrade Project Secondary Treatment Technical Memorandum No. 1

Prepared By: Brown and Caldwell

Date: June 30, 2006

Introduction

The Ventura Water Reclamation Facility (VWRF) currently treats equalized primary effluent using activated sludge followed by tertiary filtration. The original plant was constructed in 1958 and included a primary clarifier, two trickling filters, and a secondary clarifier. In 1971, activated sludge facilities and final effluent filters were constructed to provide tertiary treatment. The activated sludge facilities comprised four aeration tanks, six rectangular secondary clarifiers, and associated return activated sludge (RAS) and waste activated sludge (WAS) pumps and piping. The activated sludge facilities were designed to operate in parallel with the existing trickling filter facilities. New solids handling facilities, including the dissolved air flotation thickeners (DAFTs), digesters, and sludge dewatering, were constructed in 1983.

The Phase 1 upgrade project was constructed in the late 1990s. It included primary effluent equalization basins, the flow equalization/primary effluent pump station, conversion of the original secondary clarifier to a second primary clarifier, structural rehabilitation of the aeration tanks and secondary clarifiers, and replacement of aeration tank swing arm-mounted tubular diffusers with full-floor coverage fine-bubble diffusers.

The capacity of the existing secondary treatment facilities is less than the discharge permit limit of 14 million gallons per day (mgd) annual average flow. The existing activated sludge process has a rated capacity of 10.3 million gallons per day (mgd) based on a planning study completed nearly 13 years ago (Montgomery Watson, Ventura Water Renovation Facility Master Plan, September 1993). The trickling filters were included in the total secondary capacity cited in the 1993 Master Plan, but they have not been used since the original secondary clarifier was converted to a primary clarifier. The main goal of the VWRF Upgrade - Phase 2 project is to restore secondary treatment capacity to 14.0 mgd annual average flow to realize the full permitted capacity. In addition to increasing secondary treatment capacity, the Phase 2 facilities will meet anticipated final effluent discharge limits for total nitrogen. The project includes a new aeration air blower building and an additional DAFT to handle additional secondary solids production.

This technical memorandum summarizes biological treatment alternatives and recommended facilities to restore capacity to 14 mgd and to meet more stringent effluent discharge limits (esp., nitrogen limits). Three of the four secondary treatment alternatives discussed included suspended growth biological treatment (i.e., activated sludge). These alternatives require varying modification and/or expansion of the existing aeration tanks and oxygen transfer system. However, the existing rectangular secondary clarifiers will be used for any of these three alternatives to limit the project construction cost. Space is reserved for possible construction of circular secondary clarifiers in the future. Additional technical memoranda will be prepared that evaluate metals removal to meet anticipated final effluent discharge limits, solids handling modifications, and aeration air blower selection.

Objectives

The secondary treatment system was selected to meet the following objectives:

1. Restore secondary treatment capacity to the permitted value of 14.0 mgd annual average flow.
2. Plan for the ultimate treatment capacity of 16.7 mgd annual average flow in laying out and sizing new facilities.
3. Use existing aeration tanks and secondary clarifiers and locate new facilities within the existing secondary treatment footprint.
4. Provide positive RAS removal from each secondary clarifier.
5. Provide flexibility to meet future discharge requirements for nitrogen and metals, and also for phosphorus if feasible.
6. Comply with a total nitrogen limit of 10 milligrams per liter (mg/L) as nitrogen, which is the anticipated value in the next discharge permit.

Primary effluent flow is equalized, so that the aeration tank influent flow rate and secondary clarifier influent flow rate are approximately constant throughout the day. Assuming that adequate primary effluent equalization capacity is maintained to handle projected increased influent flows, the projected equalized peak day flow rate is the basis for secondary treatment design flow. An evaluation of future equalization capacity needs is not included in this project, but is needed to ensure that the design flow basis (e.g., equalized peak day flow) is achieved.

This technical memorandum describes the flow and loading criteria and the recommended facilities.

Existing Facilities

Existing secondary treatment facilities and performance are described in this section. The two existing trickling filters are no longer used, so are not included in this description.

Primary Effluent Equalization

Primary effluent, DAFT supernatant, and recessed chamber filter press filtrate are equalized in four equalization basins. The total capacity of the four basins is approximately 2.56 million gallons (MG). Historically, excess flows have been pumped to the equalization basins during the day and returned at night, so the secondary treatment system receives a relatively constant flow throughout the day. The filter press filtrate generated from batch dewatering operations is routed to the equalization tanks, so the activated sludge system sees the filtrate ammonia loading during the late night and early morning hours when the equalization basins are emptied. Plant staff washes down the equalization basins each morning after they are drained.

Aeration Influent Pumping

The flow equalization/primary effluent pumping station has three primary effluent pumps that pump to the aeration tanks. Separate pumps are used for the equalized flow. The primary effluent pumps have a capacity of 4,000 gallons per minute (gpm) each, for a total firm capacity of approximately 11.5 mgd with one pump out of service.

The equalized primary effluent pipe between the pumping station and aeration tanks appears to be undersized to handle future flows. The capacity of the existing 24-inch pipe is approximately 14 mgd based on 7 feet per second (fps) velocity.

Aeration Tanks

The plant has four aeration tanks with circular flexible membrane fine-bubble diffusers manufactured by Sanitaire. The four tanks can be operated in series or in parallel, with options for step feed. Each tank holds approximately 0.73 MG with a side water depth (SWD) of 16.2 ft, assuming the water surface is at the invert of the primary effluent gates. Plant staff limits mixed liquor concentrations to less than 1,500 mg/L due to operational problems.

Configuration. The four aeration tanks are configured typically in series as plug flow reactors. Equalized primary effluent and RAS are introduced at the north end of aeration tank 1. Aeration tank 1 (the westernmost tank) is operated as an anoxic selector. The airflow to this tank is limited to 40 to 60 standard cubic feet per minute (scfm) to mix the tank only. According to Sanitaire, this tank has the highest diffuser density. At 60 scfm, the airflow per diffuser would be less than 0.02 scfm per diffuser in this tank, which is far below the minimum recommended airflow per diffuser. At this low airflow, air distribution would not

be equal through the tank, and mixing would not be uniform. Recommended modification and improvements for anoxic zone configuration and mixing are presented below.

Mixed liquor then flows sequentially through aeration tanks 2, 3, and 4. There is a single gate between each pair of aeration tanks. The single gates cause significant headloss at higher flows and represent a hydraulic bottleneck. There is a noticeable difference in water surface elevation (WSEL) among the four aeration tanks.

The plant is operated at a solids retention time (SRT) high enough to nitrify. Data over the last two years show the secondary effluent ammonia is typically less than 2 mg/L as N.

Internal Mixed Liquor Recycle. The plant installed an internal mixed liquor recycle system to partially denitrify the wastewater and prevent denitrification and floating sludge in the secondary clarifiers. Although the pump has additional capacity, current operation is limited to 7.5 mgd because of the hydraulic limitations discussed above. Typical effluent nitrate concentrations are 10 to 20 mg/L as N. At peak flows, the plant turns down the mixed liquor recycle flow to alleviate hydraulic limitations.

Peak Flow Handling. The plant has two modes of operation to deal with peak flows. To convey more flow to the aeration tank than the 11.5 mgd capacity of two primary effluent pumps, valves from the equalization pumps can be set so a portion of the flow pumped by the equalization pumps goes directly to the aeration tanks instead of to equalization. Based on the pipeline size, the plant may be able to convey 14 to 16 mgd to the aeration tanks in this mode.

During large storm events, influent is pumped directly to the aeration tanks, bypassing primary treatment. During these peak flow events, the plant turns off the air in aeration tank 4, allowing solids to settle in the aeration tank to prevent clarifier overloading. This mode of operation does not last for an entire day. Plant staff uses this mode at flows above approximately 20 mgd.

Secondary Clarifiers

The plant has six rectangular secondary clarifiers, each with a surface area of 3,000 square feet (sq ft) and a sidewater depth of 10 ft. Performance of the secondary clarifiers limits the activated sludge operation. The plant reports operational problems above a mixed liquor concentration of 1,600 mg/L. Mixed liquor settling characteristics affect secondary clarifier performance and are measured typically as the sludge volume index (SVI). For 2004 and 2005, the 90th percentile SVI was 166 mL/g. Figure 1 shows the SVI trend for 2004 and 2005.

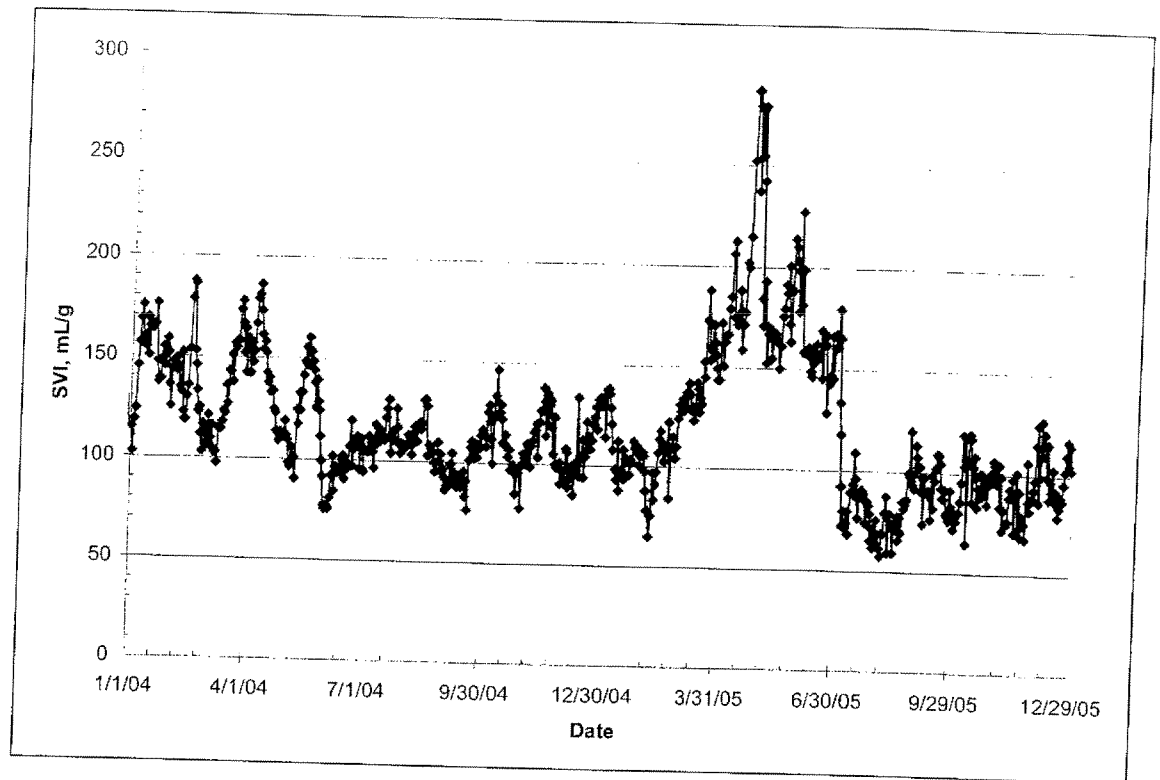


Figure 1. Historical SVI

Return Activated Sludge Pumping

Return activated sludge (RAS) from the six rectangular secondary clarifiers flows through a common header to a common wet well at the south end of the aeration tanks. Valves are used to adjust the RAS flow rate from each clarifier. Three variable speed centrifugal pumps are rated at 3,000 gpm each, for a firm RAS capacity of approximately 8.6 mgd.

Waste Activated Sludge Pumping

The waste activated sludge (WAS) pumps are located at the southwest corner of the aeration tanks and pump directly to the DAFT. There are two pumps rated at 250 gpm each (0.36 mgd).

Solids Handling Returns

The plant currently thickens primary sludge in the gravity thickener and WAS in the DAFT. Thickened primary sludge and WAS are stabilized in three anaerobic digesters. The stabilized sludge is dewatered using two recessed chamber filter presses.

Gravity Thickener Overflow. The gravity thickener receives primary sludge. Overflow is returned to the headworks.

DAFT Overflow. The DAFTs treat waste activated sludge. Subnatant is routed to the equalization basins. DAFT capacity relative to projected WAS production and recommended modifications to mitigate any capacity shortfalls will be evaluated in a future technical memorandum.

Recessed Chamber Filter Press Filtrate. Digested sludge is dewatered using recessed chamber filter presses. The filter presses are not operated continuously, but are operated approximately eight to nine shifts per week to handle current sludge production. Filtrate is routed to the equalization basins. Up to eight dewatering cycles can be achieved during each shift.

Tertiary Filtration

Following secondary treatment, six pressure filters are used for residual suspended solids removal prior to disinfection and disposal. Backwash water, and associated solids, is routed to the headworks. Any other issues with tertiary treatment are not considered in this technical memorandum.

Influent Conditions

Historical data were analyzed to project future flows and loadings to use for secondary treatment system design.

Historical Flows and Loadings

Historical influent flows are shown on Figure 2. Flows have remained relatively constant over the last nine years, averaging 9.2 mgd. The maximum 30-day flow was 12.6 mgd, with a peak day flow of 18.6 mgd.

Figures 3 through 6 show the historical influent total suspended solids (TSS), biochemical oxygen demand (BOD), chemical oxygen demand (COD), and nitrogen loadings respectively. Data from 2002 to 2005 were not used in projecting future loadings as the data were not considered representative. The influent sampler was relocated during this period to accommodate headworks construction activities. In addition, the temporary sampler location included solids handling recycle streams based on discussion with plant staff. The period of higher concentrations and loadings started abruptly during a time when construction was occurring on the headworks. Despite the dramatic increase in influent loadings, primary effluent loadings remained constant over the nine-year period. The sampler location has been changed recently, but influent concentrations have not returned to earlier levels based on data for the first seven months of 2006.

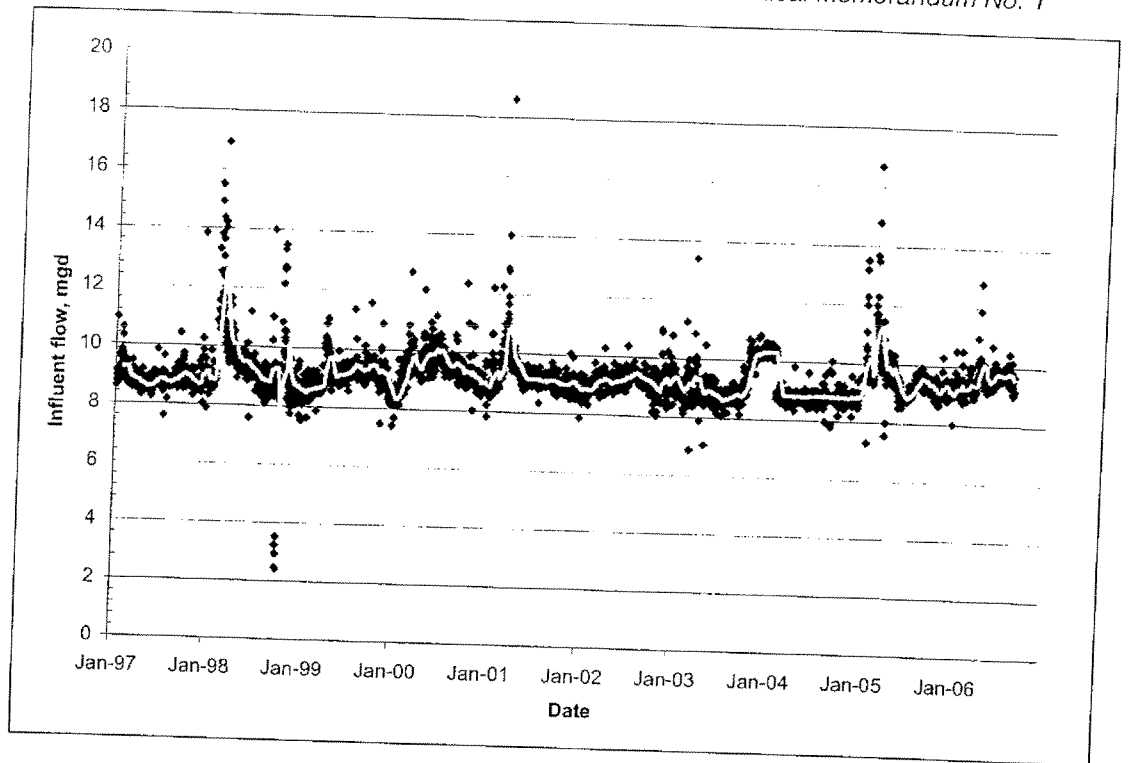


Figure 2. Historical Influent Flows (curve indicates 30-day moving average)

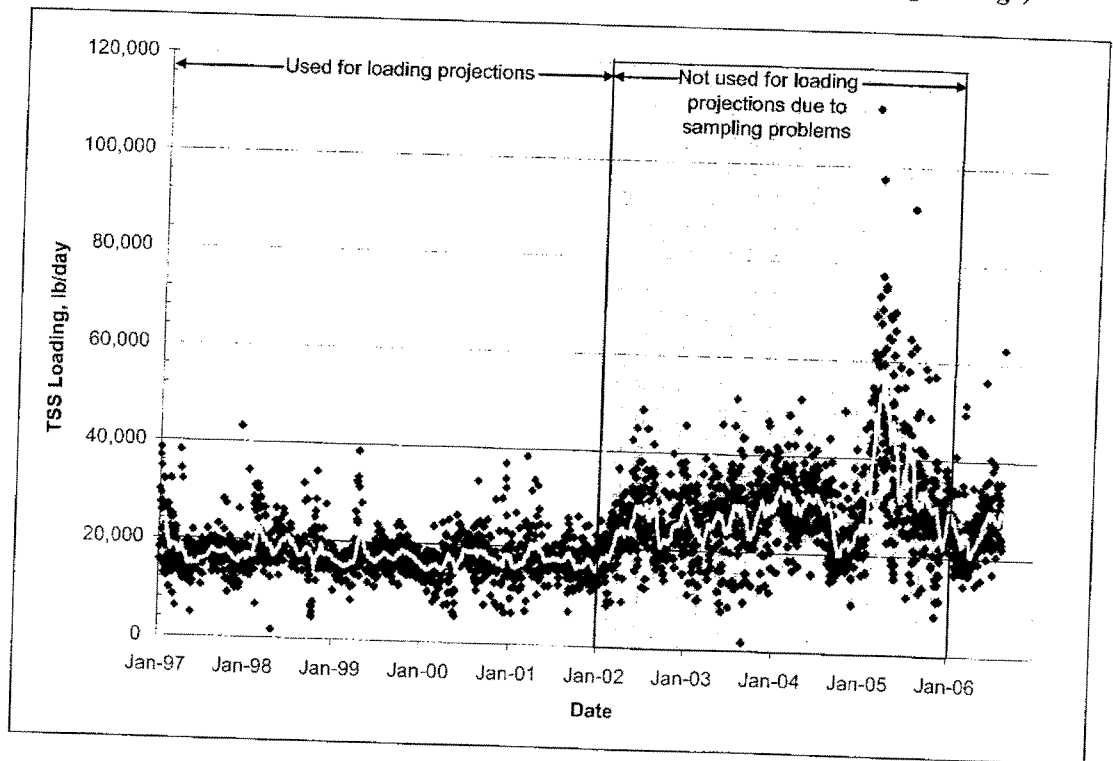


Figure 3. Historical TSS Loading (curve indicates 30-day moving average)

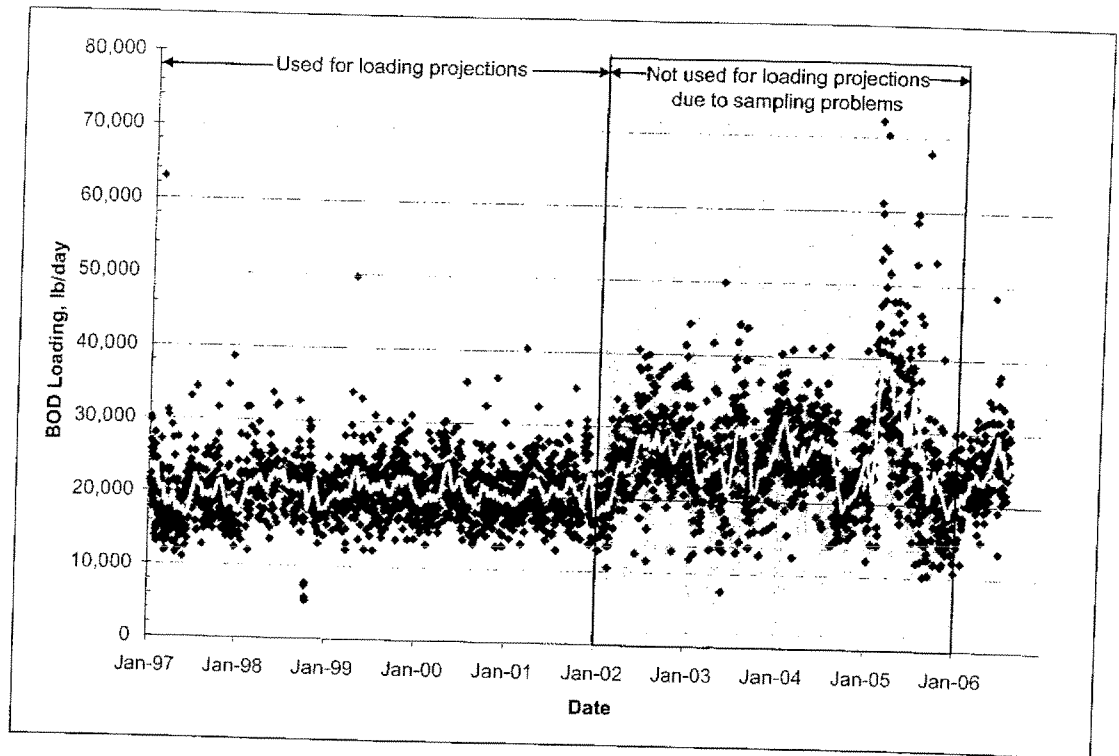


Figure 4. Historical BOD Loading (curve indicates 30-day moving average)

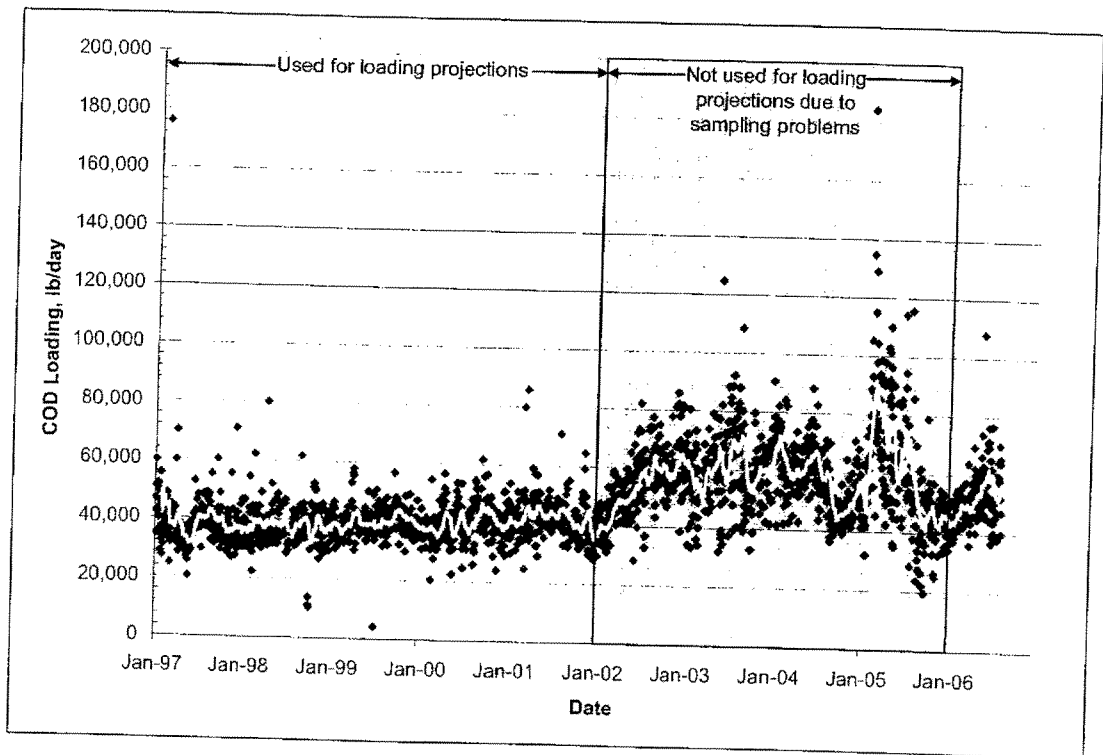


Figure 5. Historical COD Loading (curve indicates 30-day moving average)

Phase 2

Phase 2 is based on an annual average flow rate of 14 mgd, corresponding to the permitted capacity stated in the plant NPDES permit. Recommended Phase 2 facilities are sized to handle the range of flows and loadings anticipated throughout the year that are associated with a 14 mgd average annual flow rate.

Influent Flows and Loadings. Peak flows associated with design annual average flows were based on an analysis of patterns of peak flow and average flow using 9 years of historical flow data. Projected peak flows were calculated based on historical patterns and design annual average flow. Projected peak flows were adjusted (i.e., peaking factors were adjusted) to reflect the type and pattern of future development within the City. City staff indicate that future development will be infill within existing sewer areas, and that the total length of sewers within the collection system will not increase significantly. As new development occurs, existing pipe will be replaced to increase capacity. Increasing infiltration/inflow in the remaining existing pipe will be offset by minimal infiltration/inflow in the new pipe. So, while average annual flow may increase with future development the quantity of infiltration/inflow is expected to remain relatively constant. In other words, the flow peaking factor is expected to decrease in the future. Future average and peak flows should be monitored to verify this assumption.

Projected loadings are based on historical loading data from 1997 to 2001, as discussed above. Recent influent data (through July 2006) indicate that loadings may not have returned to pre-2002 levels, and the per capita loading evaluation discussed above further corroborates this conclusion. Additional data (e.g., calendar year 2006 to capture seasonal variations) should be analyzed to confirm that loads have returned to pre-2002 levels with the sampler location change. If loadings are indeed higher, the capacity of the Phase 2 expansion will be less than 14 mgd.

The secondary treatment process will be sized for two conditions. Winter conditions assume the maximum month BOD loading and peak day flows occur simultaneously. During winter, all tanks will be in service. Summer conditions assume the maximum summer month BOD loading occurs simultaneously with the maximum summer day flow. During the summer, either one aeration tank or one secondary clarifier will be out of service so that preventative maintenance can be performed. Table 1 shows the influent flow and loading criteria used for process sizing.

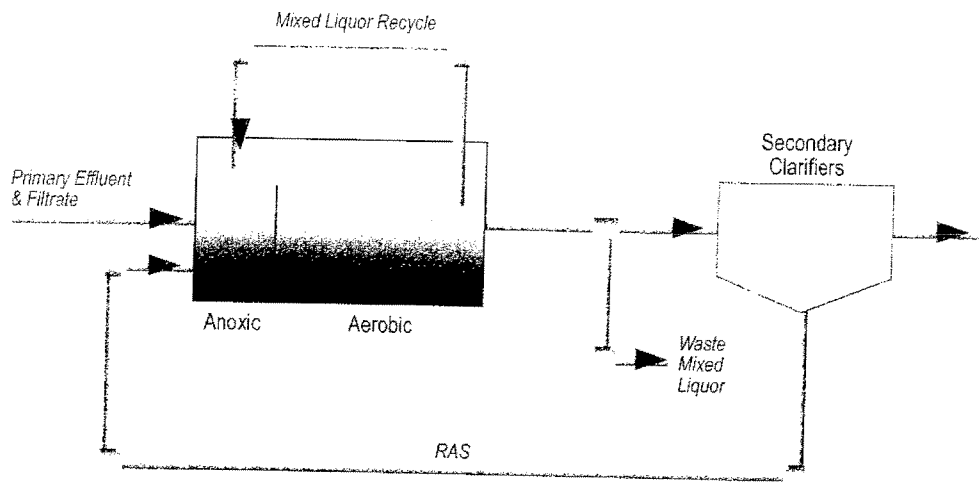
Table 1. Design Flows and Loadings

Criteria	Phase 2	Phase 3 (Ultimate)
Flow		
Annual average, mgd	14 ✓	16.7
Average dry weather flow, mgd	13.5	16.1
Maximum month, mgd	17.1 ✓	19.8
Maximum week, mgd	18.2 ✓	20.9
Maximum summer day, mgd	18.5 ✓	21.2
Maximum day, mgd	23.3 ✓	26.0
BOD		
Annual average loading, lb/day	31,000 ✓	36,900
Annual average concentration, mg/L	265	265
Maximum summer month, lb/day	34,400 ✓	41,100
Maximum month, lb/day	37,000 ✓	44,100
Maximum day, lb/day	95,480	113,895
TSS		
Annual average loading, lb/day	26,300 ✓	31,400
Annual average concentration, mg/L	226	226
Maximum summer month, lb/day	28,900 ✓	34,500
Maximum month, lb/day	35,500 ✓	42,400
Maximum day, lb/day	65,500	78,100
Ammonia		
Annual average loading, lb/day	2,700 ✓	3,200
Annual average concentration, mg/L	23	23
Maximum summer month, lb/day	3,200 ✓	3,800
Maximum month, lb/day	3,500 ✓	4,100
Total phosphorus		
Assumed concentration, mg/L	10	10
Alkalinity, mg/L as CaCO ₃	350 ✓	350
Assumed pH, standard units	7.3	7.3
Wastewater temperature		
Minimum monthly (winter), °C	17.7 ✓	17.7
Maximum monthly (summer), °C	24.6 ✓	24.6

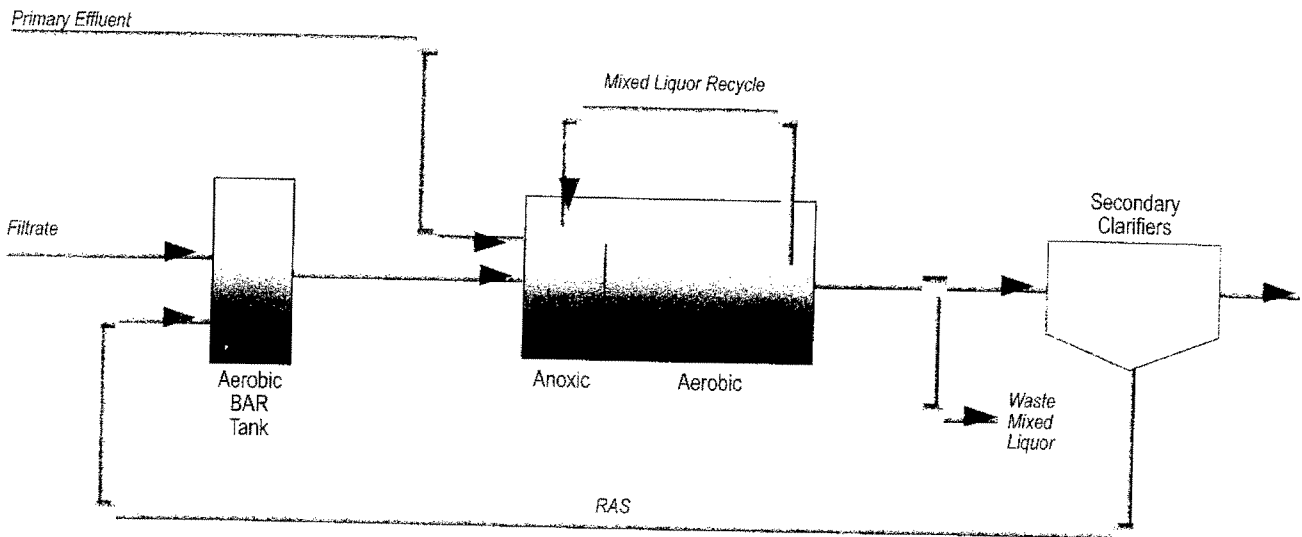
Recycle Loads. Recycle loads must be accounted for in the sizing of secondary treatment processes. For Ventura, recycle loads include gravity thickener overflow, DAFT supernatant, filtrate from the filter presses, and tertiary filter backwash. Recycle loads were accounted for in process simulations by simulating the entire plant performance, including solids handling facilities.

Phase 3

Estimated Phase 3 flows and loadings are also shown in Table 1. Phase 3 conditions are based on an annual average flow rate of 16.7 mgd. This flow rate exceeds the projected flow at buildout condition per the City's General Plan and the current permitted capacity, but is included in this evaluation to ensure space for additional facilities is reserved should projected buildout conditions change.



a. Existing Process (MLE Process)



b. BAR Process

Figure 7
Process Configuration Alternatives

Bioaugmentation Reaeration (BAR). Figure 7 also shows a diagram of the bioaugmentation reaeration (BAR) process, which leverages the volume of the existing aeration tanks and lowers the clarifier solids loading rate compared to an equivalent MLE process. The BAR process accomplishes nitrification and denitrification, and is a modification of the MLE process. The BAR process separately treats the high ammonia filtrate stream to enhance the nitrifier population – a process referred to as “bioaugmentation”. In the BAR process, the high ammonia filtrate is introduced to a reaeration tank with the return activated sludge. The return streams are nitrified in this tank, and in the process, the proportion of nitrifying bacteria increases. Flow from the BAR tank goes to the anoxic zone, where primary effluent and mixed liquor recycle are introduced and denitrification occurs. Aerobic zones for nitrification of the primary effluent follow. In addition to improving nitrification, mixed liquor solids are stored in the BAR tank at RAS concentrations, lowering the solids loading to the clarifiers at the same SRT, which is critical for VWRF because of the existing secondary clarifier problems.

Simulator Application

Two representative 30-day periods were selected for simulation to confirm tank sizing is adequate. The flow and loading patterns from the maximum BOD loading month (March 30, 1999 to April 29, 1999) was used as a basis for winter simulations. For summer, the peak summer month BOD loading that occurred during a month with average flows was selected (August 10, 2001 to September 8, 2001).

The process simulations included the MLE and BAR processes only based on the existing secondary treatment facilities (i.e., aeration tanks, secondary clarifiers) and the limited construction budget for this expansion project. Other processes could be used to meet the anticipated final effluent discharge criteria and restore secondary treatment capacity to 14 mgd, but they would include significant new facilities that would exceed the construction budget and possibly increase long-term operations and maintenance costs.

For example, granular media denitrifying filters could be constructed downstream of the activated sludge system. Denitrifying filters would enable the activated sludge system to be operated for nitrification only; however, this alternative would not address rising sludge due to denitrification in the existing secondary clarifiers. New clarifiers with rapid sludge withdrawal could be constructed to mitigate this problem, but this represents an additional construction cost. Additionally, denitrifying filters require continuous methanol addition, a necessary long-term operating cost.

A membrane bioreactor (MBR) is another feasible process alternative. While less aeration tank volume is needed with an MBR, new membrane tanks and ancillary facilities would be needed. Again, the construction cost of this alternative would exceed the construction budget.

MLE and BAR represent the lowest cost alternatives based on their use of existing aeration tanks and secondary clarifiers. This approach leverages the City's historical investment at the plant to minimize construction costs. In addition, these alternatives minimize long-term operations costs by using wastewater constituents within an MLE or BAR configuration to accomplish denitrification, recover alkalinity consumed in nitrification, and minimize aeration air blower power costs.

Process Recommendations

The capacity of a treatment system is limited by the unit with the least capacity. The secondary treatment modifications discussed below are designed for a capacity of 14 mgd average annual flow. This implies that they can accommodate the normal peaks expected in a year with an average flow of 14 mgd, up to the equalized peak day flow of 23.3 mgd.

It is critical to note that processes not included in our scope of work (primary clarifiers, equalization volume and aeration influent pumping) limit the overall plant capacity. Further consideration of how the plant will manage peak flows is required, but it is beyond the scope of this project.

Phase 2

The current project (Phase 2) includes expansion of the secondary treatment system to 14 mgd average annual flow. The components of the Phase 2 project are discussed in this section.

Primary Effluent Equalization. The aeration tank sizing assumes that primary effluent is equalized, and the equalization basins are emptied daily. Therefore, the secondary treatment system is sized to accommodate constant flows throughout a day up to the maximum daily flow of 23.3 mgd. To reduce loadings to the secondary clarifiers, the plant may wish to consider adding more equalization volume to lower the equalized flow rate.

An analysis of the required equalization volume for diurnal equalization is not included in this analysis. We were instructed to assume that sufficient equalization is available.

Aeration Influent Pumping. Modifications to the aeration influent pumping station are not included in the scope of work for this project. However, additional aeration influent pumping is required to handle projected Phase 2 flows. The pumping station currently has a capacity of 11.5 mgd with two of three pumps in service. The system was designed to be expanded with the addition of a fourth pump. However, due to the size of the pipeline, with the addition of a fourth pump the firm hydraulic capacity of the station would be limited to a peak of 17 mgd or less, depending on head losses in the pipeline.

At an annual average flow of 14 mgd, the peak week flow is projected to be 18.2 mgd, and the peak day flow is projected to be 23.3 mgd. The addition of a fourth pump will not be sufficient to accommodate future peak flows.

The plant should consider adding two larger pumps (one as backup) to the station along with a new pipeline to accommodate peak flows.

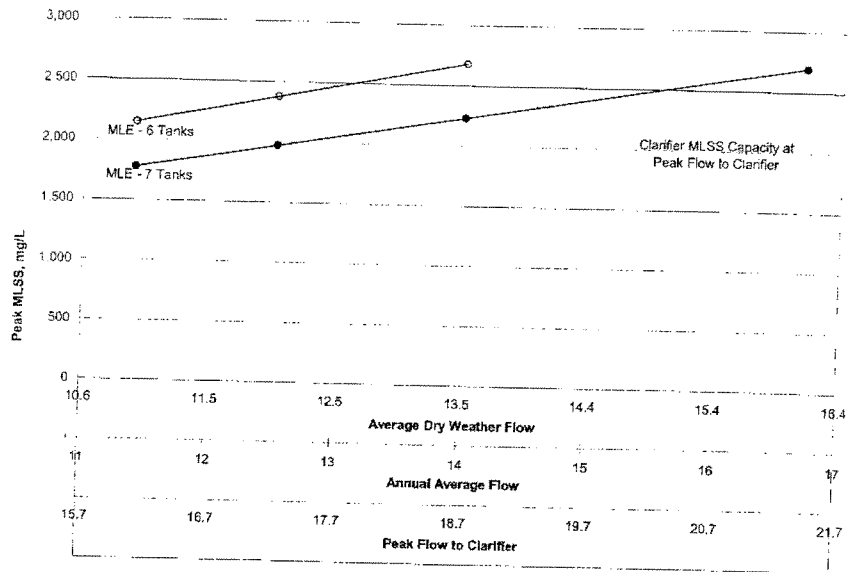
Aeration Tank Alternatives. The simulator was used to determine the maximum mixed liquor suspended solids (MLSS) concentration during the maximum month loading condition. This peak MLSS concentration represents the stressed secondary clarifier solids loading condition. Under average loading conditions, the maximum MLSS concentration will be lower. New aeration tanks were assumed to be the same volume and depth as existing tanks.

State point analysis, which is discussed in more detail below, was used to determine the maximum MLSS capacity of the clarifiers at a variety of influent peak flows. When combined, the simulated MLSS concentration and critical clarifier suspended solids concentration indicate the capacity of the plant under a specific configuration. An analysis of historical data showed that the peak day flow and the maximum aeration tank MLSS concentrations were not concurrent. Therefore, the critical MLSS concentrations for the clarifiers at maximum loading conditions were determined assuming a peak flow historically exceeded an average of one time per year. At peak day flows, MLSS concentrations will be lower, so clarifiers will have capacity.

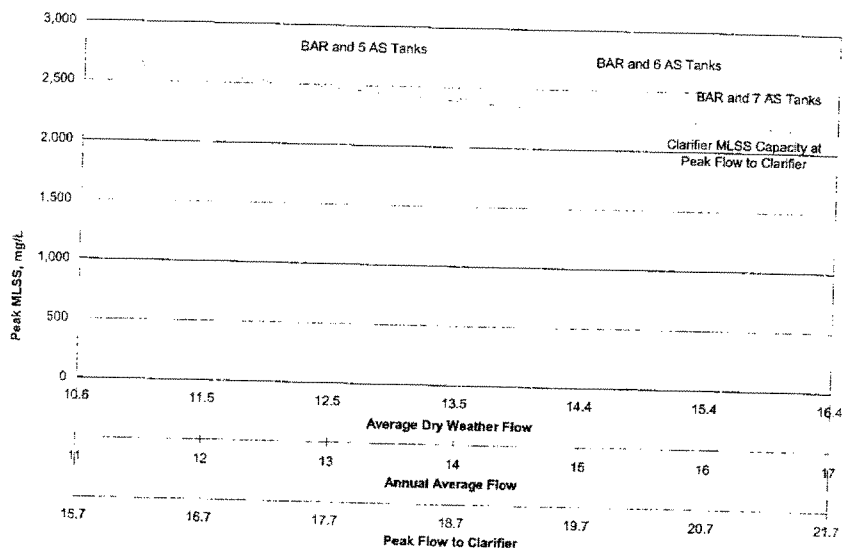
Figure 8 shows the winter plant capacities with the MLE and BAR processes. The simulated MLSS concentrations are shown for a range of number of aeration tanks. The curves are shown as a function of average dry weather flow (ADWF). Corresponding annual average flow and peak flow to clarifiers are shown also.

The pink or yellow lines show the maximum MLSS concentration leaving the aeration basins during the maximum month loading conditions. Note that this condition does not occur for an extended period of time, but only for one day or less during the maximum month. The turquoise lines show the maximum MLSS that clarifiers can handle at the peak flow to clarifiers, which is shown on the axis. The annual average capacity of a given aeration tank configuration is where it intersects the clarifier MLSS capacity. Each configuration shown is capable of meeting the effluent discharge requirements, but the maximum MLSS concentration differs. With more tanks, the MLSS concentration is lower.

Summer capacities were also analyzed, with either an aeration tank or clarifier off-line. Summer capacities were always greater than winter capacities, so the results are not shown.



(a)



(b)

Figure 8. Winter Capacities for (a) MLE and (b) BAR Processes

Table 2 shows the firm capacities of the various process alternatives.

Table 2. Capacities of Process Alternatives

Criteria	Annual Average Flow Capacity, mgd
MLE Process	
6 activated sludge tanks	12.9
7 activated sludge tanks	14.5
BAR Process	
BAR tank plus 6 activated sludge tanks	14.0
BAR tank plus 7 activated sludge tanks	15.7

We recommend that the BAR tank plus 6 activated sludge tanks alternative be selected. This option is capable of treating the expected flow and loading conditions throughout a year with an annual average flow of 14 mgd.

If the loadings to the plant are higher than projected, the clarifiers will limit capacity to a reduced value.

Recommended Aeration Tank Configuration. For Phase 2, we recommend the addition of a BAR tank with a volume of 0.37 million gallons, and two new aeration tanks with a volume of 0.73 million gallons each. The new tanks are laid out with two passes, to take better advantage of the available space and accommodate the BAR process. Aeration tank 5 will have submersible mechanical mixers for operation as a two-pass anoxic zone. Aeration tank 6 can be operated in either anoxic mode with submersible mechanical mixers, or in aerobic mode with diffusers. A small tank for equalization of the filtrate before the BAR will also be added. Figure 9 shows the secondary treatment facilities layout on the site.

Normal Configuration. Process schematics showing normal operation are shown in Figures 10 and 11. Figure 11 is a schematic of the plan layout of the recommended facilities corresponding to the layout shown on Figure 9. Return sludge and equalized filtrate enter the south end of the BAR tank. Flow from the BAR tank exits into the south aeration tank inlet channel. Equalized primary effluent and mixed liquor recycle are added at this point. The mixed liquor enters aeration tank 5, which is operated in an anoxic mode. Mixed liquor flows through the south and north aeration tank inlet channels and is split between five aeration tanks (aeration tanks 1, 2, 3, 4 and 6). These five tanks will be operated with the first twelfth as an additional anoxic zone to provide the required level of denitrification. Baffles and submersible mixers will be added to the existing aeration tanks. Operating the existing tanks in parallel solves the hydraulic bottlenecks the plant has experienced with series operation. The new tanks are both designed to pass the entire flow, including mixed liquor recycle.

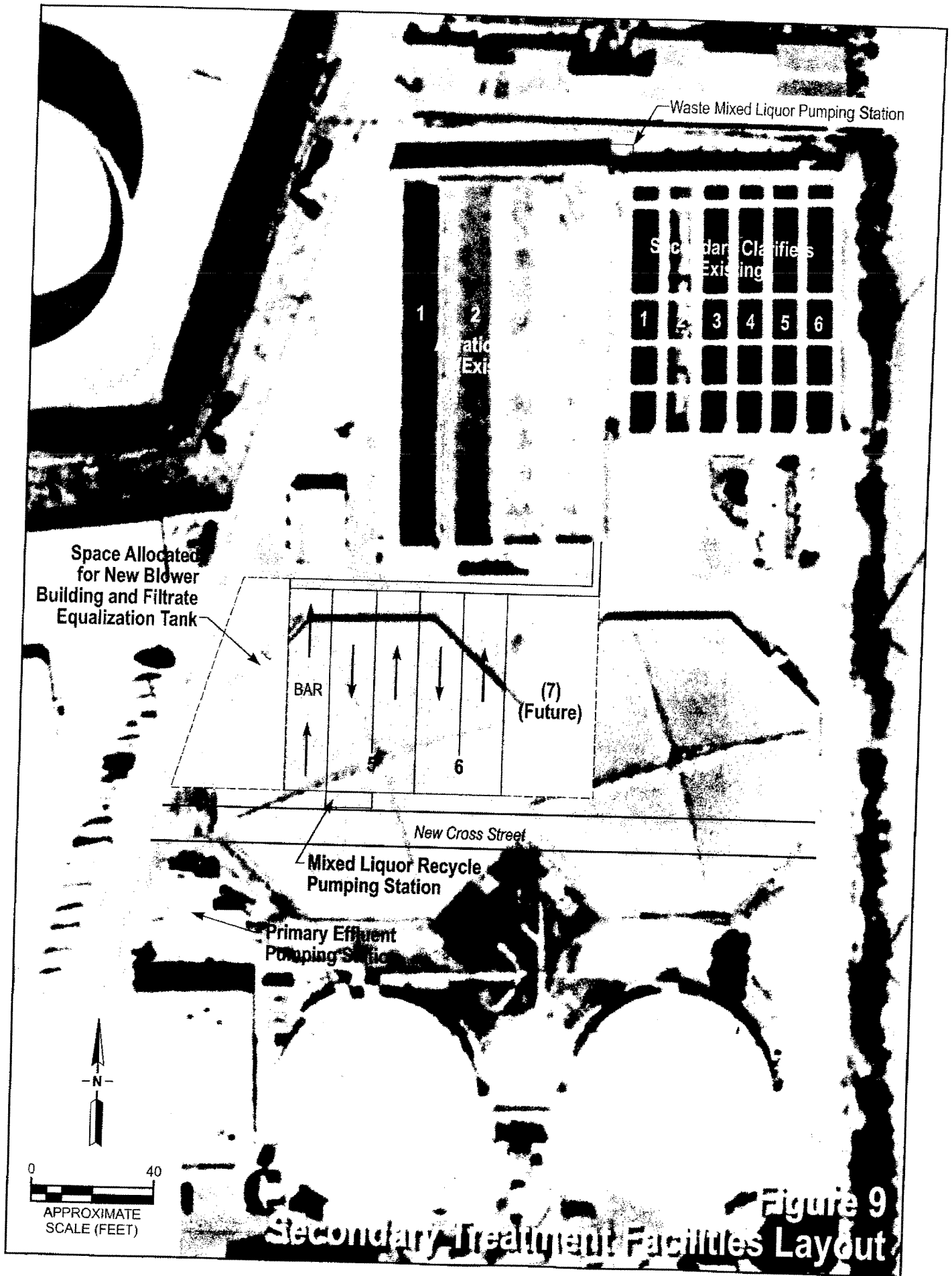
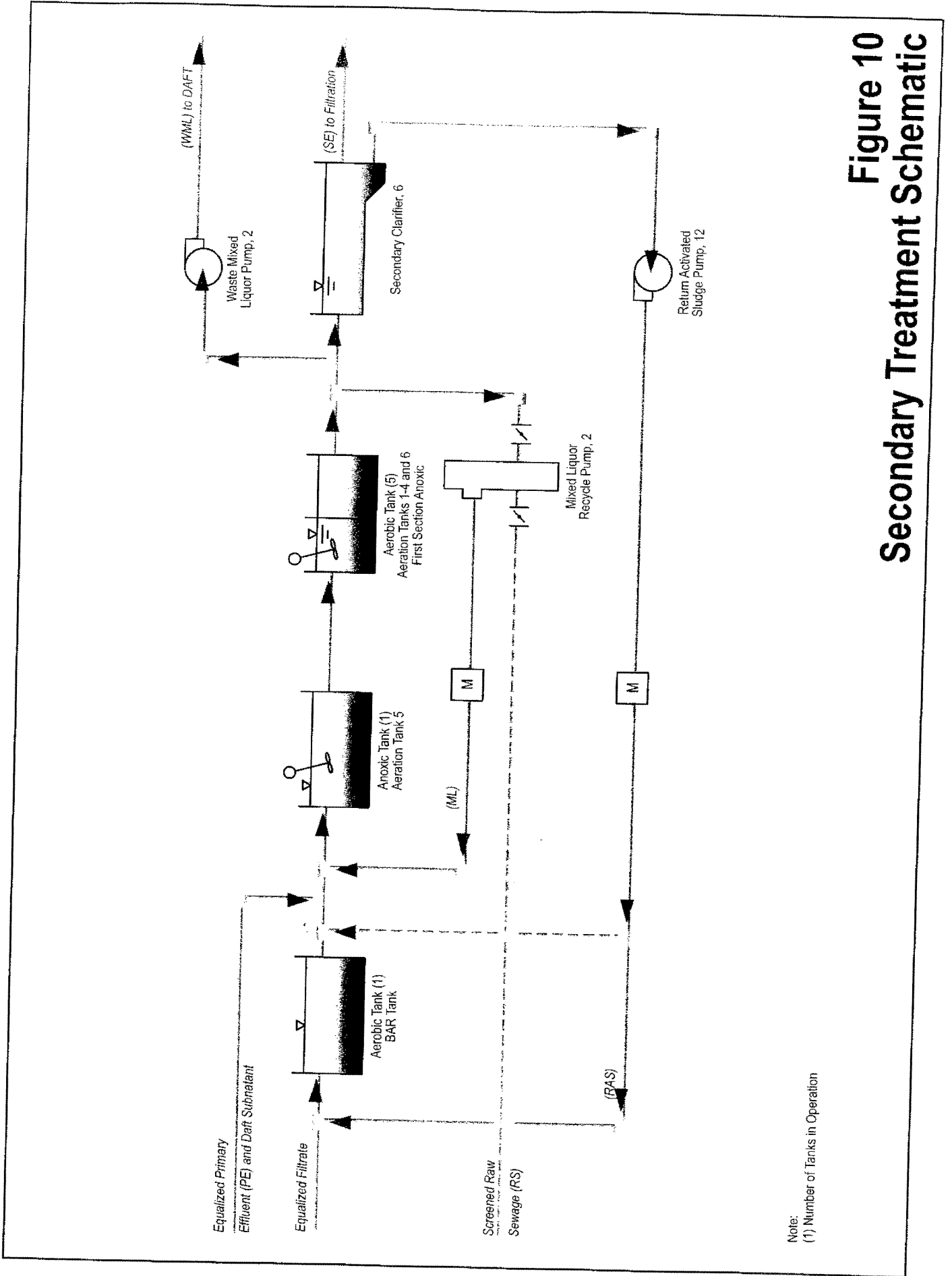
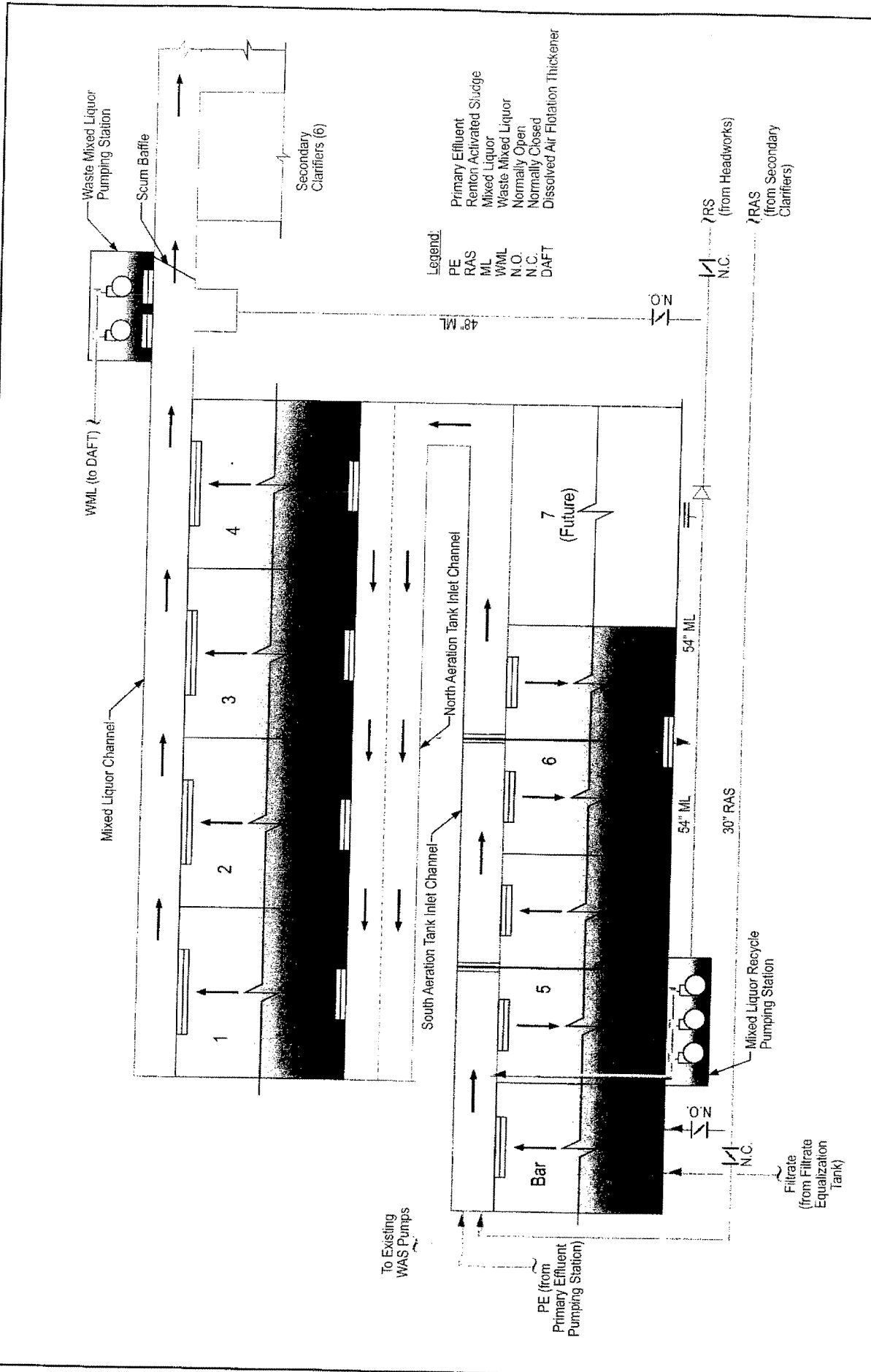


Figure 9
Secondary Treatment Facilities Layout



Note:
 (1) Number of Tanks in Operation

Figure 10
Secondary Treatment Schematic



Legend:
 PE Primary Effluent
 RAS Return Activated Sludge
 ML Mixed Liquor
 WML Waste Mixed Liquor
 N.O. Normally Open
 N.C. Normally Closed
 DAFI Dissolved Air Flotation Thickener

Figure 11
Secondary Treatment Facilities Configuration

Alternate Configuration. When a tank needs to be taken off line during the summer, flexibility is available. Tanks should not be taken off line in the winter, since the higher mixed liquor concentrations resulting with a tank off-line will overload the secondary clarifiers at high winter flows.

If the BAR tank is down in the summer, the plant can operate in the conventional MLE mode described above. Filtrate can be routed through the existing pipe to the equalization tanks. The RAS, equalized primary effluent (including filtrate), and mixed liquor recycle are all introduced into aeration tank 5, which is anoxic. The flow splits among the remaining tanks, which operate with the first twelfth anoxic and the remainder aerobic. The mixed liquor concentration leaving the aeration tanks is higher in conventional mode than in BAR mode, but with well-settling sludge and either five or six clarifiers on line, the solids loading rate is within acceptable limits at peak summer flows.

If aeration tank 5 is off-line, flow from the BAR tank along with RAS and primary effluent enters aeration tank 6, as shown on Figure 12. In this mode, aeration tank 6 is operated as an anoxic tank. Flow is then split among the four existing aeration tanks. The first twelfth of each tank is operated as an additional anoxic zone.

If aeration tank 6 or one of the existing aeration tanks is down, flow from the BAR tank along with RAS and primary effluent enters tank 5, operated as an anoxic tank. Flow is then split among the remaining aeration tanks in service.

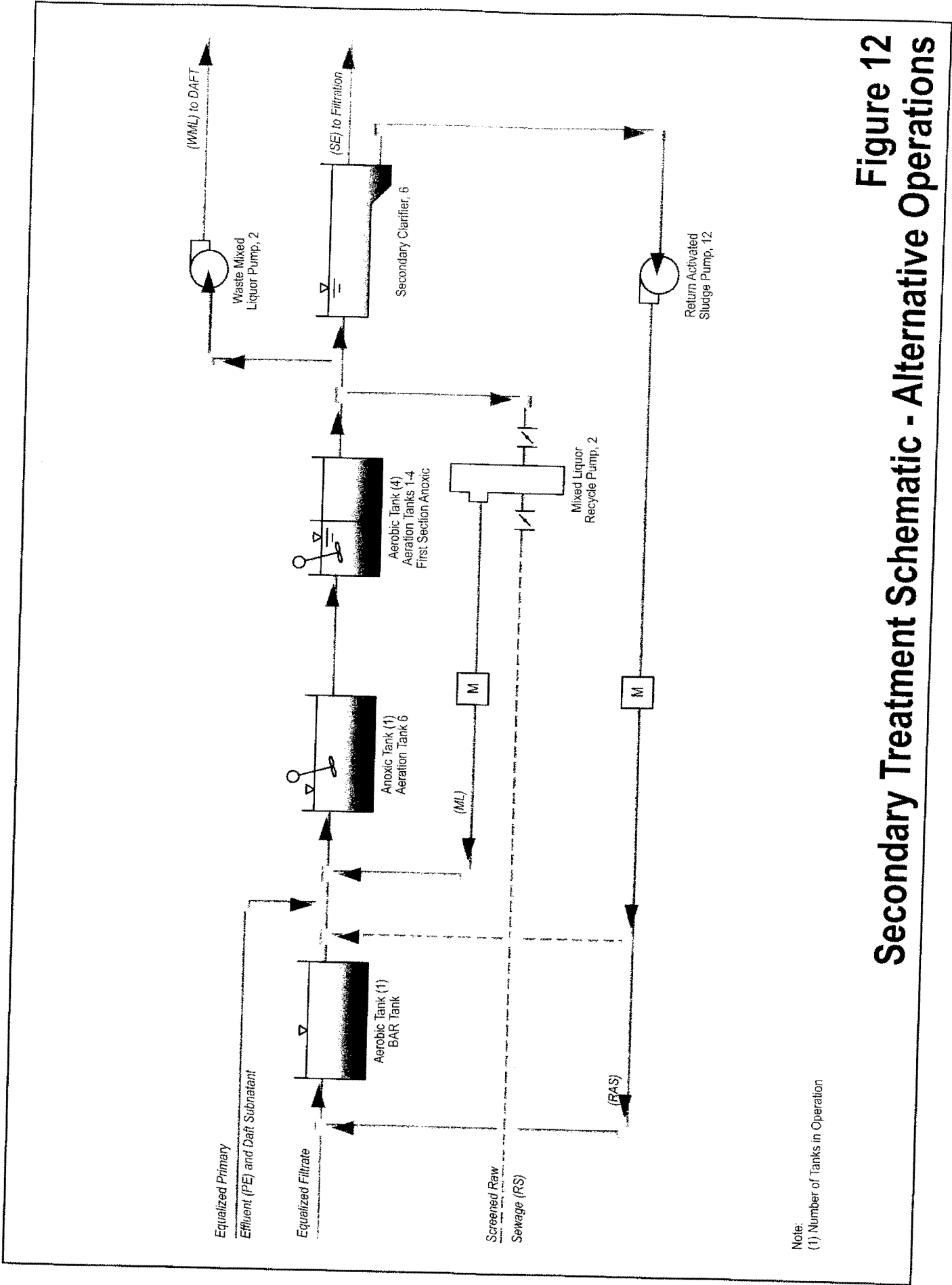
Internal Mixed Liquor Recycle Pumping. The mixed liquor recycle will have a capacity of 300 percent of the Phase 3 annual average flow (50.1 mgd). The mixed liquor recycle pumping station will be at the south end of aeration tank 5. Three vertical turbine solids handling (VTSH) pumps (two duty/one standby) with variable speed drives will be used.

Secondary Clarifiers. The existing secondary clarifiers will be used for the Phase 2 modification. RAS pumping improvements to provide positive RAS control for each clarifier are discussed in more detail below.

State point analysis was used to ensure the clarifiers were not overloaded with solids under the various conditions. Based on previous experience, the state point solids loading rates were derated by 20 percent because of the type and shallow depth of the clarifiers.

A plant operating with an anoxic zone and denitrification is expected to produce a good-settling sludge. A 90th percentile SVI of 150 mL/g was assumed for the state point analysis.

All six clarifiers need to operate during winter peak flow conditions to accommodate the solids loading generated by the BAR processes. In the summer, one clarifier can be taken out of service at a time.



Note:
 (1) Number of Tanks in Operation

Figure 12
Secondary Treatment Schematic - Alternative Operations

State point analysis shows that the solids loading to the clarifiers at peak flows are acceptable. However, this depends on the RAS pumping system being able to effectively remove the solids. Positive control of RAS pumping will help, but the system is still not ideal because the scrapers must transport the sludge the length of the tanks.

Hydraulic loading to the clarifiers is also critical. At 23.3 mgd (peak day flow) the surface overflow rate with all six clarifiers operating is 1,300 gallons per square foot per day, which is high, especially for shallow clarifiers such as these.

To be confident that the clarifiers have the required capacity, we strongly recommend the CRTC Protocol for evaluating clarifiers be followed. Our design assumes that the existing clarifiers can accommodate projected peak flows with the proposed RAS modifications, but this can only be stated with field verification of the clarifier performance under these operating conditions.

Return Activated Sludge Pumping. Positive RAS control is desired to improve clarifier operation. This section describes the proposed new RAS pumps.

Background. The purpose of this analysis is to identify if feasible alternatives are available to provide positive RAS control at each existing secondary clarifier. The existing secondary clarifiers gallery (gallery 3) has limited space available for installing dedicated RAS pumps. If a feasible alternative is identified, this will avoid having to construct new clarifiers to achieve positive RAS control. The projected plan of operation is to return up to 16 mgd of the design flow as RAS.

RAS Pumps Design Criteria. The RAS pumps are designed for a flow of 16 mgd, or 100 percent of the estimated buildout annual average flow.

Pump Selection. Only pumping alternatives capable of providing positive RAS control were considered. Candidate pump types included progressive cavity, screw centrifugal, rotary lobe and non-clog centrifugal. Progressive cavity pumps were dismissed from further consideration because they would be the most maintenance intensive and would not fit the available space. Screw pumps were dismissed because they are inefficient, tend to induce vibrations in connected piping due to the single-vane impellers, and because the application does not require special pumps capable of passing stringy material. Rotary lobe pumps in a stacked arrangement (motors mounted above pumps) and vertical centrifugal pumps were identified as feasible to fit the available space. The vertical arrangement is the only configuration that would fit in the available space. On further analysis, rotary lobe pumps were dismissed as too costly and not suitable for this application because they would be subject to excessive wear in a continuous pumping application. We recommend vertical centrifugal pumps with variable speed drives for this application.

Preliminary Layout. Pumping layout alternatives considered using a single pump for each clarifier and two pumps for each clarifier (one for each sludge hopper). Candidate pump selections and motors are included in Appendix B. Preliminary pumping layouts (to scale) and a cross section were sketched on

prints of record drawings, showing a single pump per clarifier, and various arrangements of two pumps per clarifier. These sketches, included in Appendix C, revealed that it will be necessary to relocate both existing stairways into gallery 3 and both exhaust fans outside of the gallery to provide space for installing pumps, and to provide accessibility for picking up and moving all pumps to alternative central locations for removal from the gallery. They also revealed that the single pump arrangement would take up too much space, and that single pumps would appear to preferentially withdraw sludge from the closest sludge hopper, contrary to the goal of positive RAS control. Although more pumps would be required, we recommend one vertical centrifugal pump for each sludge hopper, which will provide a pair of pumps for each clarifier and manual pumping backup in case one pump in a pair fails.

Recommended Pumping Arrangement. Preliminary (drafted) demolition and mechanical layout drawings (four) were prepared using record drawings as backgrounds to show the recommended arrangement of two vertical centrifugal pumps per clarifier and new access stairways to the gallery. These drawings are included in Appendix D. The new pumps will require a larger, separate discharge manifold from the existing sludge withdrawal manifold. This preliminary sludge pumping layout offers minimal disruption to the existing sludge withdrawal arrangement, so that the existing sludge withdrawal method can remain in service throughout installation of the new pumps and until they have been tested and are ready to be placed in service.

Also included in Appendix E is a candidate adjustable crane that may work in the minimal available space. The adjustable crane may need to be modified to permit separately lifting motors and pumps from a cantilever boom attachment; alternatively, a short (10 feet long) monorail beam could be provided across the gallery above each pump to enable removal and installation of each pump from the gallery floor adjacent to each pump support.

Mixed Liquor Wasting Pumping. We recommend that the Phase 2 facilities use mixed liquor wasting to control SRT. SRT control is crucial for this plant, since the facility needs to maintain a long enough aerobic SRT to completely nitrify, but as short an SRT as possible to reduce mixed liquor concentrations (and clarifier solids loading rates). If return sludge is wasted, the RAS flow rate affects the sludge concentration, making it difficult to determine the wasting rate to maintain the desired SRT. SRT control is much easier with mixed liquor wasting, since the flow is set based tank volume. For example, to maintain a four-day aerobic SRT, set the waste mixed liquor pumps to waste one fourth of the aerobic aeration tank volume each day. The mixed liquor wasting rate only requires adjustment if the desired SRT changes or tanks are taken off line.

While the same mass of solids is wasted using settled sludge (RAS) wasting or mixed liquor wasting to maintain a given SRT, the flow rate is higher with mixed liquor wasting because of the lower solids concentration. So, the solids loading rate to the downstream thickening process is the same regardless of RAS or mixed liquor wasting, but the hydraulic loading rate is higher with mixed liquor wasting. The DAFTs used for secondary sludge thickening at the VWRf are

compatible with mixed liquor wasting as they can handle the relatively higher hydraulic load.

The waste mixed liquor pumping station will be located north of the mixed liquor channel between the aeration tanks and secondary clarifiers. This location ensures proportional wasting from all aeration tanks. A surface baffle will be installed in the channel to trap foam or scum and direct it to the waste mixed liquor pumping station next to the channel. Submersible pumps with variable speed drives will be used to pump the waste mixed liquor to the DAFTs. The waste flow rate will be set based on the desired SRT. Downward opening slide gates between the channel and the waste mixed liquor pumping station will modulate to maintain a constant water surface elevation in the waste mixed liquor pumping station.

Waste Activated Sludge Pumping. The existing waste activated sludge pumps will be retained as a backup and will be reconfigured so the pump suction piping is connected to the new RAS line to the modified activated sludge system. This system will be available as a backup to the mixed liquor wasting system

Filtrate Equalization and Piping. For the BAR process to work effectively, filtrate flow must be relatively constant to provide a consistent source of ammonia. Therefore, an equalization tank for filtrate is necessary given the intermittent filter press operation throughout the week. To reduce the volume of this tank, we recommend installing a new pipe to separate the filtrate from the DAFT supernatant. To equalize just the filtrate, a tank volume of approximately 270,000 gallons is needed if dewatering is only five days per week.

Peak Flow Management. The plant would like to continue the current peak flow management scheme for large storm events. Therefore, a pipe will be added to route screened raw sewage to the aeration tanks directly using the mixed liquor recycle pumps for situations where the equalization basins are full and flows are high. The plant has historically turned the air off to the last aeration tank during peak flow events to let the solids settle in the aeration tank and reduce loading to the clarifiers.

A thorough analysis based on hourly influent flow data should be performed to predict the frequency and duration of these events. A preliminary analysis based on daily flows shows that if the secondary capacity is equal to the peak day flow, this mode would not be required unless the primary clarifier capacity was exceeded. If the secondary capacity is limited to peak week flows with the existing equalization basins, this mode would occur 0.2 percent of the days, based on the last 9 years of flow data. However, it could occur as often as four days in one month, based on the historical record. As flows increase, this condition will occur more frequently unless equalization capacity is increased.

Nitrogen removal may be impacted during peak flow events, since less aerobic volume will be available for nitrification and mixed liquor recycle flows will be reduced or eliminated, hindering denitrification. Depending on the duration and frequency of these events, the plant may experience problems meeting the monthly total nitrogen limit.

Phase 3

To accommodate the Phase 3 flow of 16.7 mgd, provisions are included for a future aeration tank. This future tank would operate in parallel with the four existing tanks.

Additional clarifiers will also be required for ultimate conditions. Even with an additional aeration tank, solids loading to the existing clarifiers is too high at ultimate flows.

Design Criteria

Design criteria for the recommended secondary treatment facilities for the Phase 2 project are summarized in Table 3. These design criteria are based on the process simulations described above. An aerobic SRT of 3.75 days is recommended for operation at a minimum monthly average temperature of 17.7 degrees C. The mixed liquor suspended solids concentration will vary throughout the year with a constant SRT as influent loads and wastewater temperatures change, but will not affect process performance.

Table 3. Phase 2 Design Criteria

Criteria	Phase 2
BAR Reactor	
Number	1
Volume, million gallons	0.37
Sidewater depth, ft	16.2
Diffuser type	Fine bubble
Aeration Tanks	
New Anoxic Tanks (Tank 5)	
Number	1
Volume each, million gallons	0.73
Sidewater depth, ft	16.2
Mixer type	To be determined
Mixer number	To be determined
Mixer horsepower, each	To be determined
New Flexible Aeration Tank (Tank 6)	
Number	1
Volume each, million gallons	0.73
Sidewater depth, ft	16.2
Mixer type	To be determined
Mixer number	To be determined
Mixer horsepower, each	To be determined
Diffuser type	To be determined
Existing Aeration Tanks	
Number	4
Volume each, million gallons	0.73
Sidewater depth, ft	16.2
Diffuser type	Fine bubble

~2500 mg/L MLSS
 3.75- MAS
 21000

Criteria	Phase 2
Mixer type (anoxic zone)	To be determined
Mixer number	1
Mixer horsepower, each	To be determined
Anoxic hydraulic residence time at average flow, hr	1.8
Aerobic hydraulic residence time at average flow, hr	5.7
Aerobic solids retention time, days	3.75
Mixed liquor recycle pumps	
Type	Vertical turbine solids handling
Number	3
Capacity, gpm each	17,400
Waste mixed liquor pumps	
Type	Submersible
Number	2
Capacity, gpm each	1,000
Secondary Clarifiers, existing	
Number	6
Surface area each, sq ft	3,000
Side water depth, ft	10
Return Activated Sludge Pumps	
Type	Vertical centrifugal
Number	12
Capacity, gpm each	
Waste Activated Sludge Pumps	
Type	Vertical non-clog centrifugal
Number	2
Capacity, gpm each	
Filtrate equalization	
Number	1
Volume, million gallons	0.27
Aeration air demand, scfm	6,400 – 11,400
Secondary sludge production, lb/d, peak	21,000

Assumptions Confirmation

The recommendations presented above are based on a number of assumptions which should be confirmed, if possible. These include:

1. Influent flow peaking factors should be confirmed through collection system modeling or other planning efforts.
2. Influent loadings were assumed to have returned to pre-2001 levels because of the sampler relocation. This should be confirmed by analyzing 2006 data, since higher loadings could significantly impact the system design. Preliminary 2006 data indicate that loadings have not returned to earlier levels.

3. The fraction of readily biodegradable COD was based on only two days of characterization sampling. This fraction is critical, since readily biodegradable COD is necessary for denitrification. Methanol addition could be required if this fraction is lower than assumed.
4. A thorough analysis of hourly flows, equalization volumes, and peak flow management should be conducted.
5. Secondary clarifier performance is critical. Comprehensive stress testing of the secondary clarifiers is required to determine maximum surface overflow rates and verify the solids loading rates.

Preliminary Cost Estimate

The preliminary cost estimate will be included in the Preliminary Design Report

APPENDIX A

**WASTEWATER CHARACTERIZATION
SAMPLING RESULTS**

Ventura Wastewater Characterization

Wastewater Characterization

MEASURED PARAMETERS*

Day	Flow mgd	Influent																
		TSS mg/L	VSS mg/L	COD mg/L	sCOD mg/L	rfCOD mg/L	BOD5 mg/L	sBOD5 mg/L	TKN mg N/L	sTKN mg N/L	NH3-N mg N/L	NO2-N mg N/L	TON mg N/L	TP mg P/L	PO4-P mg P/L	Total Alk mg CaCO3/L	pH	Temperature °C
6/5/2006		267	267	562	249	147	270	128.4							345			
6/6/2006																		
6/7/2006		374	356	674	291	160	290	147			22.9				365			
6/8/2006		395		546			269											
6/9/2006		295		718			327											
Average	0	333	312	625	270	169	287	138			22.9				365			
Count	4	4	2	4	2	2	4	2	0	0	1	0	0	0	2			0

CALCULATED PARAMETERS

Day	Alkalinity mmol/L	ISS	VSS TSS	COD BOD5	sCOD VSS	rfTKN pCOD	Influent											
							TKN COD	TKN VSS	NH3 TKN	Frnox	RP pCOD	TP VSS	NO3-N mg N/L					
6/5/2006	6.9	0	1.00	2.08	1.17													
6/6/2006																		
6/7/2006	7.3	18	0.95	2.41	1.08													
6/8/2006				2.03														
6/9/2006				2.20														
Average	7.10	9	0.98	2.18	1.12													

* All measured values in mg/L, except as noted.

Ventura Wastewater Characterization

Wastewater Characterization

MEASURED PARAMETERS*

Day	Flow mgd	Secondary Effluent																
		TSS mg/L	VSS mg/L	COD mg/L	sCOD mg/L	fCOD mg/L	BOD5 mg/L	sBOD5 mg/L	TKN mg N/L	sTKN mg N/L	NH3-N mg N/L	NO2-N mg N/L	TON mg N/L	TP mg P/L	PO4-P mg P/L	Total Alk mg CaCO3/L	pH	Temperature °C
6/5/2006		14.8		76.9		27	18.1											
6/6/2006		6.98		42.9		19	12.4									220		
6/7/2006		8.64		43.3		38	10.6			2.2					212			
6/8/2006		9.56		39.4			11.8								235			
6/9/2006		10.2		49.2			10.8											
Average	10			50		28	14			2.2					222			
Count	5	0	0	5	0	3	5	0	0	1	0	0	0	0	3	0	0	

CALCULATED PARAMETERS

Day	Alkalinity mmol/L	Secondary Effluent												
		ISS	VSS TSS	COD BOD5	sCOD VSS	rTKN PCOD	TKN COD	TKN VSS	NH3 TKN	Fnox	RP PCOD	TP VSS	NO2-N mg N/L	
6/5/2006	4.4			4.25										
6/6/2006	4.24			3.46										
6/7/2006	4.7			4.08										
6/8/2006				3.34										
6/9/2006				2.62										
Average	4.45			3.55										

* All measured values in mg/L except as noted.

Ventura Wastewater Characterization

Wastewater Characterization

MEASURED PARAMETERS*

Day	Flow mgd	Filtrate																
		TSS mg/L	VSS mg/L	COD mg/L	sCOD mg/L	ffCOD mg/L	BOD5 mg/L	sBOD5 mg/L	TKN mg N/L	sTKN mg N/L	NH3-N mg N/L	NO2-N mg N/L	NO3-N mg N/L	TP mg P/L	PO4-P mg P/L	Total Alk mg CaCO3/L	pH	Temperature °C
6/5/2006		32.6		161.8														
6/6/2006		35.4		26														
6/7/2006		81.3		430														
6/8/2006																		
6/9/2006																		
Average	0	50	0	206	0	0	0	0	0	0	0	0	0	0	0	3,080	0	0
Count	3			3												3		

CALCULATED PARAMETERS

Day	Filtrate												
	Alkalinity mmol/L	ISS	VSS TSS	COD BOD5	pCOD VSS	TKN COD	TKN VSS	NH3 TKN	Fnox	DP pCOD	TP VSS	NO3-N mg N/L	
6/5/2006	62.6					4.3820	0.98						
6/6/2006	61					26.8846	0.99						
6/7/2006	61.2					1.7721	1.08						
6/8/2006													
6/9/2006													
Average	61.60					11.0129	1.02						

* All measured values in mg/L except as noted.

Search by Model Number:

Model Number:

Description:

[Search >>](#)

Browse by Categories:

Category:

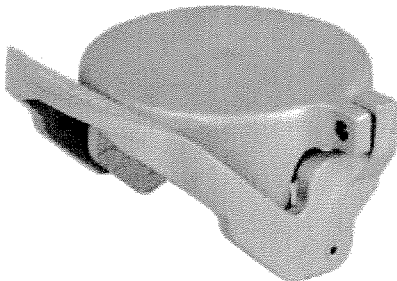
[GO](#)

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

[OPW](#) > [OPW Environmental](#) > [Underground Storage Tank Equipment](#) > [UST Fill Pipe Connection Equipment](#) > [Tight-Fill Adaptors and Caps](#)

OPW 634LPC Low Profile Fill Cap (634LPC-0400)

The OPW 634LPC low profile top seal fill cap is designed for tight installations where the clearance between the top of the fill adaptor and the underside of the spill container cover is limited. The rugged iron lever provides a positive cam-action that seats the cap firmly in the adaptor groove for a water and vapor tight seal. When engaged, the lockable cap adds only 1/2" to the final height of the adaptor. The 634LPC can be used with the 4" OPW 633T, 633TE, 633TC, and 61SA series top seal fill adaptors.



[view more detailed image >](#)

[Materials](#)

[Ordering Specifications and Replacement Parts](#)

Materials

Cap: cast zinc alloy (powder coated grey)
Lever: ductile iron
Gasket: Buna-N

Certified



[Download Printable PDF Version >](#)

Search by Model Number:

Model Number:

Description:

Browse by Categories:

Category:

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

[OPW](#) > [OPW Environmental](#) > [Underground Storage Tank Equipment](#) > [UST Fill Pipe Connection Equipment](#) > [Tight-Fill Adaptors and Caps](#)

OPW 634LPC Low Profile Fill Cap (634LPC-0400)

Materials

Ordering Specifications and Replacement Parts

The OPW 634LPC low profile top seal fill cap is designed for tight installations where the clearance between the top of the fill adaptor and the underside of the spill container cover is limited. The rugged iron lever provides a positive cam-action that seats the cap firmly in the adaptor groove for a water and vapor tight seal. When engaged, the lockable cap adds only 1/2" to the final height of the adaptor. The 634LPC can be used with the 4" OPW 633T, 633TE, 633TC, and 615A series top seal fill adaptors.

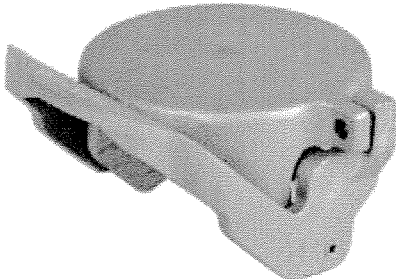
Ordering Specifications

Product No.	in.	mm.	lbs.	kg.
634LPC-0400	4"	102	3.5	1.59

Replacement Parts

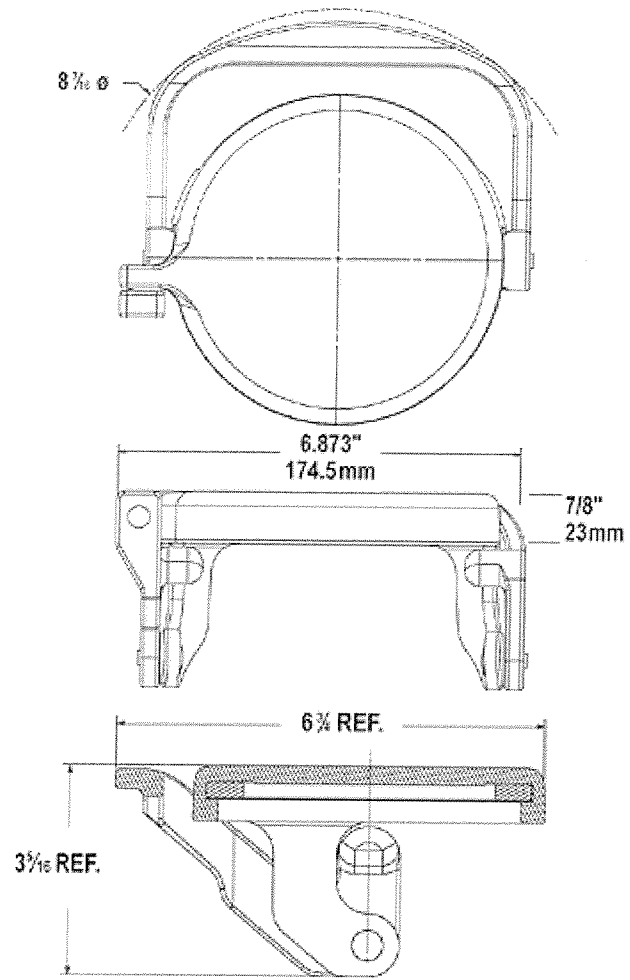
Part No.	Description
H15005M	Buna-N Gasket

Dimensions



[view more detailed image »](#)

[Download Printable PDF Version »](#)



APPENDIX B

**CANDIDATE PUMP
SELECTIONS AND MOTORS**

KR COMMENDED

Company: BROWN AND CALDWELL

me:

te: 05/17/06

05/17/06
 Reclaim Water

Size: 6"6413

Flow: 1111 US gpm

Head: 25 ft

Speed: 5400 NONCLOG
 Synchron Speed: 1200 rpm

Speed: 1175 rpm
 Dia: 9.875 in

Fluid

Water
 SG: 1
 Viscosity: 1.105 cP

Temperature: 60 °F
 Vapor pressure: 0.2563 psi a
 Atm pressure: 14.7 psi a

Curve: 130606C

Impeller:

NPSHa: --- ft

Specific Speeds:

Ns: 2605
 Nss: 6843

Motor

Standard: NEMA
 Enclosure: TEFC

Size: 10 hp
 Speed: 1200
 Frame: 256T

Dimensions:

Suction: 6 in
 Discharge: 6 in

Pump Limits:

Temperature: 150 °F
 Pressure: 85 psi g
 Sphere size: 3 in

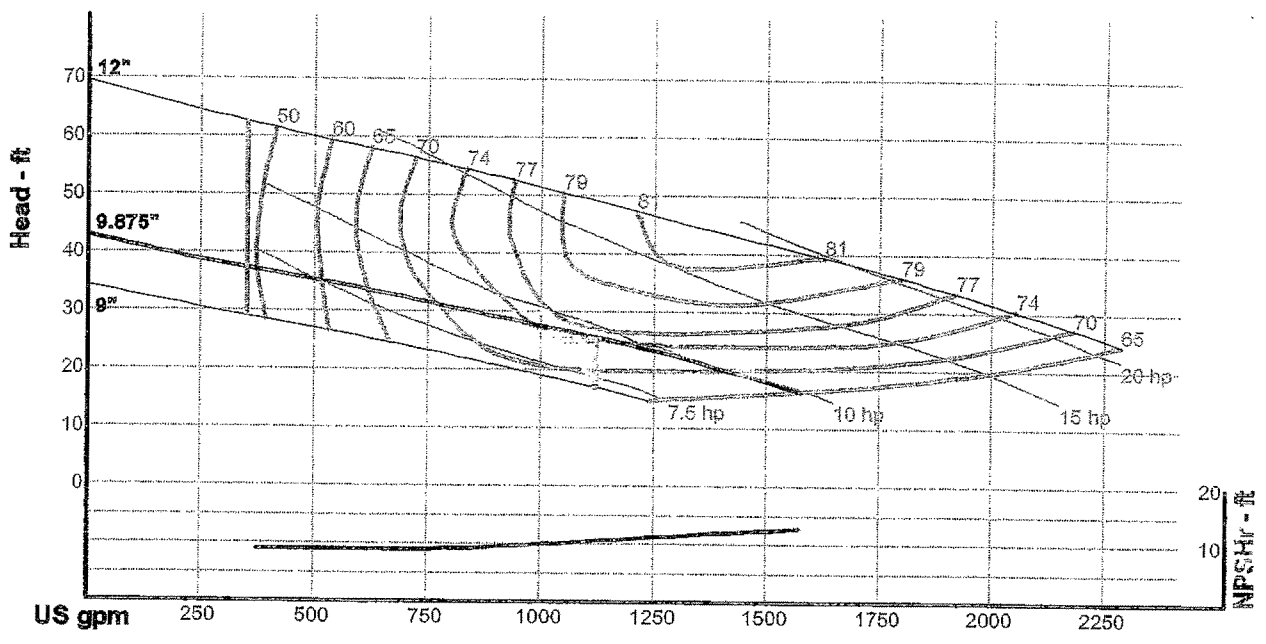
Power: --- hp
 Eye area: --- in²

Sizing criteria: Max Power on Design Curve

--- Data Point ---
 Flow: 1111 US gpm
 Head: 25.5 ft
 Eff: 74%
 Power: 9.58 hp
 NPSHr: 10.5 ft

--- Design Curve ---
 Shutoff Head: 42.6 ft
 Shutoff dP: 18.4 psi
 Min Flow: 350 US gpm
 MEP: 75% eff
 @ 1071 US gpm
 IOL Pwr: 9.99 hp
 @ 1402 US gpm

--- Max Curve ---
 Max Pwr: 21.4 hp
 @ 2271 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Pump %eff	Power hp	NPSHr ft
1333	1175	21.2	71	9.92	11.6
1111	1175	25.5	74	9.58	10.5
889	1175	29	72	8.92	9.54
667	1175	32.6	67	8.16	9.03
444	1175	35.8	55	7.21	9

Head - Feet

12"

60

50

40

30

20

10

0

9.875"

9"

50

60

70

74

77

79

81

60

65

70

74

77

79

81

50

60

70

74

77

79

81

60

65

70

74

77

79

81

50

60

70

74

77

79

81

85

90

95

100

105

110

115

120

125

130

135

140

145

150

155

160

165

170

50

60

70

74

77

79

81

60

65

70

74

77

79

81

50

60

70

74

77

79

81

60

65

70

74

77

79

81

85

90

95

100

105

110

115

120

125

130

135

140

145

150

155

160

165

170

70

60

50

40

30

20

10

0

Head - Feet

US gpm

250

500

750

1000

1250

1500

1750

2000

2250

NPSH - Feet

20

10

instability

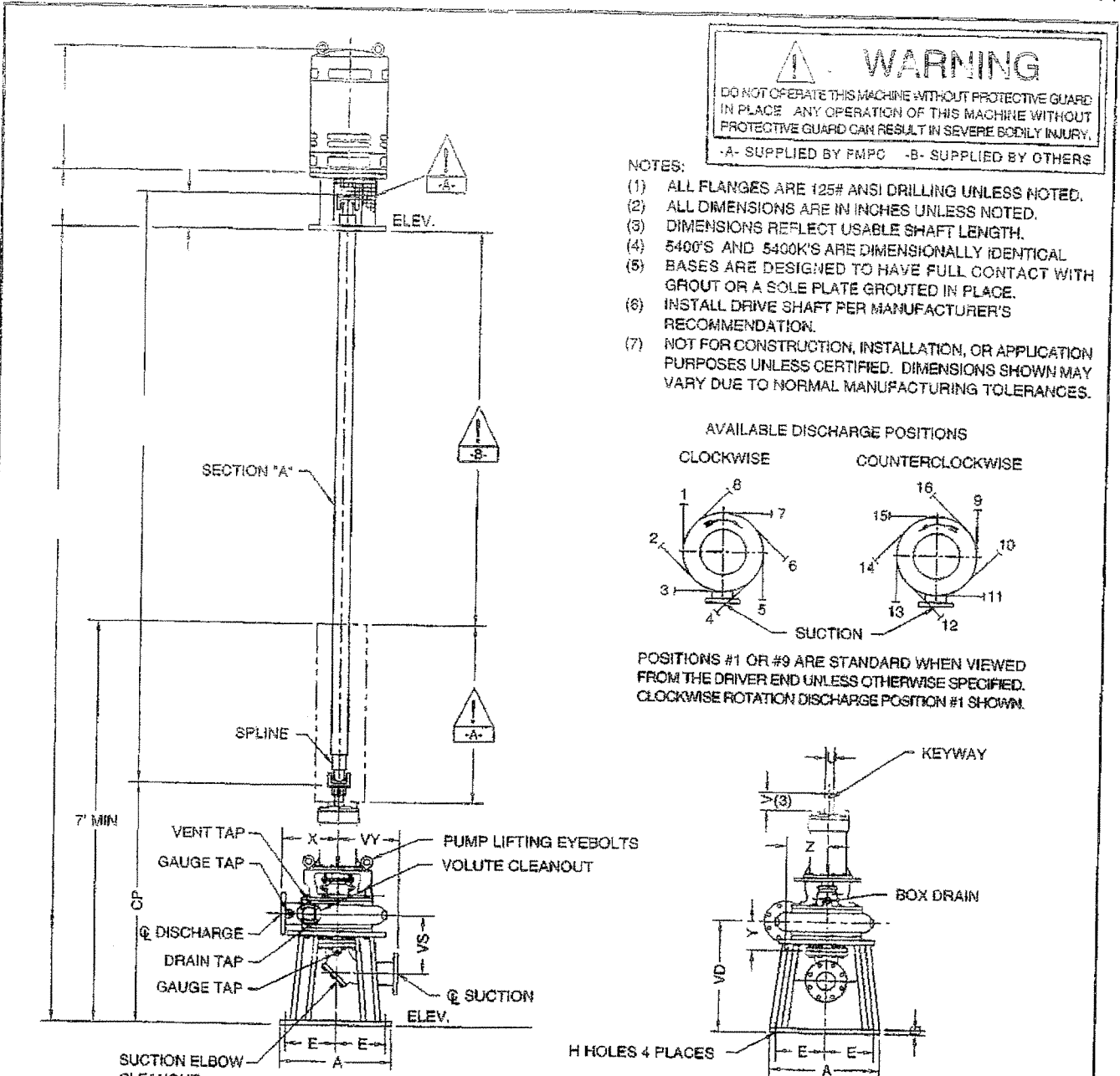
Company: BROWN AND CALDWELL

Name:
05/17/06

Fairbanks Morse Pump, 60 Hz
Catalog: Fairbanks Morse Centrifugal.60, vers 2.0
5400-NONCLOG - 1200
Design Point: 1111 US gpm, 25 ft

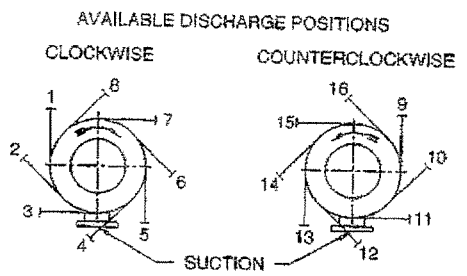
Size: 6"5413
Speed: 1175 rpm
Dia: 9.875 in
Curve: 130606C

Fairbanks Morse
Perforator Water

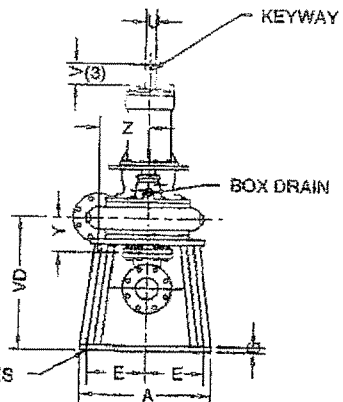


WARNING
DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
-A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS

- NOTES:
- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
 - (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
 - (3) DIMENSIONS REFLECT USABLE SHAFT LENGTH.
 - (4) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL
 - (5) BASES ARE DESIGNED TO HAVE FULL CONTACT WITH GROUT OR A SOLE PLATE GROUTED IN PLACE.
 - (6) INSTALL DRIVE SHAFT PER MANUFACTURER'S RECOMMENDATION.
 - (7) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



PUMP	FRAME	SUCT	DISCH	A	E	G	H	U	V	X	Y	Z	CP	VD	VS	VY	KEYWAY
3" B5413	T30	3	3	24	10 3/4	1	1 1/8	1 7/8	3 1/2	11	5 1/2	7 3/4	51 1/2	23 3/4	11	5 1/2	1/2 X 1/4
3" B5413	T30	4	3	24	10 3/4	1	1 1/8	1 7/8	3 1/2	11	5 1/2	7 3/4	51 1/2	23 3/4	12	6 1/2	1/2 X 1/4
4" B5413	T30	4	4	24	10 3/4	1	1 1/8	1 7/8	3 1/2	12	6 1/4	9	52 1/2	24 1/4	12 3/4	13 1/4	1/2 X 1/4
4" B5413	T8U	6	4	24	10 3/4	1	1 1/8	1 7/8	3 1/2	12	6 1/4	9	52 1/2	24 1/4	12 3/4	13 1/4	1/2 X 1/4
5" B5413	T30	5	5	24	10 3/4	1	1 1/8	1 7/8	3 1/2	13	7 1/4	9 1/2	53 1/2	24 3/4	14 3/4	7 1/2	1/2 X 1/4
5" B5413	T30	6	5	24	10 3/4	1	1 1/8	1 7/8	3 1/2	13	7 1/4	9 1/2	53 1/2	24 3/4	14 1/8	10	1/2 X 1/4
5" B5413	T30	8	5	24	10 3/4	1	1 1/8	1 7/8	3 1/2	13	7 1/4	9 1/2	53 1/2	24 3/4	16 1/4	9	1/2 X 1/4
6" B5413	T30	8	6	24	10 3/4	1	1 1/8	1 7/8	3 1/2	12	9	9	53 1/2	24 3/4	17	8	1/2 X 1/4
6" B5413	T30	6	6	24	10 3/4	1	1 1/8	1 7/8	3 1/2	12	9	9	53 1/2	24 3/4	17	8	1/2 X 1/4

CUSTOMER				P O NO			
JOB NAME				TAG NAME			
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS	
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE	
CERTIFIED FOR			CERTIFIED BY		DATE		

SETTING PLAN
B5413
ONE-SECTION
INTERMEDIATE SHAFT

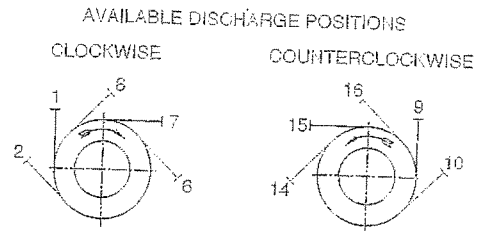
DWG NO **5410S027** REV NO **0**

Fairbanks Morse Pump Corporation

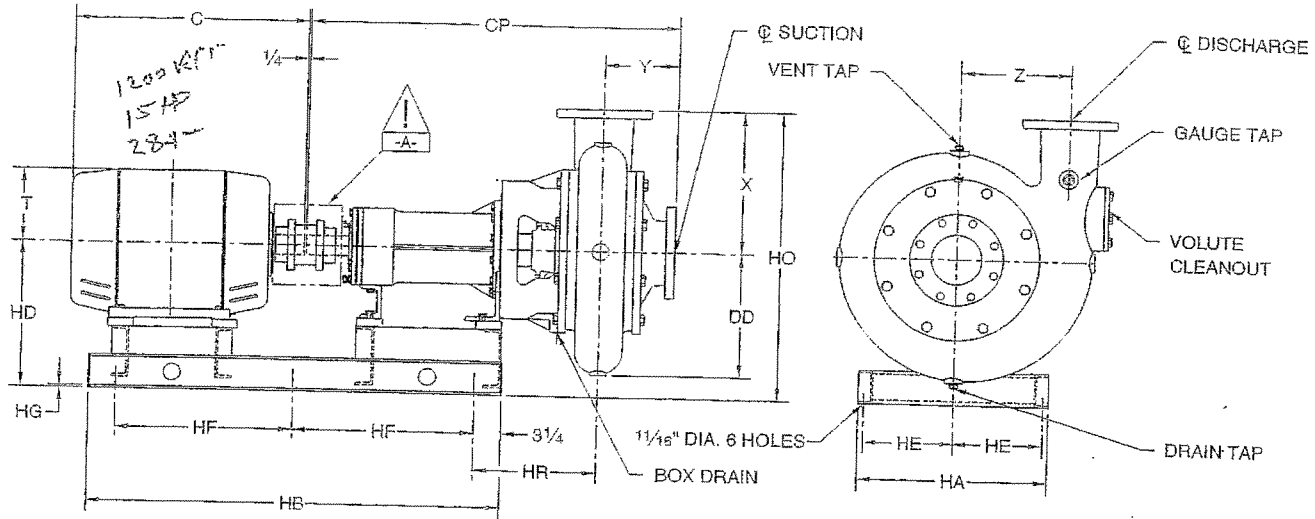
WARNING
DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
-A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS

15 HP

MOTOR DIMENSIONS	
C	T
25.25	



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



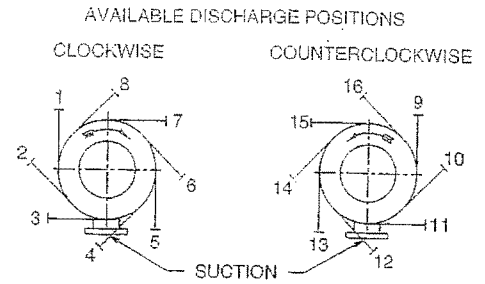
PUMP	FRAME		SUCT	DISCH	X	Y	Z	CP	DD	HA	HB	HD	HE	HF	HG	HO	HR
	PUMP	MOTOR															
6" B5424	T40	143T-184T	6	6	17	8 ³ / ₈	12 ¹³ / ₁₆	42 ³ / ₈	15 ¹ / ₂	22 ¹ / ₄	36 ¹ / ₂	17 ¹ / ₂	10 ¹ / ₂	15	1/4	34 ¹ / ₂	14 ¹ / ₄
6" B5424	T40	213T-254T	6	6	17	8 ³ / ₈	12 ¹³ / ₁₆	42 ³ / ₈	15 ¹ / ₂	22 ¹ / ₄	42 ¹ / ₂	17 ¹ / ₂	10 ¹ / ₂	18	1/4	34 ¹ / ₂	14 ¹ / ₄
6" B5424	T40	256T-364TS	6	6	17	8 ³ / ₈	12 ¹³ / ₁₆	42 ³ / ₈	15 ¹ / ₂	22 ¹ / ₄	48 ¹ / ₂	17 ¹ / ₂	10 ¹ / ₂	21	1/4	34 ¹ / ₂	14 ¹ / ₄
6" B5424	T40	266T-404TS	6	6	17	8 ³ / ₈	12 ¹³ / ₁₆	42 ³ / ₈	15 ¹ / ₂	22 ¹ / ₄	54 ¹ / ₂	17 ¹ / ₂	10 ¹ / ₂	24	1/4	34 ¹ / ₂	14 ¹ / ₄
6" B5424S(3)	T40	254T	6	6	16	9 ¹ / ₈	10 ¹³ / ₁₆	48 ³ / ₈	14 ¹ / ₈	22 ¹ / ₄	42 ¹ / ₂	19	10 ¹ / ₂	16	1/4	35	14 ³ / ₄
8" B5424S(3)	T40	256T-364TS	8	8	16	9 ¹ / ₈	10 ¹³ / ₁₆	43 ⁵ / ₈	14 ¹ / ₈	22 ¹ / ₄	48 ¹ / ₂	19	10 ¹ / ₂	21	1/4	35	14 ³ / ₄
8" B5424L(4)	T40	256T-364TS	8	8	18	9 ¹ / ₈	14	43 ⁵ / ₈	17	22 ¹ / ₄	48 ¹ / ₂	19	10 ¹ / ₂	21	1/4	37	14 ³ / ₄
8" B5424L(4)	T40	365T-434TS	8	8	18	9 ¹ / ₈	14	43 ⁵ / ₈	17	30 ¹ / ₂	54 ¹ / ₂	19	14 ¹ / ₂	24	5/16	37	14 ³ / ₄

NOTES:

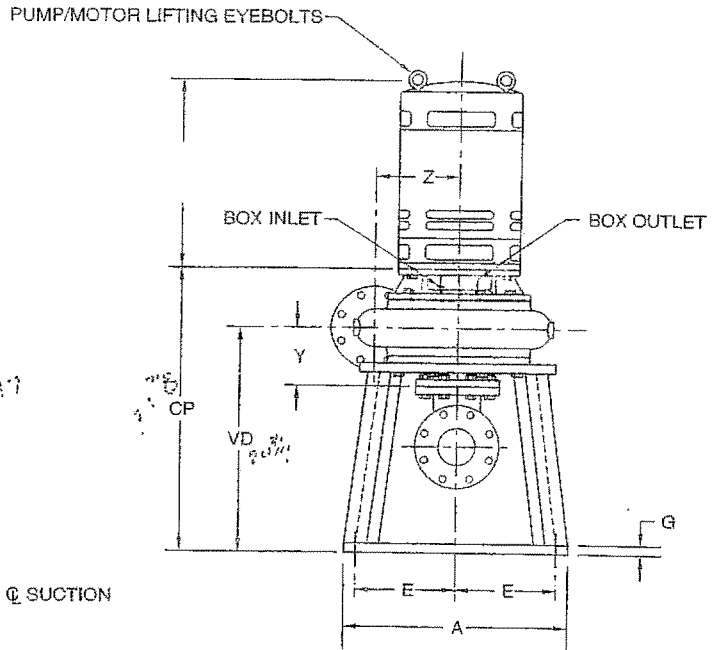
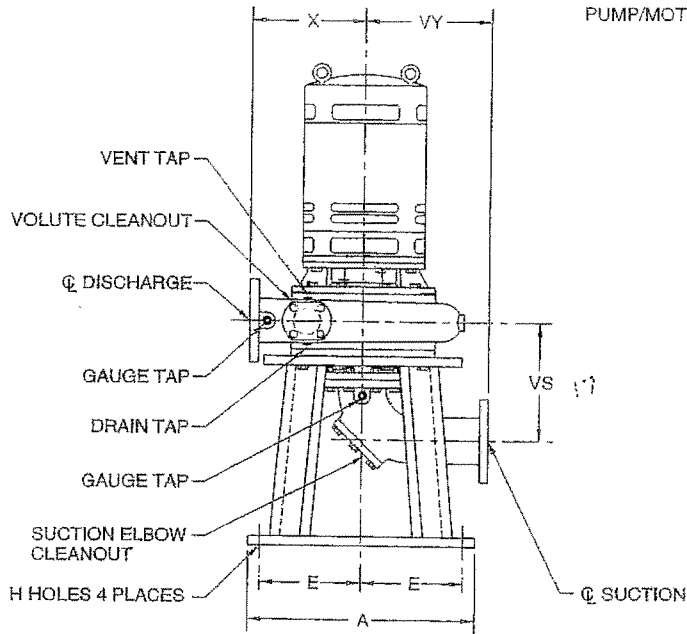
- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
- (3) FOR USE WITH IMPELLER DESIGN T8D1A.
- (4) FOR USE WITH IMPELLER DESIGNS T8D1D OR TAKC5W.
- (5) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
- (6) BASES ARE DESIGNED TO BE COMPLETELY FILLED WITH GROUT.
- (7) SUCTION GAUGE CONNECTIONS ARE NOT AVAILABLE AND SHOULD BE LOCATED ON ADJACENT SUCTION PIPING.
- (8) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.O. NO.	
JOB NAME				TAG NAME	
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION
MOTOR		HP	FRAME	PHASE	HERTZ
CERTIFIED FOR		CERTIFIED BY		DATE	
SETTING PLAN 6" & 8" B5424 WITH STRUCTURAL BASE					
Fairbanks Morse Pump Co				NO. 6420S029	REV. NO. 0

WARNING
DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



PUMP	MOTOR FRAME	SUCT	DISCH	A	E	G	H	X	Y	Z	CP	VD	VS	VY
3" B5433	213T-286T	3	3	24	10 ³ / ₄	1	1 ¹ / ₈	11	5 ¹ / ₂	7 ³ / ₄	29 ⁵ / ₈	23 ³ / ₄	11	5 ¹ / ₂
3" B5433	213T-286T	4	3	24	10 ³ / ₄	1	1 ¹ / ₈	11	5 ¹ / ₂	7 ³ / ₄	29 ⁵ / ₈	23 ³ / ₄	12	6 ¹ / ₂
4" B5433	213T-326T	4	4	24	10 ³ / ₄	1	1 ¹ / ₈	12	6 ¹ / ₄	9	30 ⁵ / ₈	24 ¹ / ₄	12 ³ / ₄	13 ¹ / ₄
4" B5433	213T-326T	6	4	24	10 ³ / ₄	1	1 ¹ / ₈	12	6 ¹ / ₄	9	30 ⁵ / ₈	24 ¹ / ₄	12 ³ / ₄	13 ¹ / ₄
5" B5433	215T-364T	5	5	24	10 ³ / ₄	1	1 ¹ / ₈	13	7 ¹ / ₄	9 ¹ / ₂	31 ⁵ / ₈	24 ³ / ₄	14 ³ / ₄	7 ¹ / ₂
5" B5433	215T-364T	6	5	24	10 ³ / ₄	1	1 ¹ / ₈	13	7 ¹ / ₄	9 ¹ / ₂	31 ⁵ / ₈	24 ³ / ₄	14 ³ / ₄	10
5" B5433	215T-364T	8	5	24	10 ³ / ₄	1	1 ¹ / ₈	13	7 ¹ / ₄	9 ¹ / ₂	31 ⁵ / ₈	24 ³ / ₄	16 ¹ / ₄	9
6" B5433	215T-365T	8	6	24	10 ³ / ₄	1	1 ¹ / ₈	12	9	9	31 ⁵ / ₈	24 ³ / ₄	17	8
6" B5433	215T-365T	6	6	24	10 ³ / ₄	1	1 ¹ / ₈	12	9	9	31 ⁵ / ₈	24 ³ / ₄	17	8

NOTES:

- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
- (3) DIMENSIONS REFLECT USABLE SHAFT LENGTH.
- (4) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
- (5) BASES ARE DESIGNED TO HAVE FULL CONTACT WITH GROUT OR A SOLE PLATE GROUTED IN PLACE.
- (6) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.O. NO.		
JOB NAME				TAG NAME		
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE
CERTIFIED FOR			CERTIFIED BY		DATE	

SETTING PLAN
B5433

DWG NO **5430S009** REV NO **0**

Selection list: ---
Search Criteria:
 Flow: 1111 US gpm
 Head: 25.7 ft
 Tolerance: --- % of head

Fluid: Water
 Temperature: 60 °F
 SG: 1
 Viscosity: 1.105 cP
 Vapor pressure: 0.2563 psi a
 Atm pressure: 14.7 psi a

NPSHa: --- ft

Advanced Criteria:

Preferred Operating Area: ---
 Secondary Operating Point: ---
 Max temperature: --- °F
 Max suction pressure: --- psi g
 Max sphere size: --- in
 Max power: --- bhp
 Max suction specific speed: --- (Nss)
 Min trim: --- % of max diameter
 Min head rise: --- % to shutoff

Curve Corrections: none

Catalog: PATTERSON PUMPS 60HZ VERS 1

Pump: 6x6x12.75
 Type: Sewage Pumps
 Synchron speed: 1200 rpm
 Speed: 1180 rpm
 Dia: 10.875 in
 Curve no: 6NCS.F

Specific Speeds

Ns: 2305 Nss: ---

Dimensions:

Suction: 6 in Discharge: 6 in

Pump Limits:

Temperature: 150 °F
 Pressure: 94 psi g
 Sphere size: 3.75 in
 Power: --- bhp

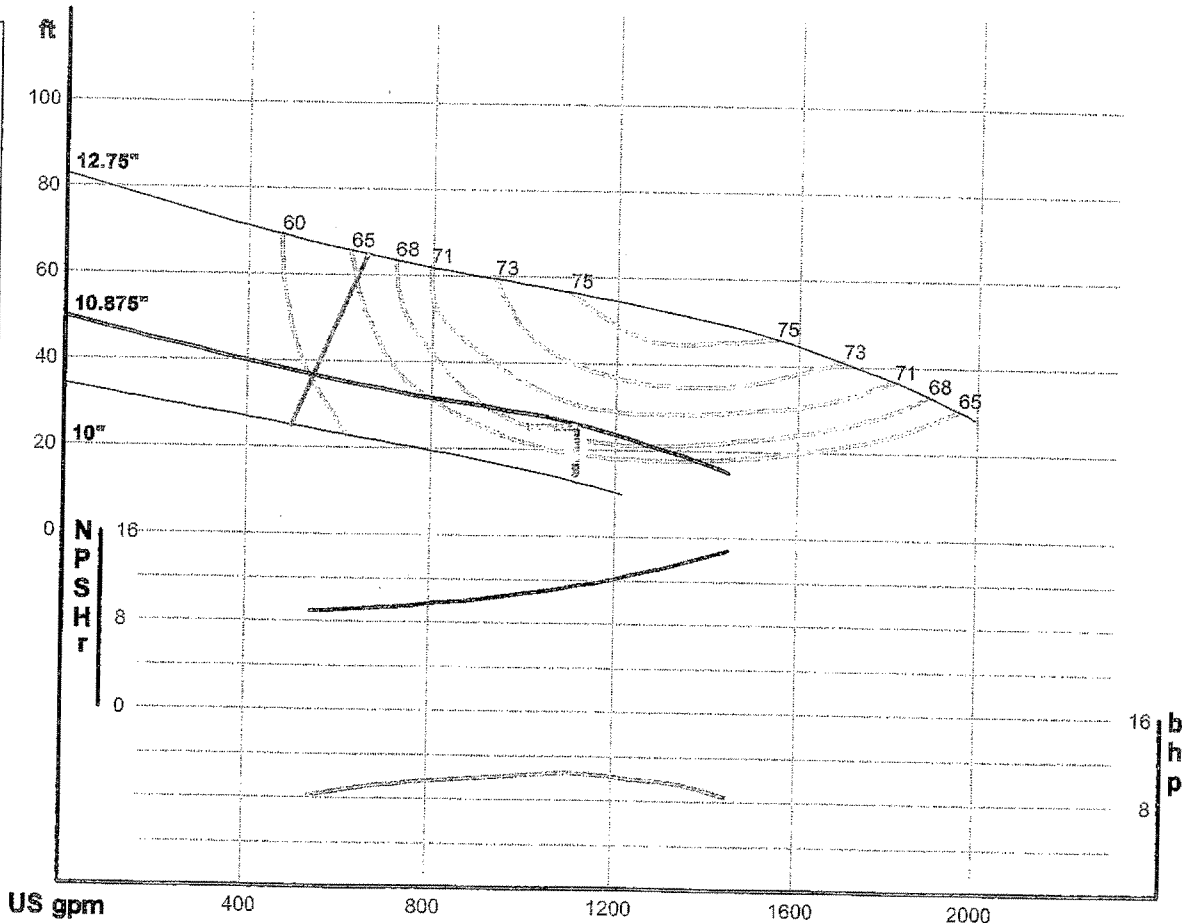
Motor: 15 hp

Speed: 1200
 Frame: 284T
 Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve

--- Data Point ---
 Flow: 1111 US gpm
 Head: 25.7 ft
 Eff: 69.2%
 Power: 10.4 bhp
 NPSHr: 11.4 ft

-- Design Curve --
 Shutoff Head: 49.5 ft
 Shutoff dP: 21.4 psi
 Min Flow: 545 US gpm
 BEP: 69.3% eff
 @ 1090 US gpm
 NOL Pwr: 10.4 bhp
 @ 1090 US gpm

-- Max Curve --
 Max Pwr: 23.8 bhp
 @ 1546 US gpm



Pump note: Impeller D-5874

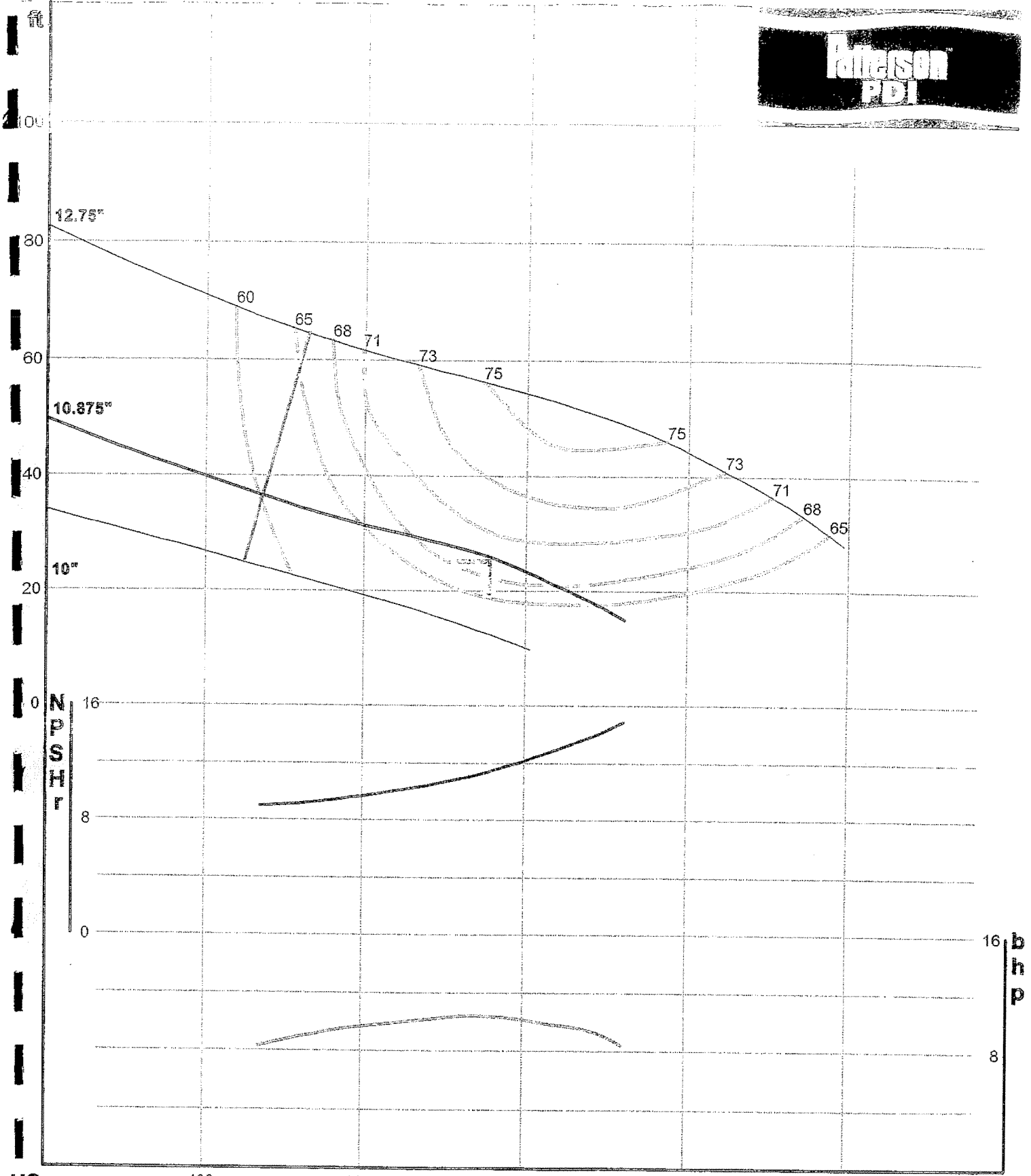
selection list: ---

Catalog: PATTERSON PUMPS 60HZ VERS 1

Pump: 6x6x12.75

Performance Evaluation:

Flow	Speed	Head	Pump	Power	NPSHr	Motor	Motor	Hrs/yr	Cost
US gpm	rpm	ft	%eff	bhp	ft	%eff	kW		/kWh
1333	1180	18.9	66.2	9.53	13.5				
1111	1180	25.7	69.2	10.4	11.4				
889	1180	29.8	67.2	9.92	10				
667	1180	33.9	62.5	8.96	9.25				
444	Flow Rate is Out of Range for this pump								



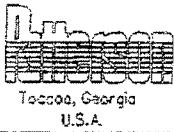
Curve No.: 6NCS-F

Brown and Caldwell

Patterson 60 Hz Pumps
 Catalog: Patterson Pumps 60HZ, vers 1
 SewagePumps - 1200
 Design Point: 1111 US gpm - 28 ft

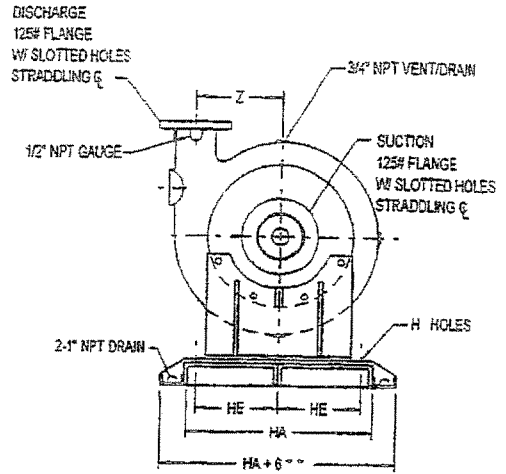
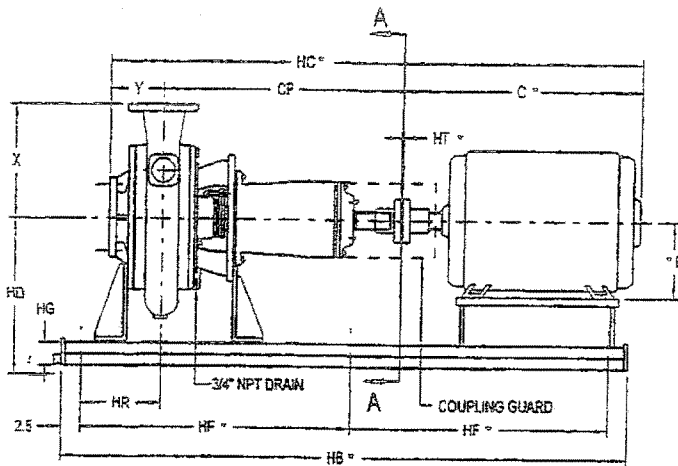
Size: 6x6x12.75
 Speed: 1180 rpm
 Dia: 10.875 in

1/17/06
 .ufs

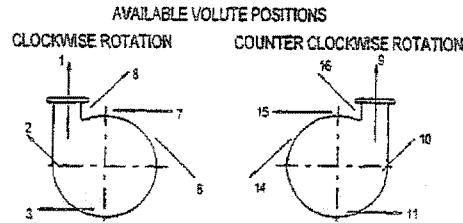


ROTOR GROUP 3 NCS NON-CLOG SERVICE PUMP

SECTION N
PAGE 32
DATE: JAN. 2, 2000



SECTION A-A



VOLUTE POSITIONS VIEWED FROM DRIVER END. CLOCKWISE POSITION 1 (SHOWN) IS STANDARD UNLESS OTHERWISE SPECIFIED.

NOTE:
NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

* WILL VARY WITH DRIVER SELECTION
** FOR OPTIONAL DRIPTRIM BASE ONLY

PUMP SIZE	ROTOR GROUP	SUCTION	DISCHARGE	CP	H	HA	HD	HE	HG	HR	X	Y	Z
4 X 3 X 14	3	4	3	29	6 - 1" DIA.	24	19 1/2	10 1/2	3	10 1/4	14	6 11/16	10 1/2
4 X 4 X 12	3	4	4	29	6 - 1" DIA.	24	19 1/2	10 1/2	3	10 1/4	12	6 11/16	9
5 X 4 X 14	3	5	4	29	6 - 1" DIA.	24	19 1/2	10 1/2	3	10 1/4	14 5/16	6 11/16	10 3/4
6 X 6 X 12 3/4	3	6	6	29	6 - 1" DIA.	24	19 1/2	10 1/2	3	10 1/4	13 1/4	6 11/16	10 3/16

REMARKS:

SERIAL No. _____ MODEL No. _____ CUSTOMER ORDER No. _____

JOB _____

SUCTION _____ DISCHARGE _____ CAPACITY _____ G.P.N. @ _____ FT. HD. @ _____ RPM

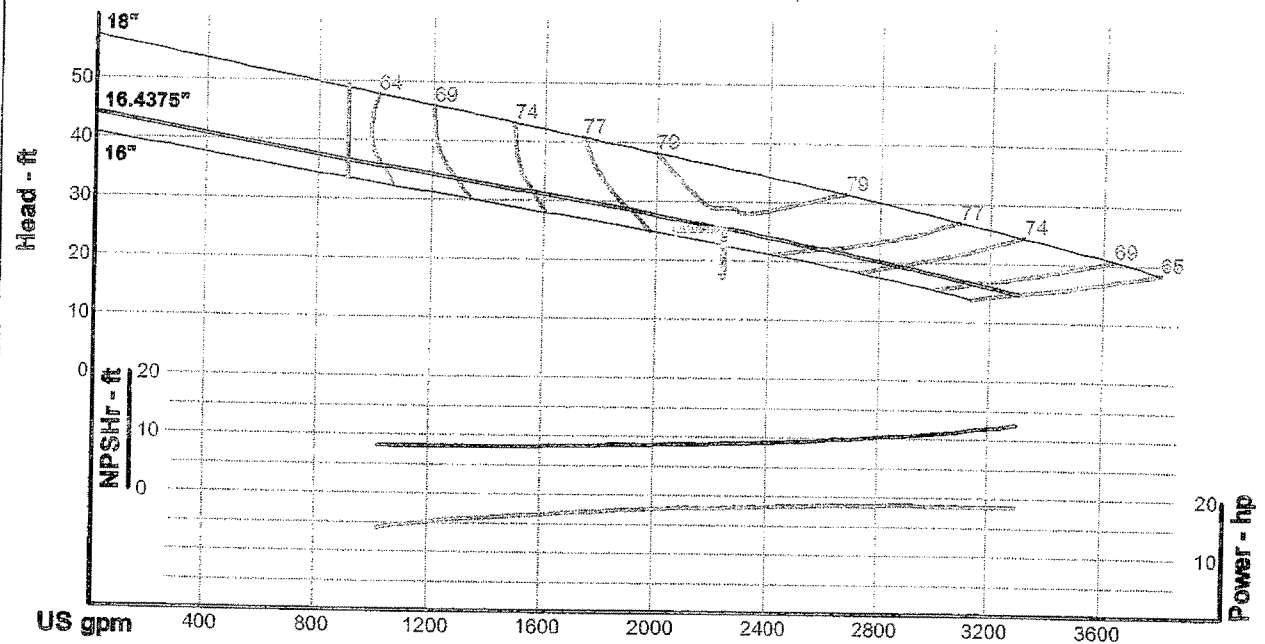
VOLUTE POSITION _____ ROTATION _____ CERTIFIED BY _____ DATE _____

9.0" Bore
 Type: 6400-NOMINAL
 Shaft speed: 720 rpm
 Code: 150810N
 Specific Speeds:
 Dimensions:
 Limits:
 Temperature: 150 °F
 Pressure: 75 psi g
 Eye size: 5 in

Speed: 705 rpm
 Dia: 16.4375 in
 Impeller:
 Ns: 2401
 Nss: 6577
 Suction: 8 in
 Discharge: 8 in

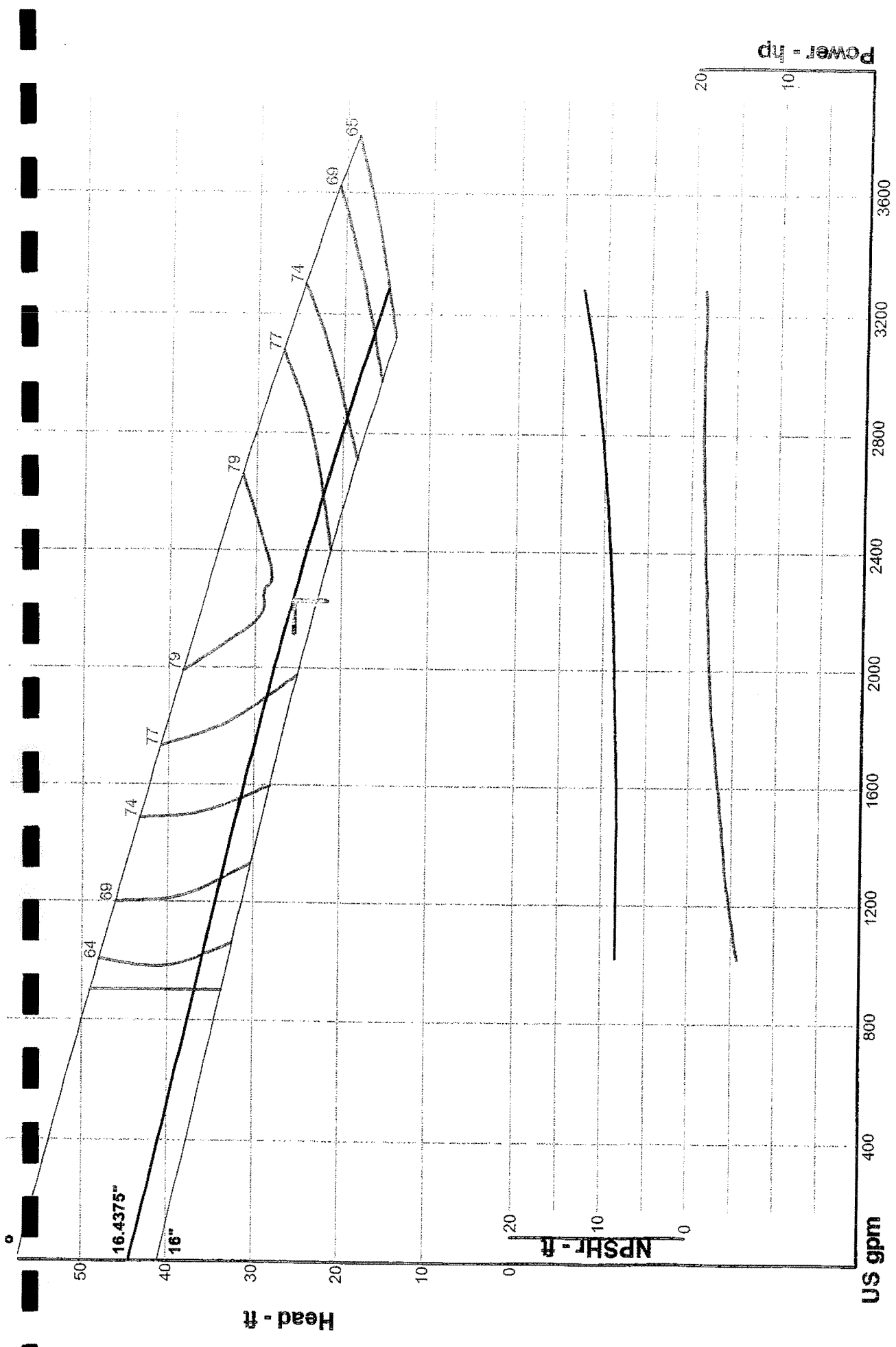
Design Criteria:
 Flow: 2221 US gpm
 Head: 25 ft
 Fluid:
 Water
 SG: 1
 Viscosity: 1.105 cP
 NPSHa: --- ft
 Motor:
 Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Temperature: 60 °F
 Vapor pressure: 0.2563 psi a
 Atm pressure: 14.7 psi a
 --- hp
 Speed: ---
 Frame: ---

Data Point
 Flow: 2221 US gpm
 Head: 25.2 ft
 Eff: 79%
 Power: 18 hp
 NPSHr: 8.81 ft
Design Curve
 Cutoff Head: 43.9 ft
 Cutoff dP: 19 psi
 In Flow: 900 US gpm
 Eff: 79%
 @ 2227 US gpm
 PL Pwr: 18.6 hp
 @ 2849 US gpm
Max Curve
 Max Pwr: 27 hp
 @ 3293 US gpm



Performance Evaluation:

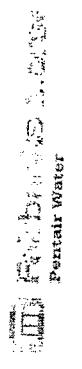
Flow US gpm	Speed rpm	Head ft	Pump %eff	Power hp	NPSHr ft
2665	705	21	76	18.5	9.77
2221	705	25.2	79	18	8.81
1777	705	29.1	76	17.1	8.32
1333	705	32.8	70	15.7	8.1
888	705	---	---	---	---



Company: BROWN AND CALDWELL
 Name: 05/17/06

Fairbanks Morse Pump, 60 Hz
 Catalog: Fairbanks Morse Centrifugal.60, vers 2.0
 5400-NONCLOG - 720
 Design Point: 2221 US gpm, 25 ft

Size: 8"5415 (N)
 Speed: 705 rpm
 Dia: 16.4375 in
 Curve: 150810N



Power - hp

US gpm

Head - ft

NPSH - ft

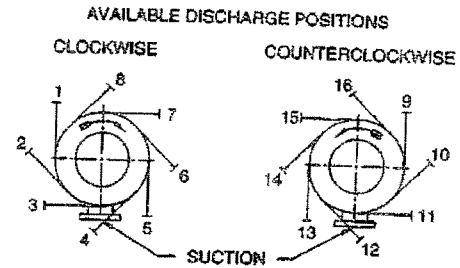
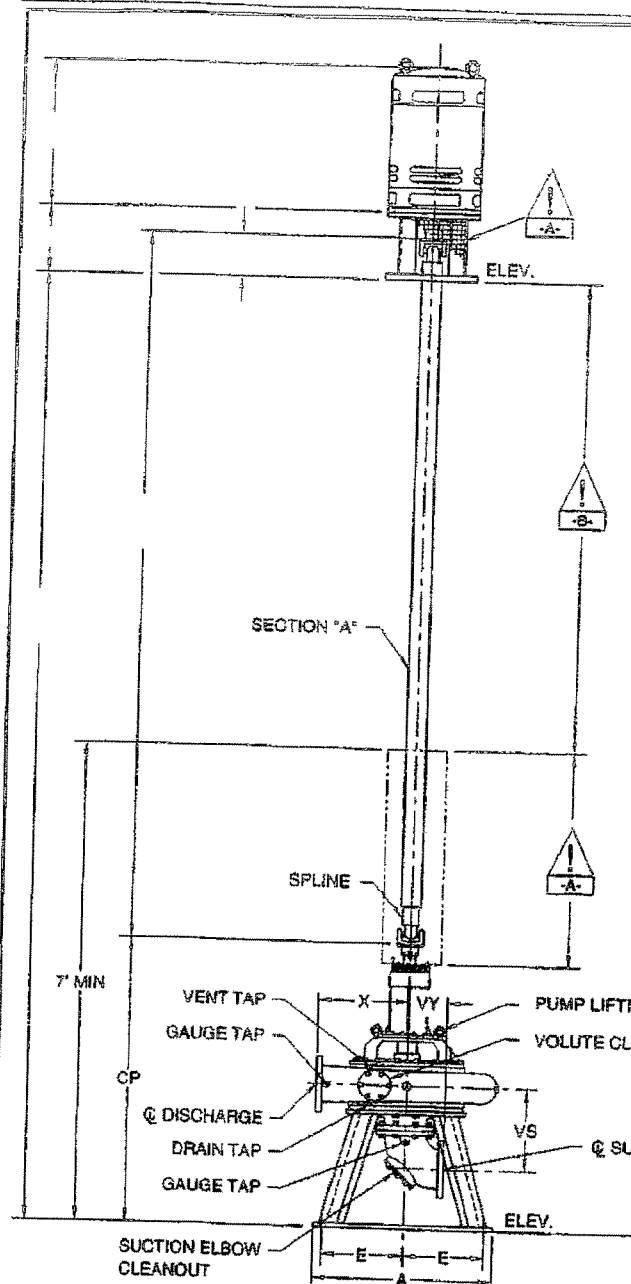
WARNING

DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY

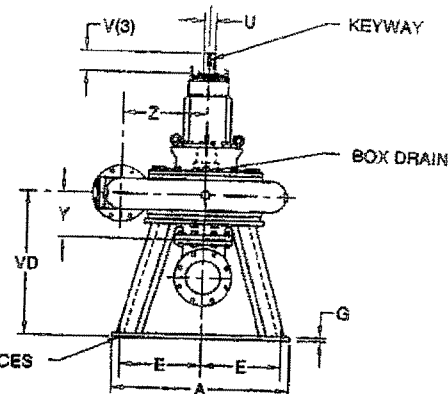
-A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS

NOTES:

- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
- (3) DIMENSIONS REFLECT USABLE SHAFT LENGTH.
- (4) FLANGE IS STANDARD 250# ANSI DRILLING.
- (5) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
- (6) BASES ARE DESIGNED TO HAVE FULL CONTACT WITH GROUT OR A SOLE PLATE GROUTED IN PLACE.
- (7) INSTALL DRIVE SHAFT PER MANUFACTURER'S RECOMMENDATION.
- (8) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.



POSITIONS #1 OR #8 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



PUMP	FRAME	SUCT	DISCH	A	E	G	H	U	V	X	Y	Z	CP	VD	VS	VY	KEYWAY
4" C5415	T40	4	4	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	11	6 13/16	9 1/4	60 1/4	26 5/16	13 3/4	13 1/4	5/8 X 5/16 X 2 3/4
4" C5415	T40	6	4	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	11	6 13/16	9 1/4	60 1/4	26 5/16	13 3/4	13 1/4	5/8 X 5/16 X 2 3/4
8" C5415	T60	8	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	19 3/4	87 7/8	33 7/8	19 1/2	9	5/8 X 5/16 X 2 3/4
8" C5415	T60	10	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	19 3/4	87 7/8	33 7/8	19 1/2	11	5/8 X 5/16 X 2 3/4
10" C5415	T60	10	10	42	19	1	1 3/8	2 3/8	4 1/4	24	11	17 7/8	88 7/8	34 3/8	22	11	5/8 X 5/16 X 2 3/4
10" C5415	T60	12	10	42	19	1	1 3/8	2 3/8	4 1/4	24	11	17 7/8	88 7/8	34 3/8	23	12	5/8 X 5/16 X 2 3/4
5" C5416	T40	8	5	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	14	9 1/2	12 3/8	59 3/8	25 1/16	18 1/2	9	5/8 X 5/16 X 2 3/4
6" C5416	T60	10	6(4)	42	19	1	1 3/8	2 3/8	4 1/4	14 1/2	12 5/16	12 5/8	67 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
6" C5416L	T60	10	8(4)	42	19	1	1 3/8	2 3/8	4 1/4	14 1/2	12 5/16	12 5/8	68 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
8" C5416S	T60	10	8(4)	42	19	1	1 3/8	2 3/8	4 1/4	19 1/2	12 5/16	13	68 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
8" C5416	T60	12	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	19 3/4	67 7/8	33 7/8	22 1/2	12	5/8 X 5/16 X 2 3/4

CUSTOMER _____ P. O. NO. _____

JOB NAME _____ TAG NAME _____

PUMP SIZE AND MODEL _____ GPM _____ TCH _____ RPM _____ ROTATION _____ DISCH POS _____

MOTOR _____ HP _____ FRAME _____ PHASE _____ HERTZ _____ VOLTS _____ ENCLOSURE _____

CERTIFIED FOR _____ CERTIFIED BY _____ DATE _____

Fairbanks Morse
Pump Corporation

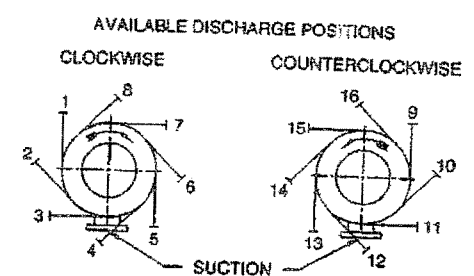
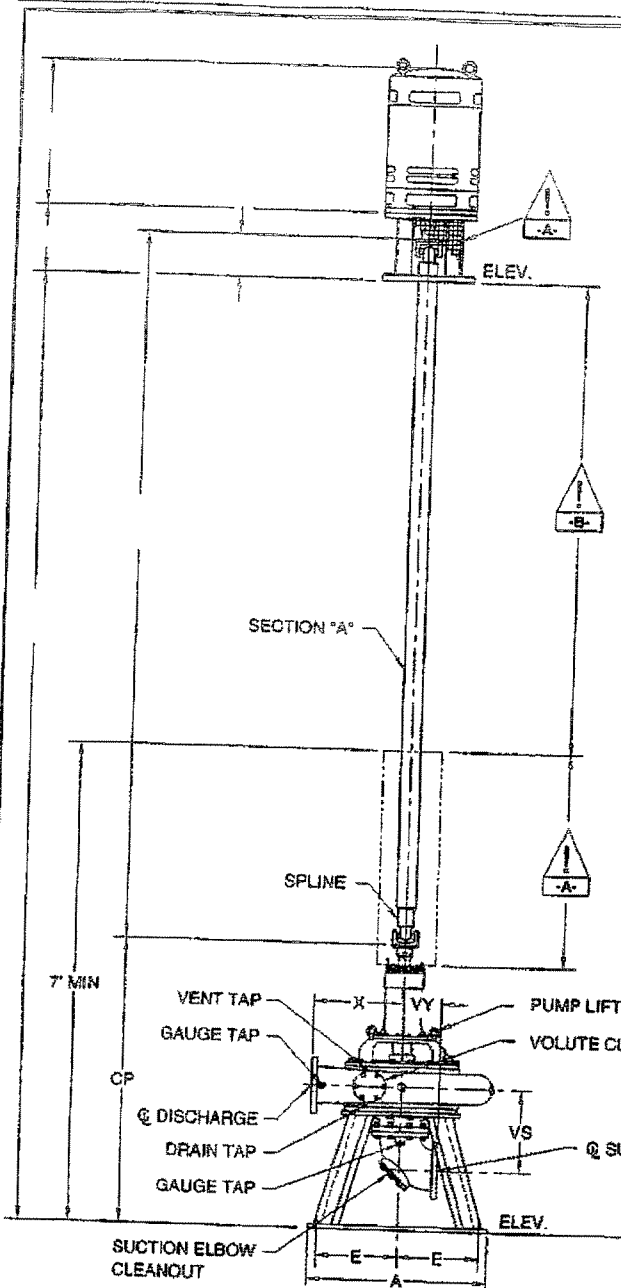
SETTING PLAN
C5415 & C5416
ONE-SECTION
INTERMEDIATE SHAFT

DWG NO. **5410S031** REV NO. **2**

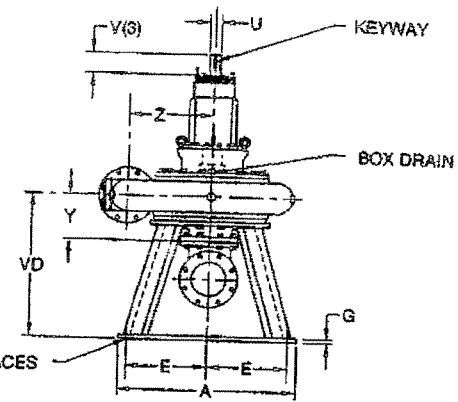
4/28/95

WARNING
 DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
 -A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS

- NOTES:
- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
 - (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
 - (3) DIMENSIONS REFLECT USABLE SHAFT LENGTH.
 - (4) FLANGE IS STANDARD 250# ANSI DRILLING.
 - (5) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
 - (6) BASES ARE DESIGNED TO HAVE FULL CONTACT WITH GROUT OR A SOLE PLATE GROUTED IN PLACE.
 - (7) INSTALL DRIVE SHAFT PER MANUFACTURER'S RECOMMENDATION.
 - (8) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



PUMP	FRAME	SUCT	DISCH	A	E	G	H	U	V	X	Y	Z	CP	VD	VS	VY	KEYWAY
4" C5415	T40	4	4	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	11	6 1/16	8 1/4	60 1/4	26 5/16	13 5/16	13 1/4	5/8 X 5/16 X 2 3/4
4" C5415	T40	6	4	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	11	6 1/16	9 1/4	60 1/4	28 3/16	13 5/16	13 1/4	5/8 X 5/16 X 2 3/4
8" C5415	T60	8	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	18 3/4	67 7/8	33 3/8	19 1/2	9	5/8 X 5/16 X 2 3/4
8" C5415	T60	10	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	19 3/4	67 7/8	33 3/8	19 1/2	11	5/8 X 5/16 X 2 3/4
10" C5415	T60	10	10	42	19	1	1 3/8	2 3/8	4 1/4	24	11	17 7/8	68 7/8	34 3/8	22	11	5/8 X 5/16 X 2 3/4
10" C5415	T60	12	10	42	19	1	1 3/8	2 3/8	4 1/4	24	11	17 7/8	68 7/8	34 3/8	23	12	5/8 X 5/16 X 2 3/4
5" C5418	T40	8	5	30	13 3/4	3/4	1 1/8	2 3/8	4 1/4	14	8 1/2	12 3/8	59 3/8	25 1/16	18 1/2	9	5/8 X 5/16 X 2 3/4
6" C5418	T60	10	6(4)	42	19	1	1 3/8	2 3/8	4 1/4	14 1/2	12 5/16	12 5/8	67 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
8" C5418L	T60	10	8(4)	42	19	1	1 3/8	2 3/8	4 1/4	14 1/2	12 5/16	12 5/8	68 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
8" C5418S	T60	10	8(4)	42	19	1	1 3/8	2 3/8	4 1/4	18 1/2	12 5/16	13	68 1/2	34 3/16	23 5/16	11	5/8 X 5/16 X 2 3/4
8" C5418	T60	12	8	42	19	1	1 3/8	2 3/8	4 1/4	21	10 1/2	19 3/4	67 7/8	33 3/8	22 1/2	12	5/8 X 5/16 X 2 3/4

CUSTOMER _____ P.O. NO. _____

JOB NAME _____ TAG NAME _____

PUMP SIZE AND MODEL	GPM	TOW	RPM	ROTATION	DISCH POS
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS
CERTIFIED FOR		CERTIFIED BY		DATE	

Fairbanks Morse
 Pump Corporation

SETTING PLAN
 C5415 & C5416
 ONE-SECTION
 INTERMEDIATE SHAFT

FWO NO. **5410S031** REL NO. **2**

4/28/95



WARNING

DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
A. SUPPLIED BY FMPC - B. SUPPLIED BY OTHERS

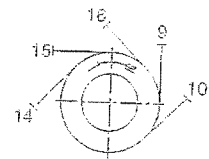
20 HP

MOTOR DIMENSIONS	
C	T

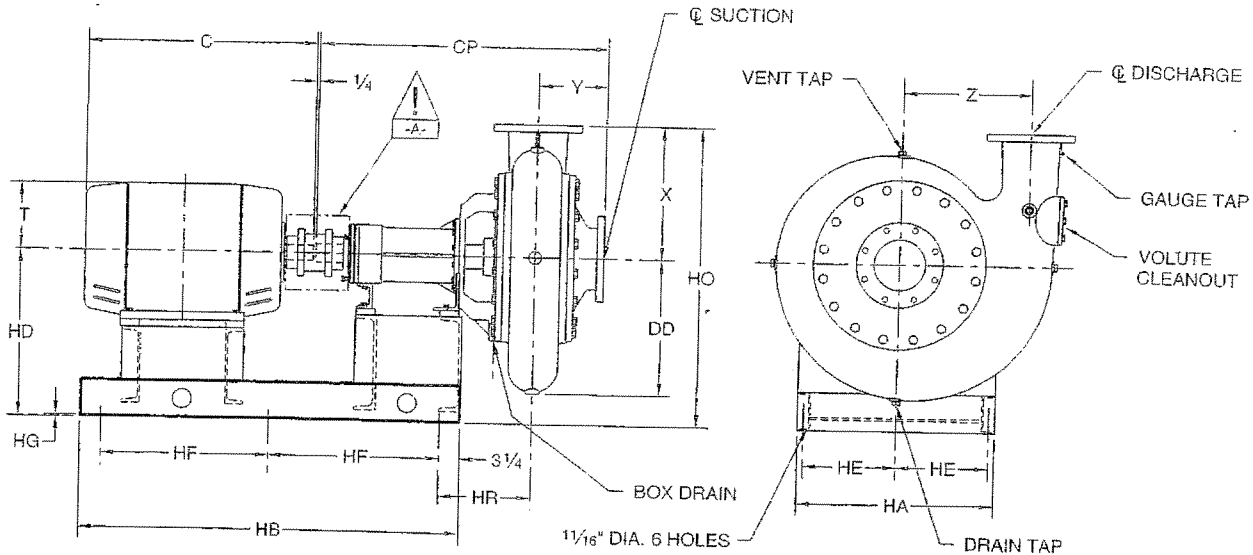
AVAILABLE DISCHARGE POSITIONS

CLOCKWISE

COUNTERCLOCKWISE



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



5420 Data

PUMP	FRAME		SUCT	DISCH	X	Y	Z	CP	DD	HA	HB	HD	HE	HF	HG	HO	HR
	PUMP	MOTOR															
4" C5425 (5)	T40	266T-364TS	4	4	11	6 13/16	9 1/4	40 3/4	10 9/16	22 1/4	48 1/2	14 7/8	10 1/2	21 1/4	1 1/4	25 7/8	14 1/16
4" C5425 (5)	T40	365T-365TS	4	4	11	6 13/16	9 1/4	40 3/4	10 9/16	22 3/4	54 1/2	16 1/8	10 5/8	24 5/16	27 1/8	14 1/16	
8" B5425	T60	286T-326TS	8	8	21	10 1/2	19 3/4	44 1/2	22	22 1/4	48 1/2	26 3/8	10 1/2	21 1/4	47 3/8	14 1/4	
8" B5425	T60	364T-405TS	8	8	21	10 1/2	19 3/4	44 1/2	22	30 1/2	54 1/2	26 3/8	14 1/2	24 5/16	47 3/8	14 1/4	
8" B5425	T60	444T-444TS	8	8	21	10 1/2	19 3/4	44 1/2	22	30 1/2	60 1/2	26 3/8	14 1/2	27 5/16	47 3/8	14 1/4	
10" B5425	T60	364T-365TS	10	10	24	11	17 7/8	45 1/2	21 1/8	22 1/4	48 1/2	23 1/8	10 1/2	21 1/4	47 1/8	14 3/4	
10" B5425	T60	404T-405TS	10	10	24	11	17 7/8	45 1/2	21 1/8	30 1/2	54 1/2	23 1/8	14 1/2	24 5/16	47 1/8	14 3/4	
10" B5425	T60	444T-445TS	10	10	24	11	17 7/8	45 1/2	21 1/8	30 1/2	60 1/2	23 1/8	14 1/2	27 5/16	47 1/8	14 3/4	

NOTES:

- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
- (3) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
- (4) BASES ARE DESIGNED TO BE COMPLETELY FILLED WITH GROUT.
- (5) DISCHARGE FLANGE IS 125# ANSI DRILLING, SUCTION FLANGE IS DRILLED AND TAPPED TO MATCH 125# ANSI.
- (6) SUCTION GAUGE CONNECTIONS ARE NOT AVAILABLE AND SHOULD BE LOCATED ON ADJACENT SUCTION PIPING.
- (7) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.D. NO.			
JOB NAME				TAG NAME			
PUMP SIZE AND MODEL		GPM	TDR	RPM	ROTATION	DISCH POS	
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE	
CERTIFIED FOR				DATE			

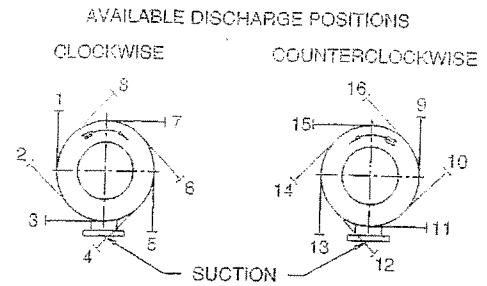
Fairbanks Morse
Pump Corporation

SETTING PLAN
4" C5425, 8" & 10" B5425
WITH STRUCTURAL BASE

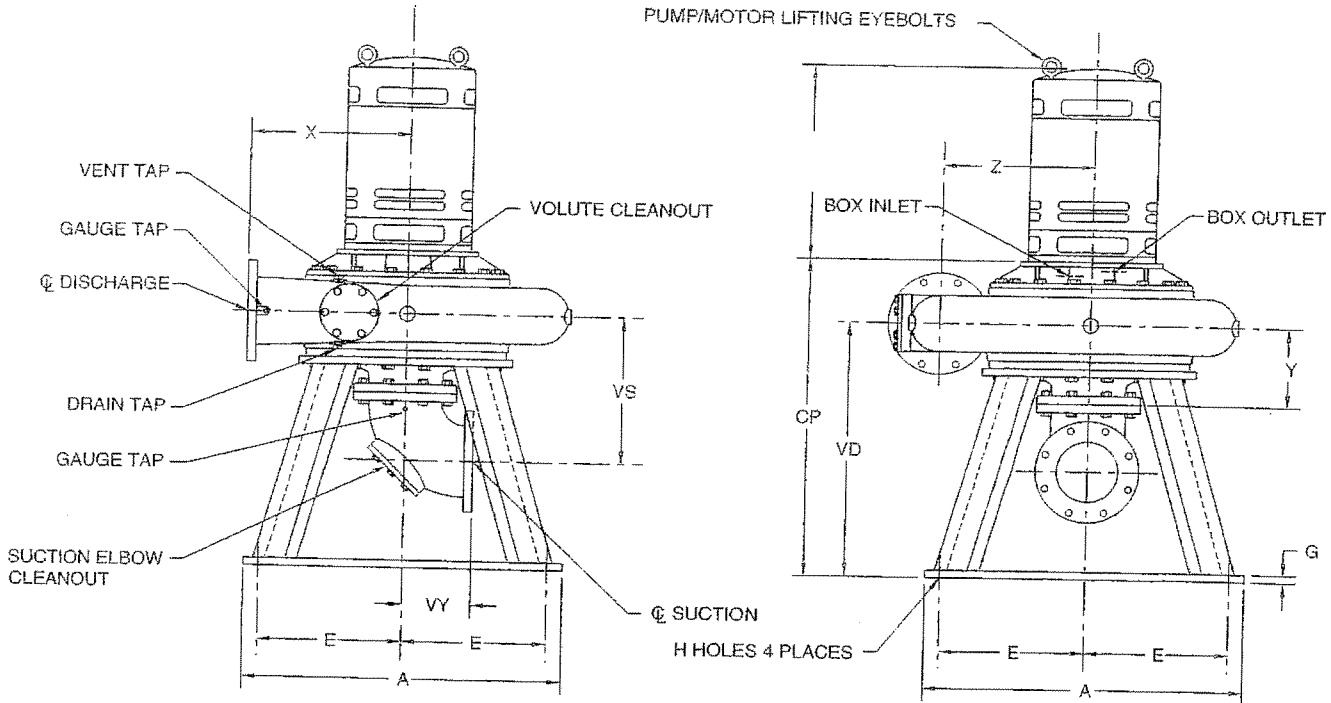
DWG NO **5420S031** REV NO **0**

Fairbanks Morse Pump Corporation

WARNING
DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.



POSITIONS #1 OR #9 ARE STANDARD WHEN VIEWED FROM THE DRIVER END UNLESS OTHERWISE SPECIFIED. CLOCKWISE ROTATION DISCHARGE POSITION #1 SHOWN.



PUMP	MOTOR FRAME	SUCT	DISCH	A	E	G	H	X	Y	Z	CP	VD	VS	VY
4" B5435	284-365	4	4	30	13 ³ / ₄	1	1 ¹ / ₈	11	6 ¹ / ₁₆	9 ¹ / ₄	34 ³ / ₈	26 ⁵ / ₁₆	13 ⁵ / ₁₆	13 ¹ / ₄
4" B5435	284-365	6	4	30	13 ³ / ₄	1	1 ¹ / ₈	11	6 ¹ / ₁₆	9 ¹ / ₄	34 ³ / ₈	26 ⁵ / ₁₆	13 ⁵ / ₁₆	13 ¹ / ₄
4" B5435	365-445	8	6	42	19	1	1 ¹ / ₈	21	10 ¹ / ₂	19 ³ / ₄	42 ¹ / ₁₆	33 ⁷ / ₈	19 ¹ / ₂	9
8" B5435	365-445	10	8	42	19	1	1 ³ / ₈	21	10 ¹ / ₂	19 ³ / ₄	42 ¹ / ₁₆	33 ⁷ / ₈	19 ¹ / ₂	11
10" B5435	365-445	10	10	42	19	1	1 ³ / ₈	24	11	17 ⁷ / ₈	43 ¹ / ₁₆	34 ³ / ₈	22	11
10" B5435	365-445	12	10	42	19	1	1 ³ / ₈	24	11	17 ⁷ / ₈	43 ¹ / ₁₆	34 ³ / ₈	22	11
5" C5436	324-444	8	5	30	13 ³ / ₄	1	1 ¹ / ₈	14	9 ¹ / ₂	12 ³ / ₈	33 ³ / ₄	25 ⁵ / ₁₆	18 ¹ / ₂	9
6" C5436	326-445	10	6(3)	42	19	1	1 ³ / ₈	14 ¹ / ₂	12 ⁵ / ₁₆	12 ⁵ / ₈	42 ³ / ₁₆	34 ³ / ₁₆	23 ⁵ / ₁₆	11
8" B5436	326-445	12	8	42	19	1	1 ³ / ₈	21	10 ¹ / ₂	19 ³ / ₄	42 ³ / ₁₆	33 ⁷ / ₈	22 ¹ / ₂	12

NOTES:

- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
- (3) FLANGE IS STANDARD 250# ANSI DRILLING.
- (4) 5400'S AND 5400K'S ARE DIMENSIONALLY IDENTICAL.
- (5) BASES ARE DESIGNED TO HAVE FULL CONTACT WITH GROUT OR A SOLE PLATE GROUTED IN PLACE.
- (6) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.O. NO.				
JOB NAME				TAG NAME				
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS		
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE		
CERTIFIED FOR			CERTIFIED BY		DATE			
Fairbanks Morse Pump Corporation					DWG NO	5430S013	REV NO	0



SETTING PLAN
B5435, C5435,
B5436, & C5436

PUMP DATA SHEET
 10110212V

Curve: BM-9759

Selection file: (untitled)
 Catalog: 17100ALLMPC v.1

Design Point: Flow: 2221 US gpm
 Head: 25.6 ft

Fluid: Water Temperature: 60 °F
 SG: 1
 Viscosity: 1.122 cP
 Vapor pressure: 0.2588 psi_a
 Atm pressure: 14.7 psi_a

Imp: 7100R0720 Size: 10110212V
 Speed: 720 rpm Dia: 16.625 in

Units: Temperature: 150 °F Sphere size: 4.25 in
 Pressure: 130 psig Power: --- bhp

NPSHa: --- ft

Specific Speed: Ns: 1973 Nss: 9923

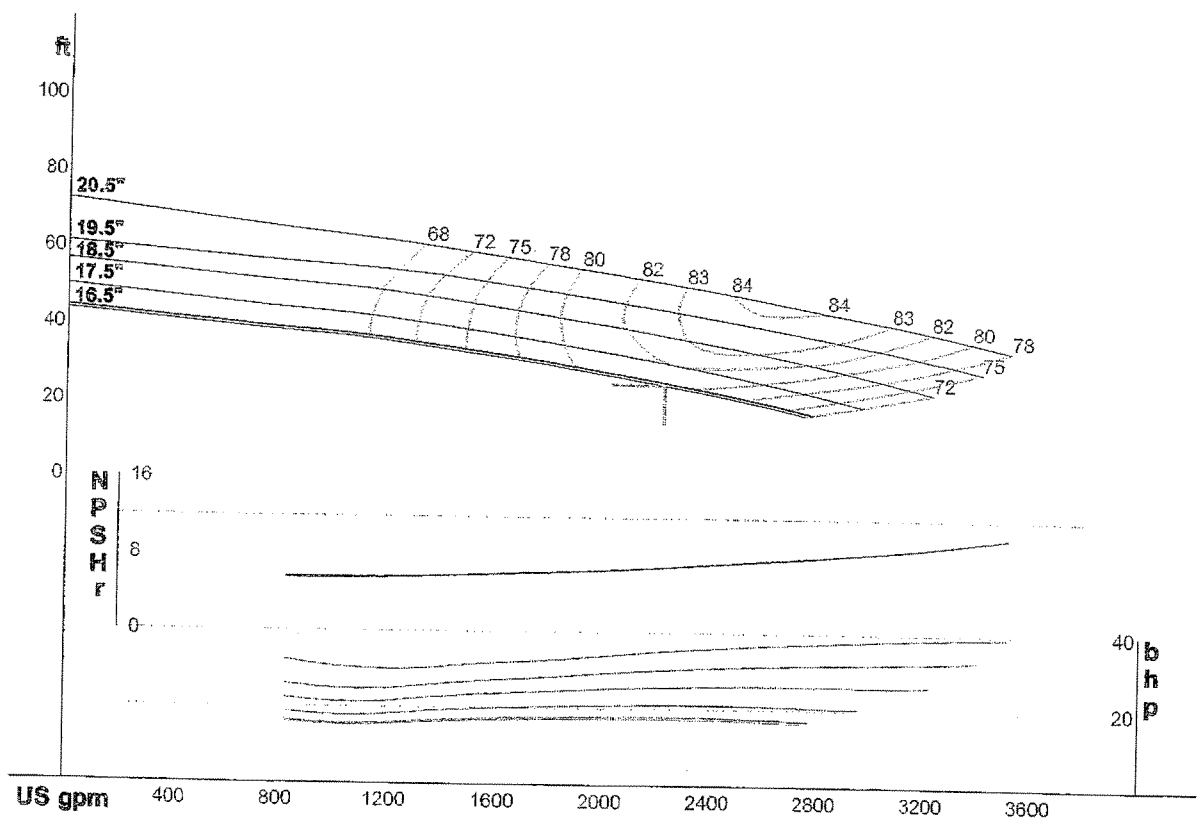
Piping: System: ---
 Suction: --- in
 Discharge: --- in

Dimensions: Suction: 10 in Discharge: 10 in
 Motor: --- hp NEMA Standard TEFC Enclosure
 sized for Max Power on Design Curve

--- Data Point ---
 Flow: 2221 US gpm
 Head: 25.6 ft
 Eff: 80%
 Power: 17.8 bhp
 NPSHr: 6.84 ft

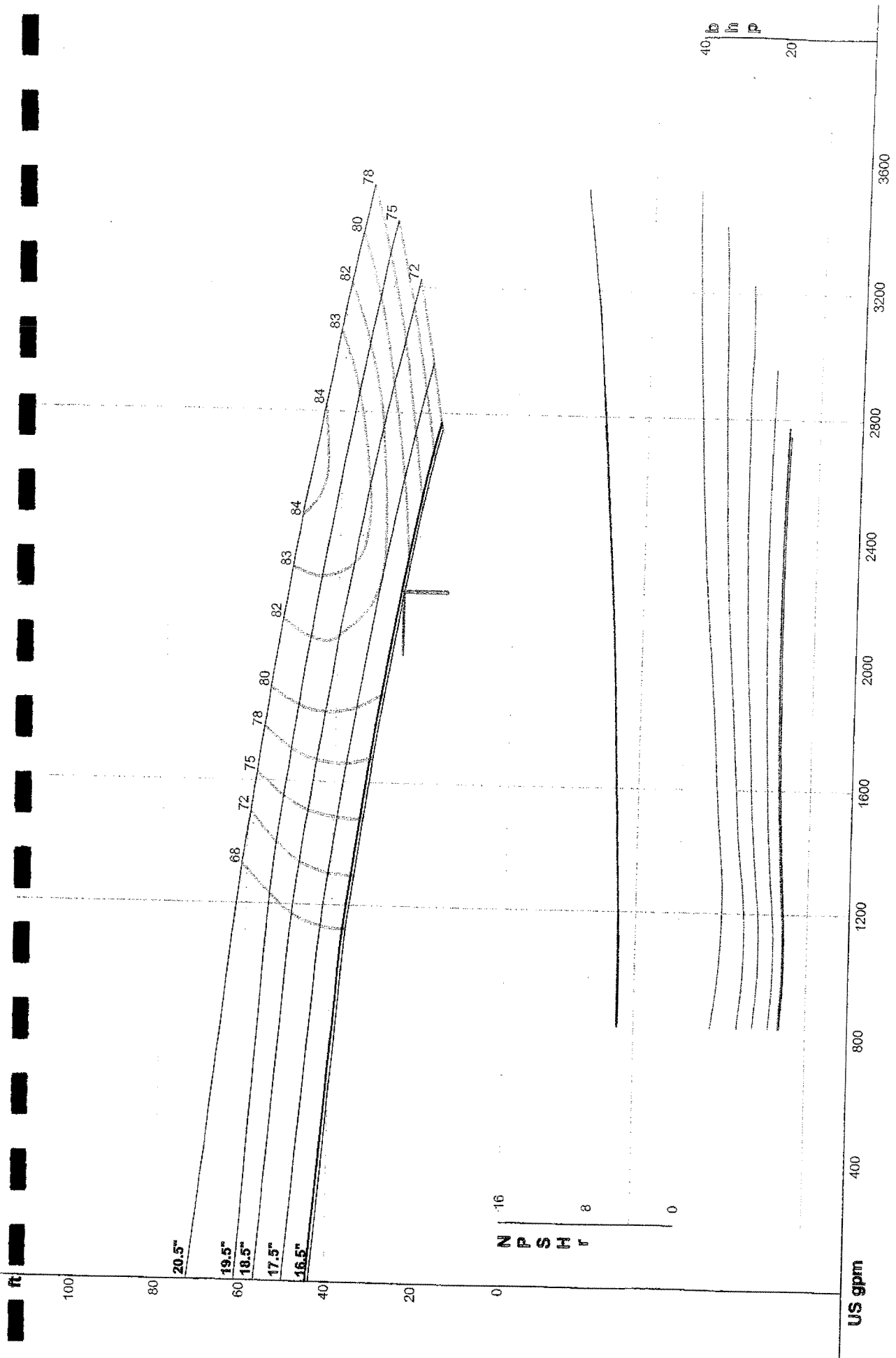
-- Design Curve --
 Shutoff Head: 44.4 ft
 Shutoff dP: 19.2 psi
 Min Flow: - US gpm
 BEP: 81% eff
 @ 2147 US gpm
 MQL Pwr: 17.8 bhp
 @ 2147 US gpm

-- Max Curve --
 Max Pwr: 39.2 bhp
 @ 3515 US gpm



--- PERFORMANCE EVALUATION ---

Flow US gpm	Speed rpm	Head ft	Pump %eff	Power bhp	NPSHr ft	Motor %eff	Motor kW	Hrs/yr	Cost /kWh
2665	700	19.4	75	17.3	7.7				
2221	700	25.6	80	17.8	6.84				
1777	700	30.9	79	17.5	6.23				
1333	700	35.4	73	16.4	5.77				
888	700	38.9	54	16.2	5.53				



Brown and Caldwell
 Venu Kollu
 05/17/06
 Selection file: (untitled)

MORRIS PUMPS
 Catalog: 7100ALL.MPC, vers .1
 Curve: BM-9759
 Design Point: 2221 US gpm, 25 ft

7100NC - 720
 Size: 1010212V
 Speed: 700 rpm
 Impeller: 16.625 in



NPSHr
 16
 8
 0

40
 20
 b
 h
 p

US gpm

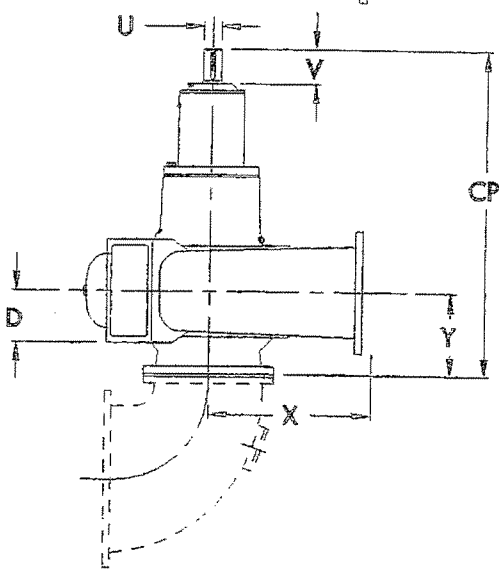
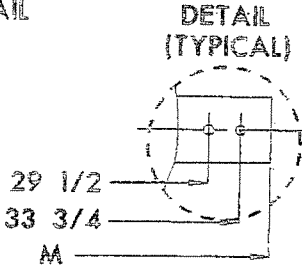
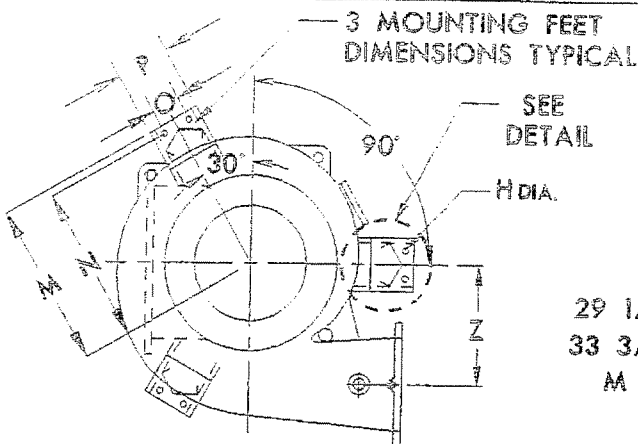
3600
 3200
 2800
 2400
 2000
 1600
 1200
 800
 400
 0



MORRIS TYPE NC BARE PUMP

VERTICAL HEAVY DUTY WASTEWATER PUMPS

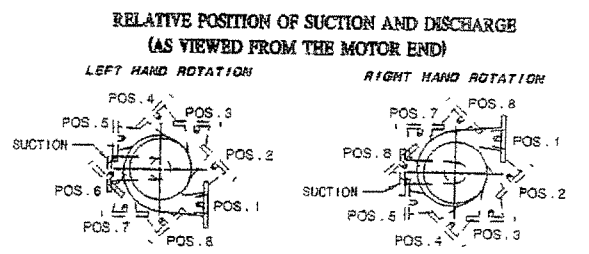
Series 7100



INSTALL. DWG. A00534G
 S. O. _____
 JOB: _____
 ISSUE | REVISION | DATE

LIST OF EQUIPMENT FURNISHED:
 Model _____ Pump
 Rated for _____ GPM or
 _____ Ft. TDH.
 ROTATION _____ POSITION # _____
 ROTATION _____ POSITION # _____

NOT FOR CONSTRUCTION



DISCHARGE IN POSITION NO. 1 FURNISHED AS STANDARD
 OTHER POSITIONS AVAILABLE FROM FACTORY WHEN SPECIFIED.

NOTE 1: AVAILABLE IN ODD NUMBER POSITIONS ONLY.
 NOTE 2: AVAILABLE RIGHT HAND ROTATION ONLY.
 NOTE 3: AVAILABLE LEFT HAND ROTATION ONLY.

✓ NOTE	MODEL	DISCH	SUCT	CP	D	M	N	O	P	H DIA	U	V	KEY	X	Y	Z	WT #
	0608152V-1	6	6	42 13/16	7 3/8	REFER TO FACTORY				7/8	2 1/8	4	1/2	15	6 7/16	9 3/4	900
	0608152V-2	6	6	52 1/16	8	21	19	3	6	1	2 3/4	4 1/2	5/8	16 1/4	9 7/8	11	1300
	0808152V-2	8	8	52	8	22	20 1/2	4 1/2	6	1	2 3/4	4 1/2	5/8	17 3/8	9 7/8	11 1/2	1500
	0808163V-2																
	1010212V-2	10	10	54 1/4	8 1/2	25 1/2	23 1/2	5 3/4	7 1/2	1	2 3/4	4 1/2	5/8	21 5/8	11 1/4	14 3/8	2100
	1010213V-2																
	1212242V-3	12	12	60 1/16	10 1/2	28 1/2	27 1/4	6 1/2	9	1 1/4	3 3/8	6	3/4	26	12 11/16	17 1/4	3200
	1212252V-3																
2	1212253V-3																
	1616332V-4	16	16	76 13/16	9 3/4	35	SEE DETAIL		8 1/2	1 1/4	4 1/2	6 3/4	7/8	34 5/8	15 5/8	23	5700
	1616333V-4																
	1620335V-4	16	20	76 13/16	9 3/4	35			8 1/2	1 1/4	4 1/2	6 3/4	7/8	34 5/8	15 5/8	23	5700
	1616332V-5	16	16	80 1/2	9 3/4	35	SEE DETAIL		8 1/2	1 1/4	5 1/2	8 3/4	1 1/4	34 5/8	15 5/8	23	6200
	1616333V-5																
	1620335V-5	16	20	80 1/2	9 3/4	35			8 1/2	1 1/4	5 1/2	8 3/4	1 1/4	34 5/8	15 5/8	23	6200
	2020412V-5	20	20	85 1/2	15	48	43 3/8	9	12	1 1/4	5 1/2	8 3/4	1 1/4	43 3/8	18 1/2	28 3/4	10500
	2020413V-5																
	2424503V-5	24	24	92 15/16	15	52 1/2	49 1/2	5	13	1 1/2	5 1/2	8 3/4	1 1/4	52	21 3/16	34 1/2	16000
	2424503V-6	24	24	104 1/16	15	52 1/2	49 1/2	5	13	1 1/2	6 3/4	12	1 1/2	52	21 3/16	34 1/2	17000
1&3	3030623V-6	30	30	124 1/2	19	65 1/2	61 1/2	6 1/2	17	1 1/2	7 1/2	12	1 3/4	65	37	43 1/8	28000

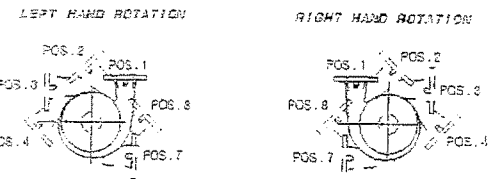
MORRIS PUMPS *1999 N. Ruby Street *Melrose Park, IL 60160*708-365-6900



TYPE HC HORIZONTAL COUPLED HEAVY DUTY WASTEWATER PUMPS

Series 7100

RELATIVE POSITION OF SUCTION AND DISCHARGE
(AS VIEWED FROM THE MOTOR END)



- OPTIONAL ACCESSORIES:
- Anchor Bolts
 - Mechanical Seal
 - Bronze or S.S. Impeller
 - Bronze or S.S. Wear Rings
 - 416 S.S. Pump Shaft

INSTALL. DWG. A00567G
S.O.
JOB:

ISSUE	REVISION	DATE
-------	----------	------

LIST OF EQUIPMENT FURNISHED:

Model _____ Pump
 Rated for _____ GPM at _____ Ft.TDH.
 _____ HP, _____ RPM, _____ Volts
 _____ Phase, _____ Hz Horizontal
 Motor in _____ NEMA
 enclosure complete with common base,
 coupling and guard.
 ROTATION _____ POSITION # _____
 ROTATION _____ POSITION # _____

NOTE: DISCHARGE IN POSITION NO. 1 FURNISHED AS STANDARD.
OTHER POSITIONS AVAILABLE FROM FACTORY WHEN SPECIFIED.

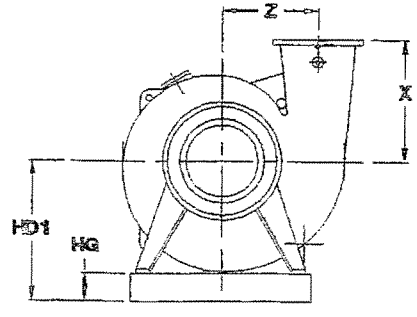
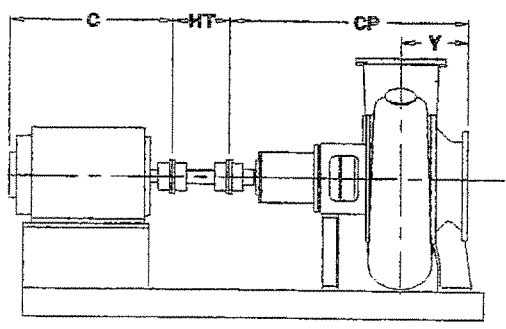
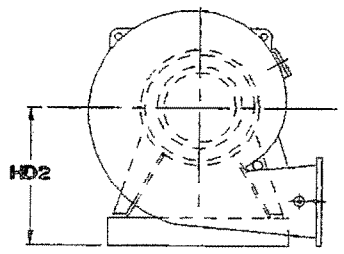
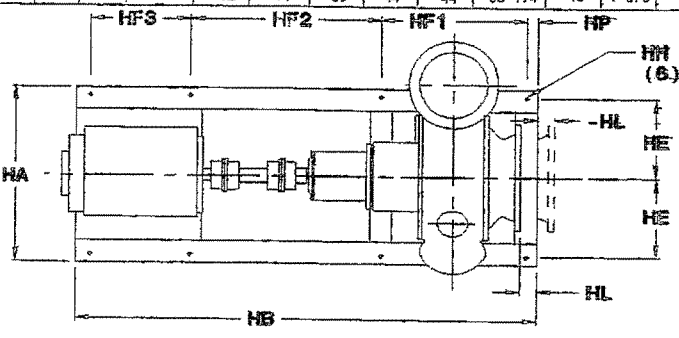
NOT FOR CONSTRUCTION

PUMP AND BASE DIMENSIONS

MODEL	DISCH	SUCT	CP	HA	HDI	HD2	HE	HFI	HF2	HG	HH	HL	HP	HT	X	Y	Z	C	FF3	FF2
0606152V-1	6	6	42 13/16	23 1/2	20	22	10 1/4	10 5/8	14 3/4	6	1	2 7/8	4	7 1/4	15	6 7/16	9 3/4			
0608152V-2	6	8	52	27	21	23 1/2	12	18 1/2	20 15/16	6	1	3 3/8	4	9	16 1/4	9 7/8	11			
0809152V-2 2408162V-2 3308163V-2	8	8	51	27	21	23	12	18 1/2	20 15/16	6	1	3 3/8	4	9	17 3/8	9 7/8	11 1/2			
1010212V-2 1010213V-2	10	10	60	34	28	28	15 1/2	19 1/2	24 1/16	6	1	-2 1/4	5	11	21 5/8	17	14 3/8			
1212242V-3 1212252V-3 1212253V-3	12	14	65 3/4	40	34	36	18 1/2	24 1/2	29 3/16	8	1	-1 1/8	5	13	26	18 3/8	17 1/4			
1214255V-3																				
1616332V-4 1616333V-4	16	16	82 3/16	50	41	44	23 1/4	26 7/8	34 1/4	8	1 3/16	-1 3/4	7	16	34 5/8	22 3/16	23			
1620335V-4	16	20																		
1616332V-5 1616333V-5	16	16	78 1/8	50	41	44	23 1/4	27 1/4	34 7/16	8	1 3/16	5	7	16	34 5/8	15 5/8	23			
1620335V-5	16	20																		
2020412V-5 2020413V-5	20	20	93	62	51	54	29 1/4	30	38 7/16	10	1 3/16	-3	8	18	43 3/8	26	28 3/4			
2424503V-5	24	24	92 15/16	74	61	64	35	38 3/8	45 3/16	12	1 3/8	8	8	20	52	21 3/16	34 1/2			
2424503V-6	24	24	104 1/16	74	61	84	35	38 3/8	45 3/16	12	1 3/8	6	8	20	52	21 3/16	34 1/2			
3030623V-6	30	30	124 1/2	92	77	80	44	44	53 1/4	16	1 3/8	-5	10	24	65	37	43 1/8			

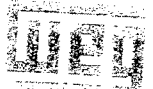
NOTE 1

NOTE 1: THESE DIMENSIONS TO BE ESTABLISHED UPON RECEIPT OF DRIVER DIMENSIONS.



MORRIS PUMPS * 1999 N. Ruby Street * Melrose Park, IL 60160 * 708-865-6900

Suitable for
Inverter Duty



NOTE: For motors not covered by E.P.A.C.T. please see page 8

Severe Duty

HP	RPM	NEMA Frame	Catalog Number	List Price	App. Shpg. Wt. (Lb)	Eff. @ FL	"C" Dimension (in.)	Volts
15	3600	215 T	01536EP3E215T	1,035	177	90.2	19.517	208-230/460V
	3600	254 T	01536EP3H254T	1,240	278	90.2	23.213	575V
	3600	254 T	01536EP3H254T	1,240	278	90.2	23.213	208-230/460V
	1800	254 T	01518EP3E254T	1,071	264	91.0	23.213	575V
	1800	254 T	01518EP3H254T	1,071	264	91.0	23.213	208-230/460V
	1800	254 T	01518EP3P254T	1,071	264	91.0	23.213	575V
	1200	284 T	01512EP3E284T	1,071	264	91.0	23.213	200V
	1200	284 T	01512LP3H284T	2,024	338	91.0	26.433	208-230/460V
	900	286 T	01509ES3E286T	2,024	338	91.0	26.433	575V
20	3600	256 T	02036EP3E256T	2,432	488	87.1	27.711	208-230/460V
	3600	256 T	02036EP3H256T	1,423	315	90.2	24.945	208-230/460V
	1800	256 T	02018EP3E256T	1,423	315	90.2	24.945	575V
	1800	256 T	02018EP3H256T	1,315	300	91.0	24.945	208-230/460V
	1800	256 T	02018EP3P256T	1,315	300	91.0	24.945	575V
	1200	286 T	02012EP3E286T	1,315	300	91.0	24.945	200V
	1200	286 T	02012EP3H286T	2,291	472	91.0	27.929	208-230/460V
	1200	286 T	02012EP3P286T	2,291	472	91.0	27.929	575V
	900	324 T	02009ES3E324T	2,921	542	88.5	29.620	208-230/460V
	3600	284 TS	02536EP3H284TS	1,825	344	91.0	25.061	208-230/460V
25	3600	284 TS	02536EP3H284TS	1,825	344	91.0	25.061	575V
	1800	284 TS	02518EP3E284TS	1,670	385	92.4	25.061	208-230/460V
	1800	284 T	02518EP3H284T	1,670	385	92.4	25.061	575V
	1800	284 T	02518EP3P284T	1,670	385	92.4	25.061	208-230/460V
	1200	324 T	02512EP3E324T	1,670	385	92.4	25.061	200V
	1200	324 T	02512EP3H324T	2,291	579	91.7	27.929	208-230/460V
	1200	324 T	02512EP3P324T	2,291	579	91.7	27.929	575V
	900	364 T	02509ES3E364T	2,921	579	91.7	29.620	208-230/460V
	3600	286 TS	03036EP3E286TS	3,210	570	89.0	31.116	208-230/460V
	30	3600	286 TS	03036EP3E286TS	2,059	427	91.0	26.557
1800		286 TS	03018EP3H286TS	2,059	427	91.0	26.557	575V
1800		286 T	03018EP3E286T	2,003	436	92.4	26.557	208-230/460V
1800		286 T	03018EP3H286T	2,003	436	92.4	27.929	208-230/460V
1800		286 T	03018EP3P286T	2,003	436	92.4	27.929	575V
1200		326 T	03012EP3E326T	2,003	436	92.4	27.929	200V
1200		326 T	03012EP3H326T	2,904	637	91.7	31.116	208-230/460V
1200		326 T	03012EP3P326T	2,904	637	91.7	31.116	575V
900		364 T	03009ES3E364T	4,651	800	90.5	33.709	208-230/460V
40		3600	324 TS	04036EP3E324TS	2,876	567	91.7	28.120
	3600	324 TS	04036EP3H324TS	2,876	567	91.7	28.120	575V
	1800	324 TS	04018EP3E324TS	2,677	596	93.0	28.120	208-230/460V
	1800	324 T	04018EP3H324T	2,677	596	93.0	29.620	208-230/460V
	1800	324 T	04018EP3P324T	2,677	596	93.0	29.620	575V
	1800	324 T	04018EP3H324T	2,677	596	93.0	29.620	200V
	1200	364 T	04012EP3E364T	4,680	970	93.0	33.709	208-230/460V
	1200	364 T	04012EP3H364T	4,680	970	93.0	33.709	575V
	900	365 T	04009ES3E365T	4,987	872	90.7	33.709	208-230/460V
	50	3600	326 TS	05036EP3E326TS	3,236	604	92.4	29.616
3600		326 TS	05036EP3H326TS	3,236	604	92.4	29.616	575V
1800		326 TS	05018EP3E326TS	2,986	655	93.6	29.616	208-230/460V
1800		326 T	05018EP3H326T	2,986	655	93.6	31.116	208-230/460V
1800		326 T	05018EP3P326T	2,986	655	93.6	31.116	575V
1800		326 T	05018EP3H326T	2,986	655	93.6	31.116	200V
1200		365 T	05012EP3E365T	5,078	970	93.0	33.709	208-230/460V
1200		365 T	05012EP3H365T	5,078	970	93.0	33.709	575V
900		404 T	05009ES3E404T	5,767	1031	91.0	38.077	208-230/460V

725 RPM
WOULD BE
SPECIAL

Single-Phase Motors

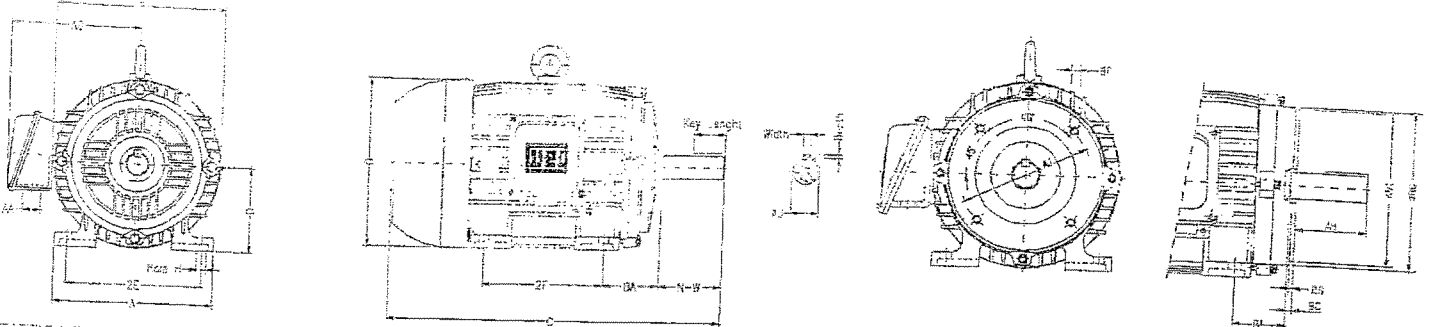
Crusher-Drum Motors

Explosion Proof Motors

NEMA 3000

TEFC Motors

NEMA Regulated Dimensions

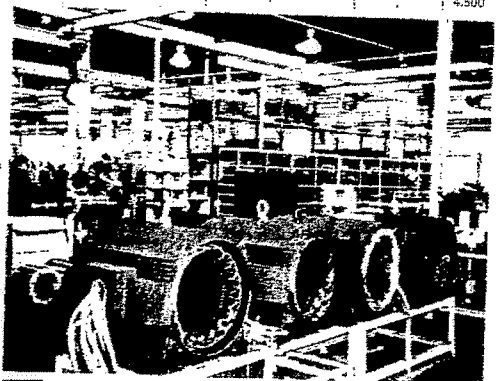
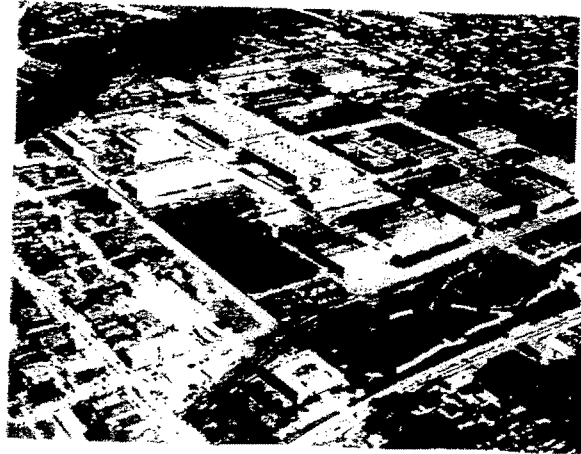


NEMA FRAMES	Approx. IEC Frame	MOUNTING				KEYWAY						KEY		SHAFT EXTENSION		OTHER DIMENSIONS										
		2E	2F	H	BA	A	C	D	O	F	WIDTH	DEPTH	LENGTH	N-W	U	AB	AA	BA	AJ	AK	BD	BF	BB	BC	AH	
143T	90S	5.500	4.000	0.344	2.250	6.457	12.290	3.500	7.000	7.047	0.138	0.093	1.417	2.250	0.875	6.102	NPT3/4"	2.250	5.875	4.500	6.500	UNC3/8"x16	0.156		2.125	
145T	90L	5.500	5.000				13.224																			
162T	112S	7.500	4.800				14.660	4.500	9.343	8.740	0.260	0.125	1.771	2.750	1.125	7.480		2.750					0.125		2.625	
184T	112M	5.500	5.500		2.750	8.661	15.021																			
213T	132S		5.500	0.405			15.960																			
215T	132M	9.500	7.000		3.500	9.764	19.517	5.250	10.841	10.630	0.313	0.156	2.480	3.375	1.375	8.588	NPT1"									
234T	160N		8.252				23.213																			
256T	160L	10.000	10.500		4.250	12.126	24.345	6.250	12.431	12.293	0.375	0.187	2.755	4.000	1.625	10.079									3.125	
254T	180M						28.433																			
284TS		9.500	0.531				25.081				0.500	0.250	3.248	4.622	1.875										3.750	
286T	180L	11.000			4.750	13.760	27.929	7.000	14.067	14.024	0.375	0.197	1.874	3.250	1.625	10.866	NPT1.125"								4.375	
288TS		11.000					26.557				0.500	0.250	3.248	4.625	1.675			4.750	9.000	10.500	11.031				3.000	
324T	200M		10.500				29.620				0.375	0.187	1.874	3.250	1.825										4.375	
324TS							28.120																			3.000
326T	200L	12.500		0.657	5.250	15.157	31.115	8.000	15.953	15.591	0.500	0.250	1.968	3.750	1.875	11.495	NPT2"								5.000	
326TS			12.000				29.616																			5.500
364/5T	225S/M		11.360				33.709																			5.000
364/5TS	225S/M	14.018		0.748	5.875	17.165	31.583	9.000	18.502		0.625	0.312	4.330	5.674	2.375											3.500
404/6T	250S/M		12.244				38.077			18.740																5.625
404/6TS	250S/M	15.984			6.625	19.921	35.077	10.000	19.496		0.750	0.375	5.512	7.250	2.975	14.409	NPT3"									3.500
444/7T	280S/M		14.500				43.776																			7.000
444/7TS	280S/M		16.300				40.025				0.500	0.250	2.756	4.250	2.125			6.625					0.250			4.000
447T		18.000	16.300				47.299				0.875	0.438	7.087	8.500	3.375	19.213										8.250
447TS			20.000				43.549				0.625	0.313	2.992	4.750	2.375	19.370		7.500	14.000	16.000					4.500	
449T							54.875				0.875	0.438	7.087	6.500	3.375	20.047										8.250
449TS		25.000					51.226			23.031	0.625	0.313	2.992	4.750	2.375											4.500
504/5T	315S/M		16.000				49.449				0.625	0.313	2.992	4.750	2.375											8.250
505Z	315S/M		18.000				50.449				0.875	0.438	9.843	10.630	3.625	17.913										4.500
505Z *	315S/M	20.000	18.000	1.250	8.500	24.724	53.835	12.500	24.213		1.000	0.500	6.661	11.620	3.375	19.370	2xNPT3"	6.500	14.500	16.500						10.375
504/5TS	315S/M		16.000				43.569				0.625	0.313	2.992	4.750	2.375											4.500
586/7T	355M/L		22.000				59.421																			4.500
586/7TS	355M/L		25.000				61.949				1.000	0.500														4.500
586/7Z	355M/L	23.000	22.000	1.181	10.000	29.526	69.374	14.500	29.067	32.126																4.500
586/7TS	355M/L		25.000				45.345				0.625	0.313	2.992	4.750	2.375											4.500

Dimensions - C, O and P are specific to WEG

* Crusher-Duty™ Vertical Shaft Impactor (VSI)
 ** All dimensions in inches

Information in this catalog is subject to change without notice. Not responsible for typographical errors.



One of WEG's plants in Jaraguá Do Sul, Brazil

APPENDIX F

**CITY'S COMMENTS AND
BROWN AND CALDWELL'S RESPONSE**

CITY OF VENTURA COMMENTS AND BROWN AND CALDWELL RESPONSES
TECH MEMO 1 SECONDARY TREATMENT
07-12-2006

1. Verify hydraulic capacity of the existing aeration basin Influent/Effluent weir gates to handle 14 MGD + recycle (parallel flow aeration tanks 1-4)
 - a. Some hydraulic imbalance is evident during current recycle ratio and primary effluent flow pumping regime.
 - i. How much hydraulic capacity is gained by adding the additional 6 effluent gates.

Response: The hydraulic capacity of the proposed modifications will be evaluated as part of the PDR to ensure that peak aeration influent, mixed liquor recycle, and RAS flow rates can be accommodated. The hydraulic flow split among parallel aeration tanks and parallel clarifiers will be evaluated to ensure an equal loading – and equal performance – among parallel process units

- b. Would the existing PE/RAS channels Aeration Tanks 1-4 be converted to MLSS channels?
 - i. Will the existing aeration tank 1-4 influent gates (RAS + PE) handle the increase in recycle flow?

Response: Yes, these channels would be modified for mixed liquor channels serving aeration tank 1 through 4

2. Verify capacity of existing aeration basin effluent ML channel.

- a. In past storm events this channel was a bottleneck

Response: The hydraulic capacity will be calculated and verified as part of the PDR

- b. The channel was tested during the KJ clarifier stress test, however verification may be prudent.

Response: The maximum mixed liquor flow rate during the clarifier stress test was less than 20 mgd, which is less than our projected screened and dewatered raw sewage flow.

3. Concern over the wisdom of wasting MLSS (surface wasting)

- a. Cost consideration of increased pumping.

Response: The waste sludge flow rate with mixed liquor wasting will be approximately three times the flow rate with settled sludge (RAS) wasting, based on a RAS flow rate of 50 percent of the aeration influent flow. The energy cost of pumping mixed liquor could be up to approximately 27 times greater than the cost of pumping settled sludge, assuming the same piping is used. While this appears to be a significant difference, waste sludge pumping is a small component of the plant electrical power cost compared to raw sewage pumping, aeration influent pumping, aeration air blowers, and mixed liquor recycle pumping for example..

- b. Surface wasting for foam control okay, but should consider redundant wasting connection to new RAS pumping system.

Response: An alternate means of wasting settled sludge (RAS) will be provided.

CITY OF VENTURA COMMENTS AND BROWN AND CALDWELL RESPONSES
TECH MEMO 1 SECONDARY TREATMENT
07-12-2006

- c. Concern over the capacity of the existing daft unit process available for increased hydraulic loading due to lower MLSS concentration.

Response: The waste sludge loading to the DAFT will be the same whether mixed liquor wasting or settled sludge (RAS) wasting is used, so there is no change in pressurization air, polymer requirements, or DAFT performance with the wasting system used. DAFT performance is insensitive to hydraulic loading rate, so the additional liquid in waste mixed liquor will not affect DAFT performance. The capacity of the DAFT overflow piping will be verified as part of the PDR.

- d. RAS to WAS connection would provide process alternatives.

- i. Potential routing from new RAS discharge line, through existing RAS/WAS MCC gallery to existing WAS line.

Response: Connecting the new RAS line directly to the existing WAS line would require a flow meter and control valve. A significant headloss across the control valve is needed for adequate process control. There may be insufficient head following the control valve to transport the WAS across the plant to the DAFTs. Reusing the existing WAS pumps, as described below, is the recommended means of providing an alternate sludge wasting system.

- e. Retaining existing WAS station as alternative to surface wasting MLSS

- i. WAS station is fed from existing RAS channel, which would become a MLSS channel?

Response: The existing WAS pump suction could be connected to the new RAS line before it discharges into the new mixed liquor channel. The suction conditions would be similar to the existing (i.e., WAS pumps at grade, elevated RAS water surface elevation (WSEL)).

4. Recycle loads

- a. Tertiary filter backwash recycled flow considered as part of total flow to secondary unit process.
b. BW not listed in recycle loads page 10.

Response: Filter backwash is included in the process simulations, so the simulated mixed liquor concentrations are correct. However, the filter backwash flow was inadvertently left out of the state point calculation used to evaluate secondary clarifier operation. This error has been corrected.

5. Aeration Influent Pumping

- a. System improvements could be considered during design of equalized primary influent line to the channel feeding anoxic tank 1 and aeration tank 5.

Response: Additional aeration influent pumping capacity is needed to realize the additional secondary process capacity provided with the WRF Modifications Project. The existing pumping capacity is 10 mgd and we project an equalized peak day flow of 18 mgd. Pumping station and aeration influent piping modifications are needed to provide a reliable capacity of 18 mgd. However, these modifications are not included in our current scope of work.

CITY OF VENTURA COMMENTS AND BROWN AND CALDWELL RESPONSES
TECH MEMO 1 SECONDARY TREATMENT
07-12-2006

- b. Capacity increase through replacement of existing aeration influent system discharge piping.

Response: See previous response. A parallel pipe could be used with the existing pipe, or a single larger diameter pipe could be used.

- c. Design should include new equalized flow metering (flume on top anoxic aeration tank?)

Response: An in-line flow meter (e.g., magnetic flow meter) with appropriate upstream and downstream piping configuration would provide a more accurate flow signal. Additionally, replacing the existing aeration influent pipe with a single larger diameter pipe would simplify aeration influent metering as only one meter would be needed rather than two meters with parallel pipes.

6. Filtrate equalization and piping

- a. Current operation is 8 to 9 shifts per week

- i. Maximum of 8 batch cycles per shift
- ii. 10,500 gallons of filtrate per batch
- iii. 75 gpm constant flow (24/7) at 9.3 MGD

Response: See following response.

- b. Size of equalization tank?

- i. Significant odor during filtrate no flow periods.
- ii. Review dewatering operation to improve ammonia loading (7-day operation)

Response: The equalization tank will be covered to contain odors. The tank vent will be routed to the primary clarifier bulk media biofilter for odor treatment. Active ventilation of the equalization tank is not necessary; the biofilter will treat any foul air displaced as the tank is filled.

7. Direct RAS pumping

- a. Hatch for pump removal

- i. Located in the new stairwell landing?

Response: Our preliminary sketches show new stairwell landings are not covered. The hatches will be included in the final design if the City decides to cover the new stairwell landings.

- b. Connection to existing WAS line

Response: We will provide the flexibility to waste solids either from waste mixed liquor or from RAS. See response above.

- c. Two pumps running off of one drive

Response: This is feasible, but if VFD is down then both pumps would be out of service. If, for some reason, one pump develops higher torque, it may trip the VFD stopping both pumps. We suggest that this option be considered during final design.

CITY OF VENTURA COMMENTS AND BROWN AND CALDWELL RESPONSES
TECH MEMO 1 SECONDARY TREATMENT
07-12-2006

- d. Reevaluate a one pump per clarifier system?

Response: One pump per clarifier arrangement is indicated on the sketch included in Appendix C. The single pump arrangement would take up too much space and the single pumps would preferentially withdraw sludge from the closest sludge hopper, contrary to the goal of positive RAS control

8. Handwritten comment p.12, second paragraph under Process Recommendations, referring to items not in our scope (primary clarifiers, equalization volume, and aeration influent pumping): Should we be looking at this now too?

Response: These items are not in our scope of work. In our opinion, they should be evaluated. The future peak flow handling requires further analysis. Specific questions which should be addressed: (1) Is the equalization capacity sufficient for peak day flows? If not, how frequently will it fill up? (2) When equalization is full, how will peak flows be handled and how long will these events last? (3) During peak flow events where equalization is full, will the effluent exceed permit limits for nitrogen and other compounds? Is more equalization capacity required?

9. Handwritten comment p.13, referring to selected alternative: Have O&M costs been analyzed to help make the decision? Are there any real alternatives, or is this how it has to be done?

Response: We limited our analysis to process which reused most of the existing tanks to keep capital costs as low as possible. Other alternatives, such as MBRs, new clarifiers, or replacing the tertiary filters with denitrification filters, were not considered for this reason. We have added a brief description of these alternatives to the report. In addition, we have included the capacity for various staging options for new aeration tanks. O&M costs are not expected to be significantly different between these options, and were not considered.

10. Handwritten comment p. 20: We probably need a pretty good idea now how close we will be to budget before we finish a PDR that turns out way too expensive for us to do and after decisions on secondary treatment have been made.

Response: Cost estimates will be included in the PDR. If the probable construction cost of the facilities described in this technical memorandum exceeds the \$17 million construction budget available, we will evaluate staging of these facilities to reduce initial construction costs. For example, one aeration tank could be deferred.

Appendix F

Stress Test Data

31 August 2010

Technical Memorandum

To: Daniel Pfeifer, Wastewater Superintendent
Susan Rungren, Utilities Engineer

From: Ron Moeller, David Seymour, and Mike Joyce
Ventura Water Reclamation Facility (VWRF) Evaluation Team

Subject: Wastewater Master Plan
VWRF Evaluation - Final Sedimentation Tank Stress Testing
K/J 0689017

I. Introduction

As part of the update of the City of Ventura (City) Wastewater Master Plan, Kennedy/Jenks Consultants conducted a capacity evaluation of the Ventura Water Reclamation Facility (VWRF). This technical memorandum presents a discussion of the field stress testing of the secondary clarifiers used to evaluate performance at flows equivalent to 14 million gallons per day (MGD) and greater.

Three methods were used to estimate clarifier capacity: (1) mathematical determinations based on engineering principles, (2) a state-point analysis, and (3) stress testing. In addition to clarifier capacity evaluation, process simulation will help to identify other potential bottlenecks at the VWRF for use in developing a capital improvement plan. This information will enhance the City's ability to meet the needs of the VWRF and its serviced population.

II. Facility Design Criteria

Design parameters for the VWRF secondary clarifiers are identified in Table 1 below and compared with 2005 performance and typical design values.

Table 1: VWRF Design Criteria, 2005 Loadings, and Typical Design Values

Design Parameters:	Average [Peak]
Number of Clarifiers	6
Surface Area (total), ft ²	18,000
Weir Length, linear feet (LF)	2,952
2005 Surface Overflow Rate (SOR), gallons per day per square foot (GPD/ft ²)	564 [830]
2005 Solids Loading Rate (SLR), pounds per square foot per day (lbs/ft ² -d)	6.6 [11.8]
2005 Weir Overflow Rate (WOR), GPD/LF	3,438 [5,061]
Typical Design SOR, GPD/ft ²	400 – 700 [1,300]

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent
Susan Rungren, Utilities Engineer
31 August 2010
Page 2

Design Parameters:	Average [Peak]
Typical Design SLR, lbs/ft ² -d	20 - 30 [40]
Typical Design WOR, GPD/LF	[20,000]
VWRF Design SOR, GPD/ft ²	570 [850]
VWRF Design WOR, GPD/LF	3,490 [5,180]

As shown in Table 1, the secondary clarifiers are performing near their original hydraulic design criteria, but SOR and WOR are in the mid-range of typical design values. The current SLR is low compared to typical design values, indicating that additional capacity may be available. Stress testing was planned for the secondary clarifiers in order to evaluate the facility's capability to perform beyond its original design. Secondary clarifier #1 is pictured in Figure 1 below.



Figure 1: Secondary Clarifier #1

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent

Susan Rungren, Utilities Engineer

31 August 2010

Page 3

Kennedy/Jenks Consultants met with VWRf staff on 7 March 2006 before conducting stress testing and agreed upon the following plan of action:

- Stress testing will evaluate the operation of five clarifiers at an equivalent flow rate of at least 14 MGD, allowing one redundant unit to be offline.
- Additionally, operation of five clarifiers at an equivalent flow rate of 16 MGD will be attempted toward the end of the stress testing.
- Test parameters will include mixed-liquor suspended solids (MLSS), settleability, Sludge Volume Index (SVI), total suspended solids (TSS), and turbidity (NTU) in the combined effluent channel from individual clarifier launders, from the combined clarifier influent channel, and at the head end of each clarifier. In addition, sludge blanket depths will be measured in each clarifier. These measurements allow individual clarifier operation to be evaluated if it is determined that clarifier performance varies significantly. In addition, the time required for the secondary influent to begin denitrifying will be roughly gauged during testing.
- Settled solids in the isolated clarifiers will continue to be returned to the activated sludge process through the Return Activated Sludge (RAS) pumps.
- Flow will be monitored using the mixed media filter (MMF) flow meter, which is the most accurate and recently calibrated meter.

Because it was determined that the VWRf could not provide 14 MGD of flow for the duration of the test, three clarifiers were taken offline, and 8.5 MGD of flow was run through the remaining three clarifiers to simulate operation at 14 MGD.

Stress testing was conducted on 14 March 2006. Kennedy/Jenks Consultants' participants in the test included Mike Joyce, David Seymour, Joan Venluan, and Ron Moeller. Participants from VWRf included Don Burt, John Willis, Cary Adams, Curtiss Montague, Nick Hardesty, Michael Torres, Mary Champion, and Jason Wong. This stress testing would not have been as successful, nor the results as meaningful, without the assistance of the VWRf staff.

III. Stress Test Procedures

Before beginning the stress test, Kennedy/Jenks Consultant staff collected baseline samples under normal operating conditions to use for comparison. After the baseline samples had been collected, VWRf staff increased flow through the VWRf by increasing the pumping of influent wastewater from the equalization basins. Secondary clarifiers 4, 5, and 6 were taken offline, and flow to the remaining three clarifiers was allowed to stabilize. Samples were collected and blanket depths measured every 30 minutes. During the stress test, samples were collected twice from the secondary influent channel and at the head end of each clarifier. Measurements of MLSS, turbidity, settleable solids, and SVI were taken from these samples.

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent

Susan Rungren, Utilities Engineer

31 August 2010

Page 4

Although the stress test was initially planned to start at a SOR equivalent to 14 MGD with five clarifiers in service, the flow stabilized at a SOR equivalent to 16 MGD. After a brief discussion with VWRP staff, it was decided to maintain the higher flow rate and continue testing while closely monitoring clarifier performance. After 2½ hours, flow was increased to a SOR equivalent to 20 MGD. The increased flow rate gradually decreased over the next 2 hours as the equalization basin emptied. At the conclusion of the stress test, the three operating clarifiers were subjected to 5½ hours of hydraulic and solids loading in excess of an equivalent flow of 15 MGD with five clarifiers. Measured flow during and the equivalent flow through five operating clarifiers are shown on Figure 2 below.

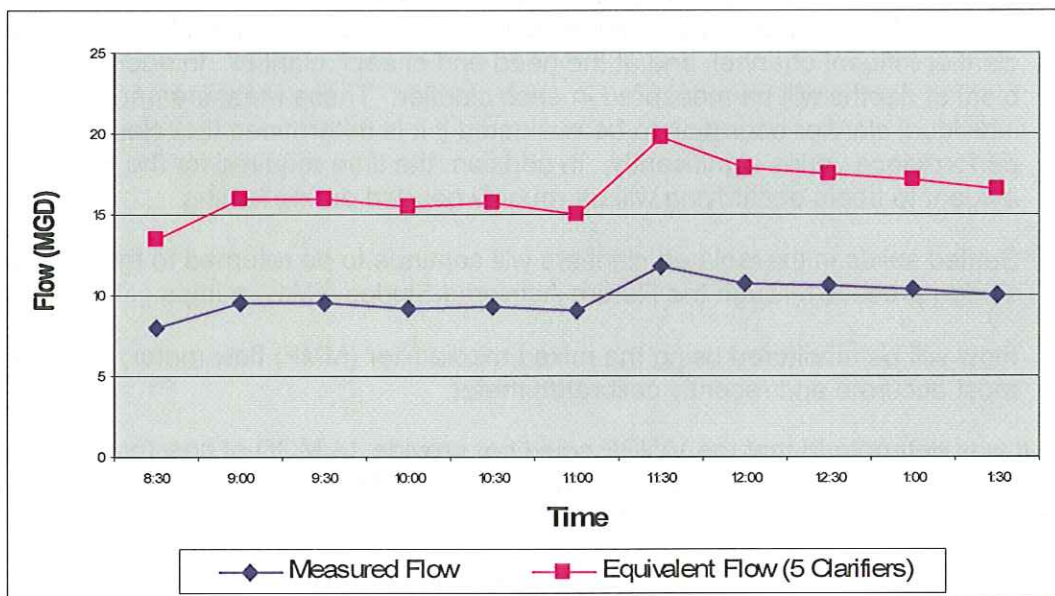


Figure 2: Measured and Equivalent Flows

IV. Stress Test Results and Discussion

When secondary clarifiers 4, 5, and 6 were taken offline at the start of stress testing, the spike in flow through the remaining operating clarifiers resulted in a transient hydraulic plume that carried some lighter solids into the effluent launders. This rapid change in flow resulted in a temporary increase in effluent TSS, as shown on Figures 3 and 4. Similar spikes in effluent TSS were recorded throughout the day as flow was varied, but the increase in effluent TSS appeared to subside after a short stabilization period.

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent
Susan Rungren, Utilities Engineer
31 August 2010
Page 5



Figure 3: TSS Spike from Rising Floc with Rapidly Varying Flow

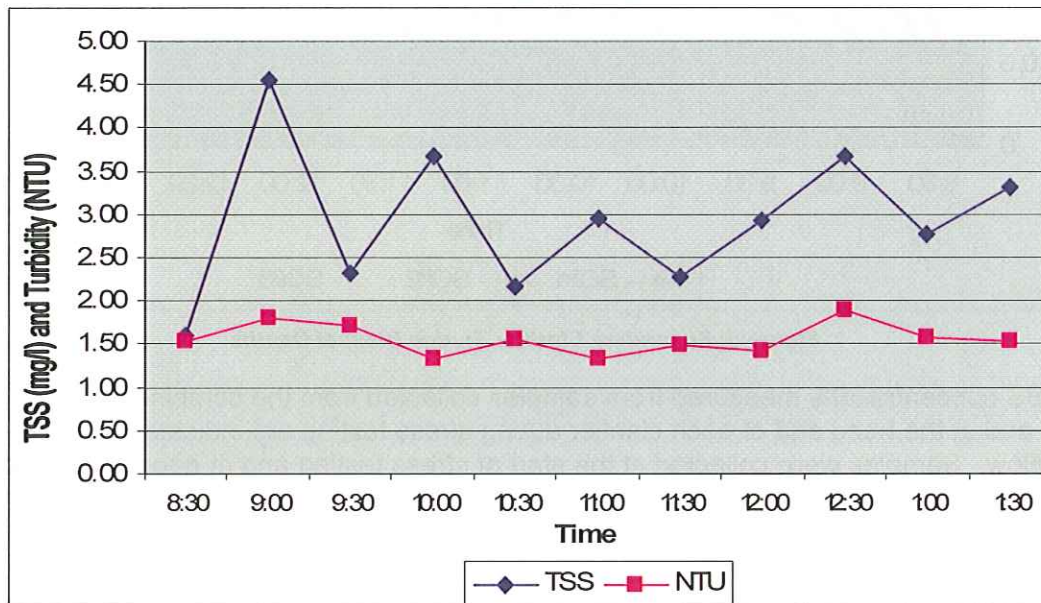


Figure 4: Combined Secondary Clarifier Effluent Quality

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent
 Susan Rungren, Utilities Engineer
 31 August 2010
 Page 6

As shown on Figure 4, the combined clarifier performance as a result of the increased flow did not deteriorate for extended periods of time, and the effluent quality was well within acceptable TSS and turbidity concentrations. Although both individual clarifier and combined effluent samples were collected, only the combined samples are reported because individual clarifier performance did not vary significantly.

The sludge blanket within each clarifier increased noticeably, as seen on Figure 5 below. As with effluent TSS, the sludge blanket level increased sharply when testing began, but appeared to stabilize after a short adjustment period. It was not determined during the stress test whether or not the RAS pumps possess sufficient capacity to prevent the accumulation of sludge blankets during extended periods of operation at high flows. Because extended operation at elevated flows is not possible at this time, adequate RAS and Waste Activated Sludge (WAS) pump capacities will be evaluated with wastewater process simulations.

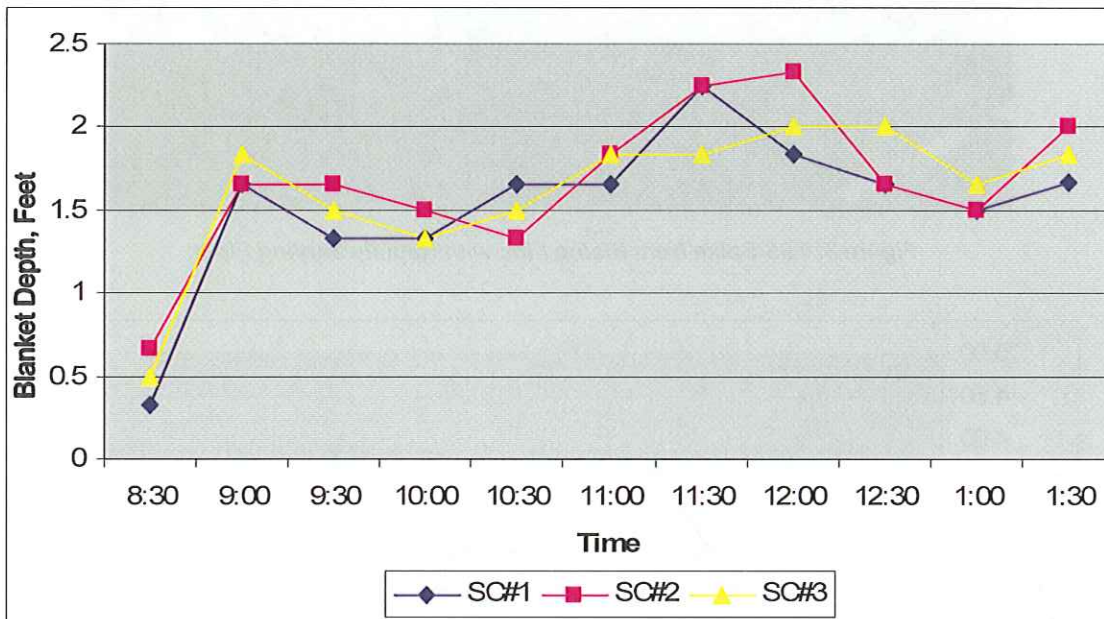


Figure 5: Secondary Clarifier Sludge Blanket Depths

The MLSS concentrations measured from samples collected from the combined influent channel and at the head end of each clarifier during stress testing are indicated in Tables 2 and 3 below. Samples were collected at the start of stress testing and at noon, when the influent flow was increased to an equivalent flow of 20 MGD.

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent

Susan Rungren, Utilities Engineer

31 August 2010

Page 7

Table 2: Secondary Clarifier Influent at Start of Stress Testing (8:30 a.m.)

Time		8:18 a.m.			
ID	MLSS mg/L ^(a)	Turbidity NTU ^(b)	Settleability mL/L ^(c)	Time to Denitrify Hr	SVI mL/g ^(d)
S/C #1	920.0	12.3	150	3.71	163
S/C #2	705.2	14.3	120	3.47	170
S/C #3	525.6	11.8	90	3.14	171
Combined Influent Channel	994.0	12.3	170	3.43	171

Notes:

^(a)mg/L = milligrams per liter.^(b)NTU = Nephelometric Turbidity Units.^(c)mL/L = milliliters per liter.^(d)mL/g = milliliters per gram.

Table 3: Secondary Clarifier Influent at 20 MGD Equivalent (11:30 a.m.)

Time		11:51 a.m.			
ID	MLSS mg/L	Turbidity NTU	Settleability mL/L	Time to Denitrify hr	SVI mL/g
S/C #1	1150.0	8.88	170	3.15	148
S/C #2	1108.4	8.56	170	3.57	153
S/C #3	1176.0	7.70	180	3.65	153
Combined Influent Channel	1352.4	8.74	225	3.58	166

The SVI, which represents the space occupied by 1 gram of sludge, is an indicator of how well the sludge settles and compacts, thus directly indicating sludge quality. A favorable value for SVI is between 75 and 150 milliliters per gram. A low SVI indicates a lack of filamentous bacteria and a sludge that will compact to occupy very little space. A high SVI indicates sedimentation problems, usually caused by filamentous bacteria that bridge across flocs, reducing their ability to compact and settle. Higher mixed liquor SVIs require larger clarifiers and greater blanket depth to settle the activated sludge.

Although the mixed liquor at the VVRF has a relatively high SVI, the clarifiers performed well during stress testing. This was confirmed with a theoretical state-point analysis.

A state-point clarifier analysis produces a flux curve, as seen below on Figure 6.

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent

Susan Rungren, Utilities Engineer

31 August 2010

Page 8

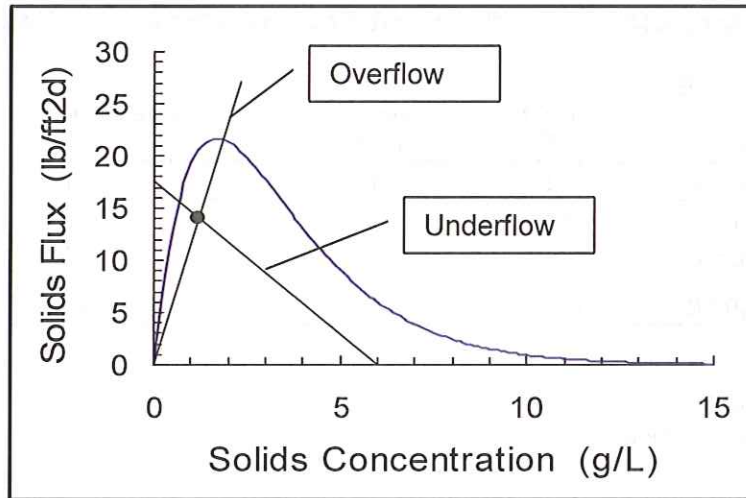


Figure 6: State-Point Analysis for VWR Secondary Clarifiers

The bell curve is based on sludge quality (SVI). The lower the SVI, the greater the “safe” area under the bell curve. The two lines represent the overflow and underflow (i.e., RAS) rates. The point where the lines cross is called the state point, which is also the MLSS concentration. If the state point is ever outside the bell curve, the clarifiers are overloaded, and increasing solids will be wasted in the effluent. The point where the underflow line touches the left side of the graph marks the solids loading rate. The point where the underflow line touches the bottom of the graph marks the RAS concentration in grams. This underflow line should stay below the right side of the flux bell curve. If it crosses the flux bell curve in this region, solids are being added to the clarifier more quickly than they are being removed. The overflow line represents how quickly solids flux increases, for a fixed flow rate, with increasing solids concentration.

Figure 6 is a representation of the VWRF clarifier performance at 20 MGD of influent flow. Table 4 summarizes the data used to generate the model.

Table 4: State-Point Summary Information

Influent Flow	20	MGD
Total Clarifier Surface Area	14250	ft ²
Surface Overflow Rate	1404	gal/ft ² d
SVI	200	mL/g
MLSS Concentration	1200	mg/L
RAS Flow	5	MGD
RAS Concentration	6000	mg/l
Solids Loading	17.55	lb/ft ² d

Technical Memorandum

Daniel Pfeifer, Wastewater Superintendent

Susan Rungren, Utilities Engineer

31 August 2010

Page 9

As implied by the state-point evaluation, the VWRP secondary clarifiers could potentially operate beyond the evaluated limits of stress testing if the VWRP continues to operate at a low MLSS, which minimizes the solids loading rate.

V. Conclusions

Although the stress testing was not executed as originally planned, it achieved its primary objectives. Based on the data collected during testing, the state-point analysis, and comparison of typical design criteria with recent performance, the VWRP secondary clarifiers appear to have sufficient size and capacity to operate at 16 MGD with only five clarifiers in service, provided that RAS and WAS pumping capacities are sufficient for long-term operation. RAS and WAS pumping capabilities should be evaluated carefully because they were not assessed during stress testing.

Additional consideration should be given to evaluating the activated sludge process to investigate incomplete denitrification in the anoxic selector during the afternoon, which could result in rising sludge blankets in the secondary clarifiers. In addition, further evaluation of the possibility to mitigate certain biological "growth pressures" to gain better overall control of the process by selecting against filaments may prove valuable for future expansion.

Appendix G

Brown & Caldwell's Sludge Dewatering Alternatives Evaluation



City of Buenaventura

Wastewater Treatment Plant Sludge Dewatering Alternatives Evaluation

April 2002

BROWN AND
CALDWELL

TABLE OF CONTENTS

Introduction	1
Centrifuges	2
Belt Filter Presses	2
Background	5
Flow and Load Projections	5
Operating Hour Scenarios	6
Sludge Testing and Preliminary Assessment	6
Existing Plate and Frame Units	6
Sludge Testing	6
Use/Disposal Options	6
Site Visits	7
Current O&M Requirements	7
Summary of Alternatives	7
Alternative 1	7
Alternative 2	7
Alternative 3	7
Alternative 4	8
Alternative 5	8
Alternative 6	8
Alternative 7	8
Alternative 8	8
Alternative 9	8
Alternative 10	8
Auxiliary Systems	9
Digested Sludge Storage	9
Cake Solids Handling	9
Building HVAC	10
Cake Transfer System	10
Polymer System	11
Control System	11
Building Structural	11
Temporary Facilities during Construction	12
Equipment Access	12
Electrical Power	12
Permits	12

TABLE OF CONTENTS (continued)

Preliminary Project Costs and Life Cycle Costs	13
Sensitivity Analysis	17
Construction Costs	17
Recommendations	17
Appendices	19

LIST OF APPENDICES

- APPENDIX 1. SLUDGE DEWATERABILITY REPORTS
- APPENDIX 2. BENEFICIAL USE AND DISPOSAL OPTIONS REVIEW
- APPENDIX 3. FIGURES
- APPENDIX 4. CALCULATIONS

LIST OF TABLES

<u>No.</u>		<u>Page</u>
1	Functional Analysis – Dewatering	4
2	Project Costs of Preferred Alternatives (Construction, Engineering, CM and Administrative Costs)	4
3	Current and Projected Solids Loading	5
4	Estimated Project Costs, Dollars	14
5	Annual O&M Costs at Design Year Loading (Today's Dollars)	15
6	Present Worth of Project Alternatives	16

CITY OF SAN BUENAVENTURA WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING
ALTERNATIVES EVALUATION

April 2002

This report summarizes the sludge dewatering alternatives evaluation and recommendations. Brown and Caldwell was retained by the City of San Buenaventura (City) to identify and evaluate dewatering options for the ultimate replacement of the existing plate and frame dewatering units.

Objectives of this study included identifying current and future loads to the dewatering process, alternative dewatering equipment, alternative operating scenarios, equipment sizing, building and auxiliary system requirements and modifications.

Introduction

The City is planning an improvements project for their existing Sludge Handling and Disposal Facility. The existing dewatering building contains two plate-and-frame dewatering units that discharge directly to trailers. The building also includes a pump room (pumps that feed the press units), a chemical feed room, a control room, an MCC room, a storage area, mechanical/HVAC equipment, a drive through truck/trailer loading area, and a 5- ton bridge crane. The existing dewatering units are about 20 years old, require full-time attention during operation, spare parts are very difficult to obtain, and the machines are nearing the end of their useful life.

The City's primary goal for this project is to identify a project to include in their Capital Improvement Plan (CIP) that provides the following improvements and benefits: improved dewatering system performance (higher cake concentration), reduced maintenance, less attended operation, and meets sludge dewatering capacity needs with one shift per day operation. Constraints for the project include being able to accommodate the new system structurally within the existing building and to not create an odor nuisance.

Belt filter presses and centrifuges were selected for evaluation as potential replacements for the plate and frame units. Sludge samples were collected and analyzed by two centrifuge manufacturers and one belt filter press (BFP) manufacturer to estimate dewaterability and to project performance of their devices. Visits to several other wastewater treatment plants were made by City staff to review BFPs, centrifuges, conveyors, cake pumps, and cake hoppers.

A sludge use/disposal review was conducted to evaluate the future direction of sludge hauling and land application costs. Costs for sludge disposal are expected to increase over the next several years, which favor alternatives that produce a drier cake. The brief structural review determined that the existing building can be modified to accommodate new equipment, as the new units are lighter and smaller than the existing. However, significant structural modifications would be required to accommodate any dewatered sludge storage inside the building. Building

foundation loading conditions would limit the amount of sludge cake hopper capacity that can be added within the existing building. Additional MCC capacity will be required for the recommended dewatering system equipment.

Several centrifuge and BFP technology alternatives for the existing building were evaluated and screened to determine the most appropriate options. These involved different building modifications including locating the new equipment over the existing floor openings for direct discharge to haul trailers, installation of a cake storage hopper in one of the existing floor openings, locating cake storage outside, and to the south of the building. Varying amounts of dewatered cake storage was possible depending on where the storage would be located. The largest volume of storage is available when located outside the building, and supported by its own new foundation.

Centrifuges. Centrifuges are available in low speed and high speed or high solids versions. Typically, centrifuges installed since about 1990 to dewater wastewater sludges are of the high solids type. These machines operate at almost 2,500 to 3,500 revolutions per minute and exert a force on the solids of about 3,000 to 4,000 gravities. These centrifuges are capable of achieving dewatered sludge concentrations of 20 percent to 30 percent, depending upon the hydraulic load, the relative proportions of primary and secondary sludge, the degree of stabilization, and polymer dosage. The torque that a centrifuge experiences is directly related to the solids inventory in the bowl. As the torque fluctuates, the differential speed of the scroll is varied proportionally. The scroll conveys solids from the bowl to the beach and ultimately to discharge through the discharge ports. Hence, as the speed differential between it and the bowl increases or decreases, solids will be removed more quickly or slowly, respectively. Thus, the rate of removal is varied in response to the solids inventory. This method of control assures consistent cake and minimizes uneven wear.

Polymer must be used to condition anaerobically digested sludge prior to dewatering. The dosage affects the capture of solids and, to a lesser degree, solids content of the cake. For City digested sludge, a polymer dosage of 23 to 27 pounds (active) per ton (lb(active)/ton) of dry solids is required to achieve cake densities between 22 percent and 25 percent at reasonable flow rates (see Appendix 1), when dewatering using centrifuges.

Belt Filter Presses. Belt filter presses have been used since the 1970s for dewatering wastewater sludges. They have two or three belts (1.0-m to 3.0-m wide), which travel through and around a series of rollers. Sludge is dewatered as it passes through distinct zones. In the initial gravity zone, sludge drains under the influence of gentle mixing from rows of stationary "plows" and capillary suction pressure exerted by the belt. In the second compression zone, the sludge is pressed together between two converging belts. In the third pressure zone, the two belts follow a serpentine pattern around a series of rollers. Belt tension combines with the wraparound pattern to exert pressures of up to 350 kPa on the sludge cake. Water expelled from the sludge in these three zones exits through the porous belt; the fine-mesh belt filters solids from the liquid in this passage. Dewatered sludge is scraped from the belt by a knife at the end of the pressure zone and falls into a hopper, which feeds a conveyor or solids pump. In the belt return

area, water sprays are used to clean the belt fabric and expel an enmeshed solids, which then, with the filtrate, are returned to the mainstream process.

The main control parameters for a belt filter press are sludge feed rate and polymer dosage. Typically, the operator monitors the gravity zone and the discharge point. With an appropriate combination of feed rate and polymer dosage, sludge will drain well in the gravity zone and will separate easily from the belt at the discharge point. These are subjective judgments on the part of the operator, who must manually adjust machine settings during a belt filter press run.

Belt filter presses are incapable of achieving as high a solids content as newer generation centrifuges. With the optimum polymer dosage, City dewatered sludge concentrations of 14 to 15 percent would be expected. Compared to City centrifuge dewatered sludge (at 22 to 25 percent), the belt filter press dewatered sludge volumes would be about 40 percent greater.

Belt filter presses are typically open machines requiring high rates of air changes for odor control. The high-pressure spray water increases moisture in the room. Although the belt filter presses use less horsepower (HP) than centrifuges, the total HP requirements increase closer to that of centrifuges when the high-pressure spray water pumps and additional HVAC HP are included.

On the basis of the functional analysis, summarized in Table 1, centrifuges are recommended as the best overall dewatering machine. They will produce a drier cake, resulting in significantly reduced hauling and disposal costs. The life cycle costs and rankings were unchanged when tested with a wide range of power, polymer and disposal costs.

Ten project alternatives were developed. The variations in the alternatives were:

- Either two (one operational and one standby) or three (two operational and one standby) dewatering units.
- Direct discharge of cake to trucks or conveyance to storage hoppers
- For alternatives with cake storage, storage inside the building or outside the building
- For alternatives with cake storage, the use of either conveyors or pumps to convey the cake
- One shift operation 5 days a week, one shift operation 7 days a week. Continuous operation was also considered in the early evaluations.

Table 1. Functional Analysis – Dewatering

Criteria	Belt filter press	Centrifuge
Capital cost	+	0
Operating and maintenance cost	0	+
Maintenance of flows during construction	0	0
Compatibility with existing building	0	0
Odor control	0	+
Cake solids	-	+
Polymer consumption	+	0
Electrical requirements	0	0
Typical life cycle cost	-	+

- + Demonstrates advantage in evaluation category.
- 0 Demonstrates no advantage in evaluation category.
- Demonstrates disadvantage in evaluation category.

Costs for the preferred alternatives are shown below in Table 2.

**Table 2. Project Costs of Preferred Alternatives
(Construction, Engineering, CM and Administrative Costs)**

Alternative Number	Alternative Description	Capital cost, \$M ¹	Present value of 20-year life cycle cost, \$M ²
1	3 Centrifuges, Direct Discharge, 1 shift/day operation (7 days per week)	\$7.3	\$20.9
3	3 Centrifuges, Direct Discharge, 1 shift/day operation (5 days per week)	\$9.6	\$23.7
10	3 Centrifuges, Conveyors to Outdoor storage hoppers, 1 shift/day operation (7 days per week)	\$9.6	\$22.5

- 1 Capital cost includes estimated construction cost, contingency, engineering, construction management and administration.
- 2 Life cycle costs are based on \$2/pound of active polymer, \$0.154/kwhr, and \$23.50/wet ton haul cost.

Background

The existing Sludge Handling and Disposal Facility contains two Edward & Jones plate-and-frame units that dewater anaerobically digested sludge. They were installed in 1983. The units are very labor intensive to run. The facility is currently operated for eight to ten eight-hour shifts per week. Because the dewatered sludge does not release easily from the filter fabric, an operator is always present during operation to scrape cake from the filter at the end of a press run. Spare parts for the units are difficult to obtain and require a long lead time. The units are nearing the end of their useful life, and the City will need to replace them within about 5 years. This technical memorandum summarizes the evaluations of replacement alternative options and recommendations.

Flow and Load Projections

The current average wastewater flow treated by the plant is 9.5 million gallons per day (mgd). The design basis for the evaluations of new dewatering system alternatives is 16 mgd (16 mgd is the projected influent flow for the year 2040 assuming water conservation; reference Chapter 6 of the 1993 VWRP Master Plan). Solids production projections are based on a scale up of existing sludge production values. No changes are currently planned to either the liquid stream or upstream solids stream processes that would significantly alter the unit sludge production rates. Table 3 summarizes the design loading criteria.

Table 3. Current and Projected Solids Loading

Item	Current	Projected for 2040
Influent wastewater flow	9.5 mgd	16 mgd
Thickened sludge production, # TSS/mgd	3020	3020
Average thickened sludge (DAFT) concentration	5.4	5.4
Average volatile fraction in digester feed	78%	78%
Average volatile solids destruction in digesters	57%	57%
Annual average digested sludge to dewatering	64,000 gpd	107,000 gpd
Peak 3-week to average peaking factor	1.22	1.22
Peak day to average peaking factor	1.63	1.63

Operating Hour Scenarios

The existing dewatering facility operates two shifts per day for 2 or 3 days a week, and one shift per day the remainder of the week. The existing plate and frame system would need to run, on average 17 hours per day, seven days a week to process the future solids production. This evaluation initially considered several operating scenarios. These included:

- 24 hours per day, 7 days per week
- one shift per day, 7 days per week
- one shift per day, 5 days per week

The operating hour scenario has a direct impact on the selection of the number and capacity of each dewatering machine. A continuous operation (24/7) would result in the smallest number and/or the smallest capacity machines required. The one shift per day, 5 days per week operation results in the largest machine capacity required.

The City has subsequently decided to plan to move towards overall plant staffing of one shift per day. Therefore the continuous operation alternatives are not considered for recommendation as a preferred alternative.

Sludge Testing and Preliminary Assessment

Existing Plate and Frame Units. The existing dewatering machines produce a dewatered cake that is about 20 percent solids.

Sludge Testing. Two manufacturers conducted dewaterability tests of sludge samples from the City's wastewater treatment plant. One of the manufacturers produces both belt filter presses and centrifuges, and provided dewaterability estimates for both types of machines. The second manufacturer produces centrifuges and provided a performance estimate for their machine. Based on this testing, a dewatered cake concentration of 24 percent was used in the evaluation of the centrifuge options, and 14.5 percent solids for the belt filter press option. The manufacturer's reports are provided in Appendix 1.

Use/Disposal Options. Brown and Caldwell reviewed beneficial use and disposal options for Class B dewatered biosolids as part of this project. The results of the use/disposal options review are presented in Appendix 2. It documents that hauling and disposal costs are expected to rise in the future and that efforts to increase the cake solids concentration should be implemented to offset, or even reduce, this expected cost increase. The projections of hauling and disposal costs were used in the evaluation of life cycle costs for the project alternatives.

Site Visits. We accompanied City staff on site visits to other dewatering facilities. The purpose of the tours was to see operating installations of the types of equipment considered for future installation at Ventura. City staff visited the Riverside, San Bernardino, Rialto, County Sanitation District of Los Angeles County, and Laguna Niguel wastewater treatment plant. City staff saw Andritz, Alfa Laval and other centrifuges, screw conveyors and cake storage hoppers, dry and liquid type polymer systems, and regular and high solids belt filter presses. These trips provided opportunities for staff to see these systems in operation and to talk to their operators to obtain information and insight into relative ease of operation, control and maintenance (a video tape of the site visits was made by City staff).

Current O&M Requirements. Much of the Sludge Handling and Disposal Facility operator's time is spent scraping dewatered cake from the filter units at the end of each press run, and moving the hauling trucks.

Summary of Alternatives

For the first presentation of alternatives to the City, 6 alternatives were developed. Based on input and requests from City staff, three new alternatives were added. After evaluation of the combinations of equipment sizing and operating hours, the City requested a tenth alternative be added. The ten alternatives are briefly described below and summarized in Table 13 in Appendix 4. All alternatives include new digested sludge feed pumps with variable speed control, sludge grinders, polymer storage/dilution/aging/ feeding systems, and odor control.

Alternative 1. This alternative would consist of three 165 gpm centrifuges that would be located for direct discharge to the haul trucks through the existing openings. Two machines would be positioned over the existing openings. A third unit would have a reversing (bi-directional) conveyor that could discharge to either truck bay. No cake storage would be provided. The centrifuges are sized based on one shift per day, 7 days per week operation. The layout for this alternative is shown on Figure 1, all drawings are located in Appendix 3.

Alternative 2. This alternative would consist of three 165 gpm centrifuges that would each discharge to cake pumps that would convey the material to a storage hopper. The cake pumps would be located on the first floor, in one of the existing truck bays. The storage hopper is located in one of the existing floor openings above one of the truck bays. The centrifuges are sized based on one shift per day, 7 days per week operation. The layout for this alternative is shown on Figures 2 and 3. Four to eight hours of storage would be provided.

Alternative 3. This alternative would consist of three 225 gpm centrifuges that would be located for direct discharge to the haul trucks through the existing openings. It is similar in layout to Alternative 1 (refer to Figure 1). No cake storage would be provided. The centrifuges are sized based on one shift per day, 5 days per week operation.

Alternative 4. This alternative would consist of two high-capacity (350 gpm) centrifuges. Each would be located directly over one of the existing openings for direct discharge to the haul trucks. No cake storage would be provided. The centrifuges are sized based on one shift per day,

7 days per week operation. This and the other two-machine alternatives provide the least back-up or redundant capacity. The layout for this alternative is shown on Figure 4.

Alternative 5. This alternative would consist of three 165 gpm belt filter presses located for direct discharge to the haul trucks. The belt filter presses are sized based on one shift per day, 7 days per week operation. The layout for this alternative is shown on Figure 5. Due to the open nature of the dewatering process on the belt filter presses, this alternative would have the highest ventilation and odor control requirements.

Alternative 6. This alternative would consist of two smaller centrifuges, 125 gpm, sized for a 24 hours per day, 7 days per week operation. The machines would be positioned for direct discharge to the haul trucks. It is similar in layout to Alternative 4 (refer to Figure 4).

Alternative 7. This alternative would consist of two smaller centrifuges, 125 gpm, sized for 24 hours per day, 7 days per week operation. The centrifuges would discharge to a system of screw conveyors that would transport the cake to storage/loadout hoppers located on the south end of the building. Trucks would continue to drive through the building as part of their route. This alternative is shown on Figures 6 and 7.

Alternative 8. This alternative would consist of two high-capacity (350 gpm) centrifuges. The centrifuges are sized based on one shift per day, 7 days per week operation. The centrifuges would discharge to a system of screw conveyors that would transport the cake to storage/loadout hoppers located on the south end of the building. The layout for this alternative is shown on Figure 8. Reference Figure 7 for similar cross-section with the exception that the centrifuges are of different capacities.

Alternative 9. This alternative would consist of three 225 gpm centrifuges that would discharge to cake pumps that would transport the sludge to storage hoppers located on the south end of the building. The centrifuges are sized based on one shift per day, 5 days per week operation. The layout for this alternative is shown on Figures 9 and 10.

Alternative 10. This alternative would consist of three 165-gpm centrifuges, sized for a one shift per day, 7 days per week operation. The centrifuges would discharge to a system of screw conveyors that would transport the cake to storage/loadout hoppers located on the south end of the building. The layout for this alternative is shown on Figure 11. Reference Figure 7 for similar cross-section with the exception that the centrifuges are of different capacities.

Auxiliary Systems

Digested Sludge Storage. At the 2040 projected flows and loadings, the existing digested sludge (DS) storage upstream of dewatering will provide 0.5 day of storage at future peak day, 0.7 (17 hours) days at peak week, and 0.82 days (20 hours) on average day. DS storage volume is important to consider when evaluating dewatering scenarios with less than 24 hour per day operation. The existing DS storage volume is just adequate at peak week to hold for 8 hr/day, 7 day per week dewatering. Unless additional DS storage is built, at peak day loadings either sludge will have to be stored in the digesters or the dewatering operation will have to run additional hours.

To consider a 5-day-per-week operation, additional DS storage volume would be required. Combined storage for 64 hours at average would be required.

Cake Solids Holding. The ability to hold and store dewatered cake enhances operational flexibility and reliability, and reduces operator hours to monitor and move trucks. With the existing system, cake is discharged directly into trucks. The plate-and-frame dewatering operation is a batch type process, providing time to move a full truck and position an empty one without interfering with the dewatering production. Both centrifuges and belt filter presses are continuous flow devices. If these machines discharge directly to the haul truck, the level in the truck will have to be monitored closely. Feed to the dewatering machines would have to be stopped when switching trucks. Also, the new dewatering devices discharge at a single point, where the plate-and-frame units discharge over the entire length of the machine. More time would be required to move, or "jockey" the trailers to make sure that the dewatered cake product is loaded evenly in the trailer.

If cake holding capacity were provided, the time spent coordinating loading sludge cake into hauling trucks would decrease. Two options for providing cake storage hoppers were considered: installing a hopper inside the building, and installing a hopper outside the building, to the south. Cake storage inside the building would be limited by the structural load capacity of the building, and clearance requirements for a truck to drive under the hopper and through the building. A hopper inside the building could provide about 4 to 8 hours of storage. With a hopper location on the same floor as the dewatering equipment, there is not enough space (horizontally or vertically) to transport the cake from the centrifuges to the hopper using conveyors. Therefore, this alternative is shown using cake pumps to convey the dewatered sludge. The centrifuges would discharge through chutes to the cake pumps, which would be located on the first floor. The pumps would then convey the material back up to the second floor to the hopper. The layout and cost estimate for this type of configuration is based on open-throat progressing cavity pumps.

Additional storage could be provided with a new hopper structure. This structure could be located adjacent to the building on its south side. Truck routing would remain the same as existing. The location allows for a screw conveyor system to transport cake to the hoppers. The layouts and cost estimates for the hoppers assume 2 days of storage (at average), a live bottom screw load out system, and covered hoppers vented to odor control. The area underneath the hoppers where the trucks load is assumed to be open (not enclosed). The hoppers would be mounted on load-cells that would be used to control the weight of sludge cake discharged to the haul trucks. A load cell system continuously weighs the amount of cake within the hopper. Changes in the hopper weight during loading determine the amount of cake that is loaded into the hauling truck. The accuracy of a load cell is around 2.5 percent. Load cells could be provided with a control system to support an automated load-out sequence. The control panel typically displays the total weight of the hopper and the amount of sludge cake being loaded into each sludge hauling truck. Load cell weighing systems include interconnecting cables and a central control panel to provide instantaneous and accumulated loads from each hopper.

Increasing the cake solids holding capacity is expected to decrease hauling costs. By having at least one day's worth of storage, the hauler could pick the time of day most convenient for their operation for sludge pick-up. Typically, this is first thing in the morning. This provides more flexibility in scheduling for the hauler and typically results in lower contract hauling costs than when the hauler is required to provide trucks around-the-clock to match production. If weekend or holiday hauling is eliminated, the cost might be even less. A slightly decreased hauling cost (\$/wet ton) was used in the present worth analyses for alternatives with cake storage.

Building HVAC. Some modifications to building HVAC and odor control additions will be required, and modifications will vary based on the alternative. A belt filter press installation would require the most ventilation. It is an open process (the sludge is always exposed to air), and one that can create a high humidity environment in the room (due to the high pressure wash water sprays and cascade of filtrate from the machine itself). Cake storage hoppers will require ventilation to odor control.

The City has experience with biological foul air treatment and is installing a biological filter for odor control. The City intends to operate and evaluate the biological filters for about 2 years before deciding on the type of odor control unit for the dewatering facility. If a biological filter is selected, it could be located in the area between Digester 3 and future Digester 4, as shown on Figure 14 (it is likely that the timing of the dewatering replacement project would coincide with the construction of Digester 4; if so, the staging of the construction in the area of Digester 4 will be simplified).

Cake Transfer System. Dewatered sludge cake is typically transported by positive displacement cake pumps, direct discharge or mechanical conveyors (such as shaftless screw augers or belts). Cake pumps require significantly less space than the other alternatives and have less location restrictions in existing facilities than conveyors or direct discharges. They also offer odor control, provide more flexibility in discharge locations or changes, reduce spill potential, and can often be more easily accessed for maintenance. However, their capital cost is typically higher than a conveyor system, and they typically have higher maintenance and parts

replacement costs. The City's engineering and operations staff have indicated a preference for conveyors over cake pumps.

Belt conveyors have high spill potential and can be relatively high maintenance. In addition, their angle of incline is limited to approximately 15 to 20 degrees above horizontal, which greatly impedes their practicality in a facility with limited space. Screw conveyors provide an economical and reliable means of sludge cake transfer. A screw conveyor's trough is typically covered to minimize spill potential. Screw conveyors of long lengths (greater than about 25 feet) require intermediate bearings for additional support. A screw conveyor's capacity decreases as its angle of incline increases. Screw lengths and screw incline angle should be minimized for optimum performance. City staff indicated that covered screw conveyors were the cake transfer equipment they preferred.

Polymer System. The existing polymer feed system dilutes an emulsion polymer solution and feeds the solution to the sludge feed for the plate and frame units. It includes several bulk chemical storage tanks that may be able to be reused for the new system.

The costs for each alternative are based on the addition of a bulk storage tank, a dual emulsion and mannich dilution system, two blend/age tanks, and one adjustable speed polymer solution feed pump per dewatering device.

Control System. Various degrees of automation are available for dewatering systems. Systems can be completely manually controlled, automatically controlled, or automatic with manual capabilities. We recommend a programmable logic controller (PLC) based system for each dewatering train. The PLC system provides for safety interlocks, automatic sequencing of startup and shutdown, some automatic adjustments and alarms.

These automatic control systems are typically provided by the dewatering equipment manufacturer and control the digested sludge feed pump, dewatering machine, polymer solution feed pumps, and any connected cake conveyance equipment. A separate PLC-based control system would control a cake storage and load-out system.

Some systems are available commercially for polymer dosing control. These systems have not yet been perfected, but could be reevaluated when the project goes into design.

Building Structural. Modifications to the existing structure will be required to accommodate new equipment in alternate locations. The weight of new centrifuges will be less than that for the existing plate and frame units. The load from a storage hopper mounted inside the building is very high and is not recommended.

New equipment will be of a different configuration than the existing units, and will necessarily be supported differently, transferring the load into the structure at different locations. During design, a detailed evaluation of loads and load transfer needs to be performed. We expect that modifications to the second floor will include new penetrations for centrifuge discharges and spanning existing openings with new equipment supports. New concrete and/or steel beams will

be required to support the new equipment and transfer the loads to the walls and foundation. We expect that these new beams would be installed on the bottom side of the slab.

A change to rotating equipment will introduce the potential for translation of vibration into the structure. The centrifuges and associated piping must be specified with vibration isolation. The mass of the building is significantly greater than the mass of the equipment and appears adequate to withstand the vibration. At the time of designing the new floor support beams, the floor stiffness and natural frequency need to be calculated and checked.

The existing building was designed in 1980. The Uniform Building Code requirements for seismic requirements have changed since the building was completed. However, since the occupancy and use of the building will be unchanged, code does not require a seismic upgrade of the building. At the time of design, a detailed analysis of the floor will be required. That analysis should include a detailed review of the wall to floor and roof to floor connections. These connections may need to be upgraded or stiffened for either load or vibration. You may evaluate at that time if any seismic upgrades are desired.

Temporary Facilities during Construction. All of the alternatives will require temporary dewatering capabilities during construction. Trailer-mounted dewatering machinery brought on site would be required and would cost approximately \$175,000. The temporary dewatering equipment, cake conveyance, and truck loading would be outdoors and probably without odor control.

Equipment Access. Access to equipment for monitoring during operation and working space around the equipment for maintenance would be addressed in all alternatives. Space adjacent to BFPs for roller removal would be provided in Alternative 5. Pull space for centrifuge scroll, bowl and feed tube removal would be provided in all other alternatives.

Electrical Power. According to the single line diagram for the Sludge Handling and Disposal Facility (drawing 1E04, 1980), the MCC for the building (1MCC) has a 600 amp bus. Although there is some spare capacity in the MCC, it will not be adequate for a new centrifuge dewatering system. A second MCC of about the same size, depending on the alternative, will be required.

Permits. As neither the use nor the capacity of the dewatering building will be changing, there should be no CEPA/NEPA requirements.

Typical local permits, including but not limited to, building permits, air permits, and stormwater management plans will be required for construction.

Preliminary Project Costs and Life Cycle Costs

Preliminary project costs were estimated for each alternative. Project costs include the estimated construction cost, contingency, engineering, construction management and administrative costs. A summary of the costs is presented in Table 4.

We prepared a 20-year life cycle cost for each alternative, using a 3 percent inflation rate, and 6 percent effective annual interest rate. The life cycle costs are the present worth of the project cost and 20 years of operations and maintenance costs. For each alternative the following values were used:

- Electrical power at \$0.154/kwhr
- Polymer at \$2.00/pound (active)
- Hauling and disposal at \$23.50 per wet ton

In addition, the following assumptions were made for labor:

- One full time equivalent (FTE) per shift for alternatives without cake storage
- One half of a FTE per shift for alternatives with cake storage
- 1.25 operator shifts per shift of dewatering (8 hours of operation, plus one hour to start up, and one hour for shut down and clean up.)
- \$70,000 per FTE per year
- Maintenance costs were estimated as 3 to 8 percent of the equipment cost, depending on the complexity of the equipment.

A summary of annual operations and maintenance costs are presented in Table 5. Life cycle costs are presented in Table 6.

Capacity Machine Cost (each)	Alternative 1 Direct Discharge 3 Cent 7 shifts 165 GPM \$425,000	Alternative 8 Pump/Storage 3 Cent 5 shifts 225 GPM \$425,000	Alternative 9 Pump/Storage 3 Cent 5 shifts 225 GPM \$425,000	Alternative 10 Conveyor/Storage 3 Cent 7 shifts 165 GPM \$425,000
Category				
Demolition	75,000	75,000	75,000	75,000
Dewatering Equipment (inc. piping)	1,912,500	100,000	1,912,500	1,912,500
Washwater Pumps	--	--	--	--
BFP Platforms	--	--	--	--
Polymer System	176,000	176,000	246,400	176,000
Polymer Solution Pumps (inc. piping)	39,375	52,500	39,375	39,375
DS Storage	--	--	556,500	--
Feed Pumps (inc. piping)	225,000	120,000	120,000	225,000
Grinders (inc. piping)	90,000	90,000	90,000	90,000
Cake Pumps (inc. piping)	--	--	360,000	--
Cake Conveyors	32,000	200,000	--	220,000
Cake Hoppers	--	750,000	420,000	750,000
HVAC/odor	62,500	125,000	125,000	62,500
Mechanical total	2,612,375	688,500	3,944,755	3,550,375
Temporary Dewatering During Const.	175,000	175,000	175,000	175,000
Structural Modifications	125,000	200,000	500,000	125,000
Electrical Modifications 25% of mechanical	653,094	922,125	986,194	887,594
Subtotal	3,565,469	985,625	5,605,969	4,737,969
Contractor Indirects, OH&P 18% of subtotal	641,784	897,413	1,009,074	852,834
Contingency 30% of subtotal + indirects	1,262,176	764,911	1,984,513	1,677,241
Sales tax 8% on equipment + materials	114,000	124,000	80,000	114,000
Construction Total	5,583,429	771,949	8,679,556	7,382,044
Allied Cost (30%) Engineering, CM, Admin-etc.	1,680,000	330,000	2,600,000	2,210,000
Total	\$7,263,429	1,101,949	\$11,279,506	\$9,592,044

(All mech items inc. equpt.\$ +50% for install)
(Cent = Centrifuge)

Table 5. Annual O&M Costs at Design Year Loading (today's dollars)

Category	Alternative 1 Direct discharge 3 Cent 7 shifts	Alternative 2 Pump/Storage 3 Cent 7 shifts	Alternative 3 Direct Discharge 3 Cent 5 shifts	Alternative 4 Direct Discharge 2 Cent 7 shifts	Alternative 5 Direct Discharge 3 BFPs	Alternative 6 Pump/Storage 2 Cent 24/7	Alternative 7 Conveyor/ Storage 2 Cent 24/7	Alternative 8 Conveyor/ Storage 2 Cent 7 shifts	Alternative 9 Pump/Storage 3 Cent 5 shifts	Alternative 10 Conveyor/ Storage 3 Cent 7 shifts
Operations Labor	\$ 87,500	\$ 42,000	\$ 87,500	\$ 87,500	\$105,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000
Equipment Maintenance	\$105,785	\$136,225	\$130,260	\$113,200	\$120,535	\$101,650	\$ 97,550	\$135,700	\$141,425	\$130,525
Power	\$ 80,959	\$117,090	\$ 87,459	\$ 95,177	\$ 80,290	\$135,862	\$125,798	\$100,195	\$ 83,636	\$ 90,326
Chemicals (polymer)	\$262,726	\$262,726	\$262,726	\$262,726	\$214,073	\$262,726	\$262,726	\$262,726	\$262,726	\$262,726
Total Annual Cost	\$536,971	\$558,041	\$567,945	\$558,604	\$519,899	\$542,238	\$528,074	\$540,622	\$529,787	\$525,578

(Cent = Centrifuge)

CITY OF BUENAVENTURA WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING ALTERNATIVES EVALUATION

Table 6—Present Worth of Project Alternatives

Alternative Number	Alternative Description	Present value of 20-year life cycle cost, \$M	Relative Ranking	Comments
1	3-Centrifuges Direct discharge to trucks 1 shift/day, 7 days/week	\$20.9	2	Preferred alternative
2	3-Centrifuges Cake pumps & Storage 1 shift/day, 7 days/week	\$23.7	8	City prefers not to have cake pumps, therefore not a preferred alternative
3	3-Centrifuges Direct discharge to trucks 1 shift/day, 5 days/week	\$23.7	9	Preferred alternative
4	2-Centrifuges Direct discharge to trucks 1 shift/day, 7 days/week	\$21.8	4	City preference is for a 3 machine installation for better reliability & redundancy, therefore not a preferred alternative
5	3-Belt filter presses Direct discharge to trucks 1 shift/day, 7 days/week	\$23.5	7	High PW costs due to low cake solids, highest priced alternative as haul costs increased. Therefore not a preferred alternative
6	2-Centrifuges Cake pumps & Storage 24 hours/day, 7 days/week	\$21.1	3	City preference is for a 3 machine installation for better reliability & redundancy, therefore not a preferred alternative
7	2-Centrifuges Conveyors & Storage 24 hours/day, 7 days/week	\$20.7	1	City preference is for a 3 machine installation for better reliability & redundancy, therefore not a preferred alternative
8	2-Centrifuges Conveyors & Storage 1 shift/day, 7 days/week	\$23.2	6	City preference is for a 3 machine installation for better reliability & redundancy, therefore not a preferred alternative
9	3-Centrifuges Cake pumps & Storage 1 shift/day, 5 days/week	\$23.8	10	City prefers not to have cake pumps, therefore not a preferred alternative
10	3-Centrifuges Conveyors & Storage 1 shift /day, 7 days/week	\$22.5	5	Preferred alternative

(\$M = millions of dollars)

The polymer usage rates are based on dewatering equipment manufacturers' projected usage rates estimated as part of their sludge dewaterability test results. Usage rates used were 27 pounds (active) per ton for centrifuges and 22 pounds (active) per ton for belt filter presses.

Electrical power costs are based on the main motors driving the dewatering equipment, i.e., the main and back drive for the centrifuge and the belt drive for the BFP. Washwater power costs are based on washwater equipment for the BFP and ancillary system power costs for the centrifuge, such as lube oil power and polymer system power.

Cake solids concentrations are based on expected performance for each machine type. The wet tons of cake solids per year are based on the product of total dry solids and capture efficiency divided by the percent solids. The cake hauling rate of \$23.50 per wet ton of cake is based the current unit hauling rate.

Sensitivity Analysis. We calculated the present worth of all 10 alternatives at various polymer, power and hauling cost to determine if the relative ranking of the projects was sensitive to variations in any of these factors. The ranges used in the sensitivity analyses were:

- Polymer -- \$1.50 to \$2.50 per pound (active)
- Power -- \$0.075 to \$0.154/kwhr
- Hauling-- \$23.50 to \$40/wet ton

The variation of these element costs did not change the ranking of the lowest present worth alternative. The variations did not change the relative rankings of the preferred alternatives. As the hauling price increased, the present worth of the belt filter press alternative increased much more than the others, due to the low estimated cake solids from the BFPs. Table 12 in Appendix 4 summarizes this analysis.

Construction Costs. Construction costs are based on the estimates in Table 3. Engineering fees, construction management fees and administration fees were assumed to be 30 percent of construction costs. The 20-year total present value cost is the sum of the capital cost and the 20-year present value of O&M costs. As expected, the capital cost of the project increases as the scale of the project increases. Alternative 1 has the lowest life cycle cost but some nonquantifiable costs are not addressed adequately, such as improving the environmental conditions in the building and subsequent worker health and safety, minimizing odor release potential, easing truck loading, improving operator time efficiency by minimizing time spent attending trucks and monitoring BFPs, and addressing machinery preferences of staff.

Recommendations

To meet the future loadings to the plant, to provide additional reliability and redundancy, while lowering the labor hours necessary to operate the facility, we recommend that Alternative 10 be selected. This alternative includes cake conveyance and storage. Though the life cycle cost of the project is slightly higher than the similar alternative with direct discharge (Alternative 1), we

believe that it provides better operational flexibility. Alternative 10 will also become more attractive as operator salaries continue to increase. The following features are part of this alternative:

- Three 165-gpm centrifuges, two duty and one standby unit.
- Classifying conveyors under each centrifuge. The conveyors serve two purposes, they allow the initial liquid that passes through the machine at start up to drain away, and they convey the sludge to the transfer conveyors. Each classifying conveyor will have two discharge gates, each will discharge to one of the transfer conveyors. The gate positions would be selected manually, and would reflect which transfer conveyor is in service.
- Two transfer conveyors. Each will be sized to take the full cake production load. One unit will be duty, the other standby. The transfer conveyors will convey the sludge to a distribution conveyor on top of the cake hopper.
- One distribution conveyor. This conveyor will be reversing, and will direct the sludge for distribution through multiple ports or gates into the storage hopper.
- The storage hopper will have two units, each with a load out conveyor. Each will be oriented such that a truck positioned to go through the drive through will be able to receive a load of sludge. The load out conveyor will have multiple ports to distribute the sludge as it loads into the trailer.
- Hoppers with a total of two days sludge cake holding capacity (for the design year 2040).
- Load cells on the new hoppers for sludge cake production and loadout.
- New dual polymer dilution system.
- Installation of new DS feed pumps in the existing pump room.
- Installation of a new MCC in the MCC or Control Room.
- Additional odor control capacity.
- Adequate access to the dewatering machinery and associated equipment for operational monitoring and maintenance work.

The process schematic site layout and auxiliary system layouts for the recommended alternative are provided in Appendix 3 (Figures 13 through 16).

Appendices

- Appendix 1: Sludge Dewaterability Reports
- Appendix 2: Beneficial Use and Disposal Options Review
- Appendix 3: Figures
- Appendix 4: Calculations

Appendix H

Conceptual Plan for Construction of an Ocean Outfall

3 December 2007

Technical Memorandum

To: Dan Pfeifer, City of San Buenaventura

From: Al Shewey and Alison Evans, Kennedy/Jenks Consultants

Subject: City of San Buenaventura - Ventura Water Reclamation Facility
Conceptual Plan and Conceptual Cost Estimate for Construction of an Ocean Outfall
K/J 0689017

Introduction

Kennedy/Jenks Consultants (K/J) was asked to prepare a conceptual plan and profile for an ocean outfall from the Ventura Water Reclamation Facility (VWRF) in order to assess the length, size and location. Contractor input is included to evaluate construction strategies and to assist with preparation of a conceptual construction cost estimate. The conceptual findings contained herein are intended to assist City staff with an assessment of ocean discharge as a viable option for the City along with identification and review of the key issues and decisions required to move forward with a potential next step in defining a preliminary design process for an ocean outfall.

The outfall would serve as a potential alternative to accommodate excess discharge of tertiary treated wastewater that otherwise would discharge to the Santa Clara River Estuary (Estuary). In accordance with provisions stated within the renewed Draft NPDES Permit No. CA0053651, scheduled for additional workshop discussion by the Los Angeles Regional Water Quality Control Board (LARWQCB) and interested stakeholders on 6 December 2007, the City of San Buenaventura (City) has been directed to reduce discharge to the Estuary by 1 million gallons per day (MGD), each calendar year commencing within 3 years of NPDES adoption (to provide for construction of needed infrastructure), with full elimination expected by 2018.

According to the City's Recycled Water Market Assessment, completed by K/J on 26 April 2007, only approximately 1.9 MGD of the total 14 MGD capacity discharged from the VWRF can be accommodated by existing and proposed recycled water users, including large landscapes, golf courses, etc. This shortfall requires the assessment of a realistic alternative that can be completed within the predetermined timeframe.

The following memorandum describes the major conceptual design components anticipated for an outfall, including a very generalized conceptual alignment (i.e., size, length and location), depth and length of ocean pipeline, and construction materials, technologies and conceptual level estimates of probable costs.

Outfall Sizing

Wastewater flow projections to the VWRP are identified in the City's Wastewater Master Plan, under preparation by K/J, and are summarized in Table 1. The Annual Average, Maximum Month, Maximum Day and Peak Hour Flows are based on the peaking factor curves presented in the Wastewater Master Plan and previous technical calculations conducted by K/J in July 2006.

**TABLE 1
TOTAL PROJECTED FLOWS**

Development Condition	Annual Avg. Flow	Max Month Flow	Max Day Flow	Peak Hour Flow
General Plan	14 MGD	17.5 MGD	23.8 MGD	37.8 MGD

Although the Peak Hour flow rate (37.8 MGD) can likely be attenuated by offline storage, resulting in a comparable rate to the Max Day Flow (23.8 MGD), it is anticipated that full build-out will ultimately create larger Max Day flows than those identified under the General Plan rates above. For this reason, it is expected that the outfall would be sized to accommodate a capacity of 35 MGD.

Because an ocean outfall will be lengthy (about 2,000 lineal feet [lf] from the beach) and there is minimal elevation head currently available from the existing VWRP outfall, an effluent pumping station will still be required to provide the head necessary to transport the effluent to a discharge point in the Ocean. The size of the pipeline can be determined by using pressurized full pipe flow equations and nomographs since a pumping station is necessary. A 30-inch inside diameter pipeline transporting 35 MGD will have a velocity of 11.3 feet per second and a head loss of 9.4 feet per thousand feet of pipe length for an HDPE pipeline with an assumed "c" value of 140. An outfall that is 5,280 lf (1 mile) in length will generate approximately 50 feet or 22 psi of friction head loss to drive 35 MGD.

Based on these forecast flow assumptions and calculations it is recommended that a 30-inch ocean outfall pipeline be installed.

Conceptual Alignment

At first glance, the shortest possible outfall alignment would extend due west from the VWRP. Figure 1 graphically depicts this option in both plan and profile views. Two things are readily apparent from this figure:

1. About 2,000 feet of outfall is required from the southwest corner of the VWRP to the beach.
2. At a distance of one mile westerly from the beach the depth of water is estimated to be only approximately 15 feet.

Technical Memorandum

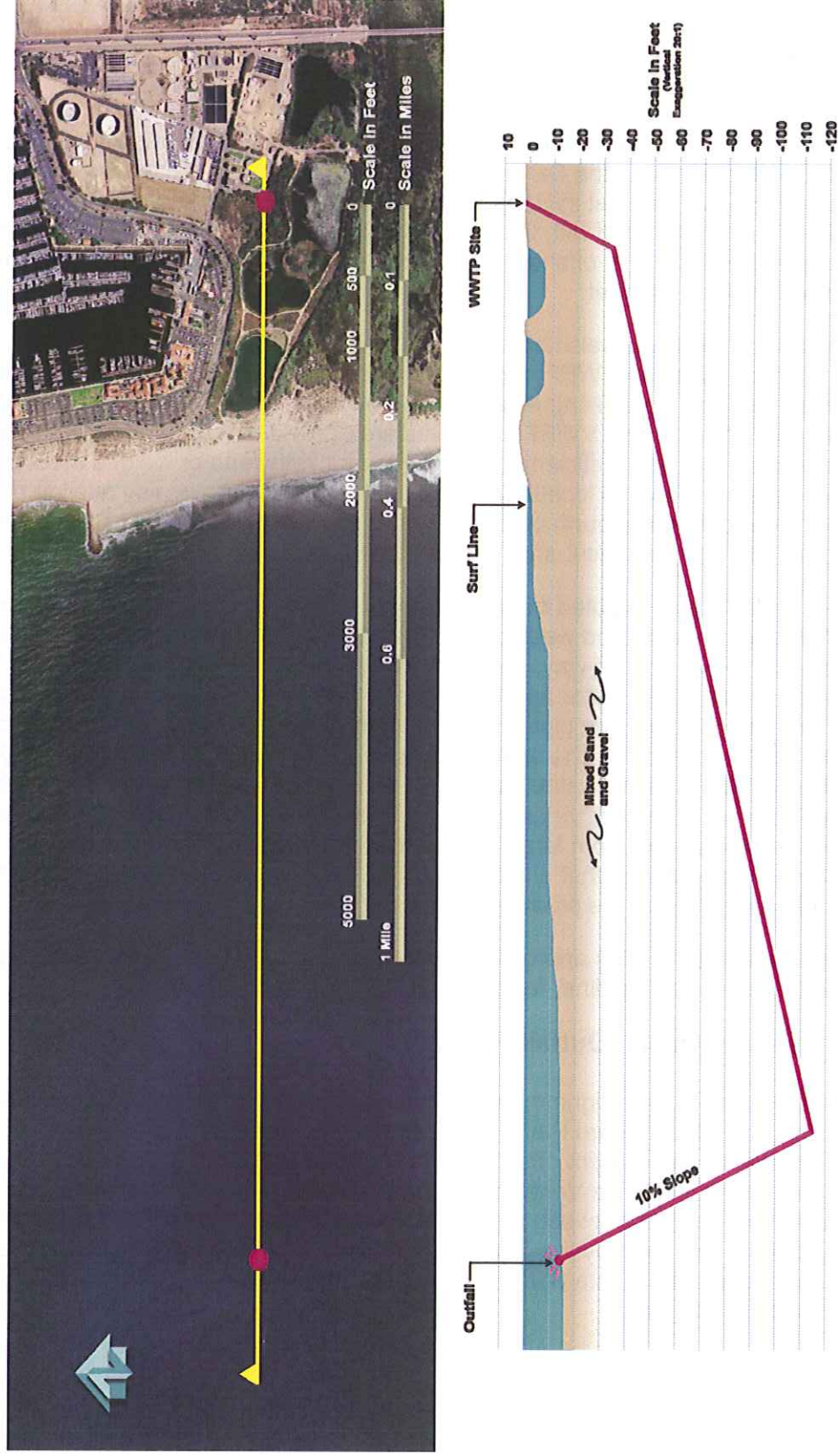
Mr. Dan Pfeifer

3 December 2007

Page 3

Kennedy/Jenks Consultants

**FIGURE 1
POTENTIAL VWRF OCEAN OUTFALL PLAN AND PROFILE**



Mr. Dan Pfeifer
3 December 2007
Page 4

From the VWRF to the beach, the barriers to construction are significant, including extensive land development and the Santa Clara River Estuary. For these reasons we considered a construction method that initiates Horizontal Directional Drilling (HDD) at the southwest corner of the VWRF continuing with this method to the termination of the outfall at a distance of approximately one mile offshore. The total distance under this alignment option is approximately 7,300 feet.

This launch point was selected because the identified area is on VWRF property, or would be in close proximity to the VWRF on land immediately to the south or west. A plant access road is located south of the existing digesters and extends easterly past the effluent pump station to the southeast corner of the VWRF site. This area provides room to develop a temporary construction site and sufficient length to fuse polyethylene or welded steel pipe and string it out behind the HDD launch location to the east. An open area is also available where future expansion room for a fourth on-site digester presently exists that can be used for mud recovery, staging, storage, an office, and related construction staging needs.

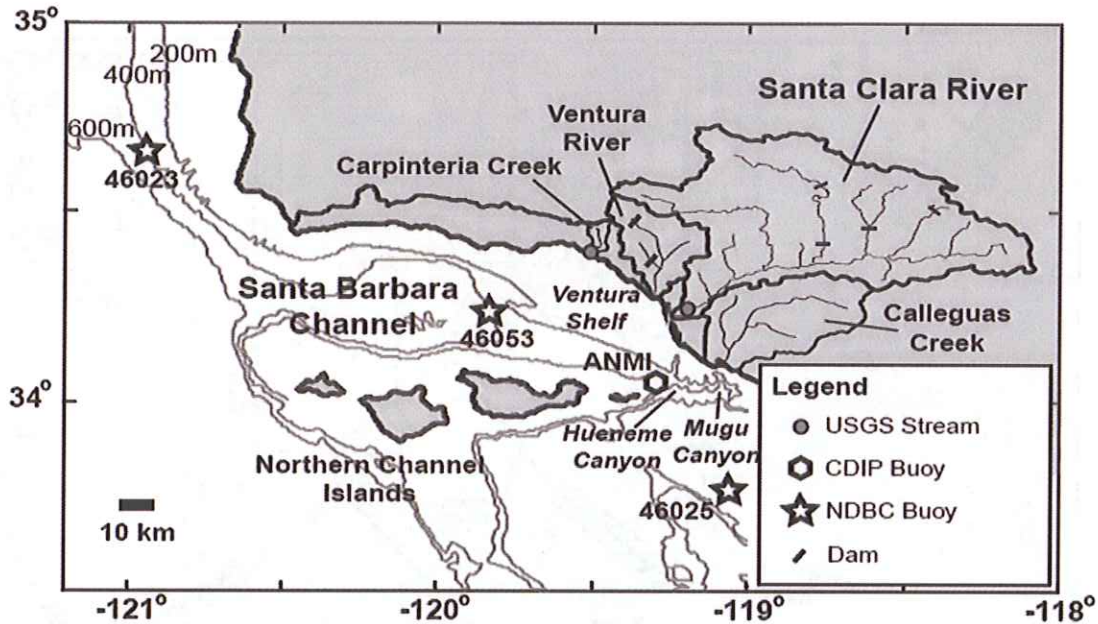
Specifically, the anticipated outfall alignment would begin at the southwestern corner of the VWRF and would extend west for approximately 0.28 miles (1,490 lf) to the south of the Spinnaker Drive right-of-way, until it reaches Surfer's Knoll Beach. Once at the beach, the pipeline would continue for approximately 0.11 miles (572 lf) under the beach located south of the Ventura Harbor. The pipeline would then travel offshore for one mile (approximately 5,280 lf) to resurface on the seafloor outside of the surf line. Installation of the pipeline using HDD operations, as indicated, is expected to be required to reduce the potential for drilling spoils to enter the sensitive estuarine and near-shore ocean environments, and to reduce or avoid scouring effect from large wave action and ocean-current disturbance of the pipeline. In addition, it is expected that a diffuser on the sea floor to connect the exit portal and diffuser would be required at the pipeline's exit point.

This alignment includes approximately 0.39 miles (2,062 lf) of land-based pipeline, and 1 mile (5,280 lf) of ocean pipeline, for a total of 1.39 miles of pipeline.

Conceptual Ocean Outfall Profile

The proposed outfall alignment would be located on the Ventura mainland shelf, with a shore crossing onto the Oxnard Plain. The onshore Oxnard Plain and Santa Clara River Valley, together with the adjacent offshore Ventura Mainland Shelf and Santa Barbara Channel form the Ventura Basin. The Ventura Basin is an elongated deep geologic basin that bisects the Transverse Ranges between the Santa Barbara Channel and the San Gabriel Fault, and is bounded on the north by the Santa Ynez Mountains and on the south by the Santa Monica Mountains and the Santa Barbara Channel Islands (CMWD 2007 and J.A. Warrick et al. 2004), and shown in Figure 2.

FIGURE 2
REGIONAL GEOLOGIC BASINS

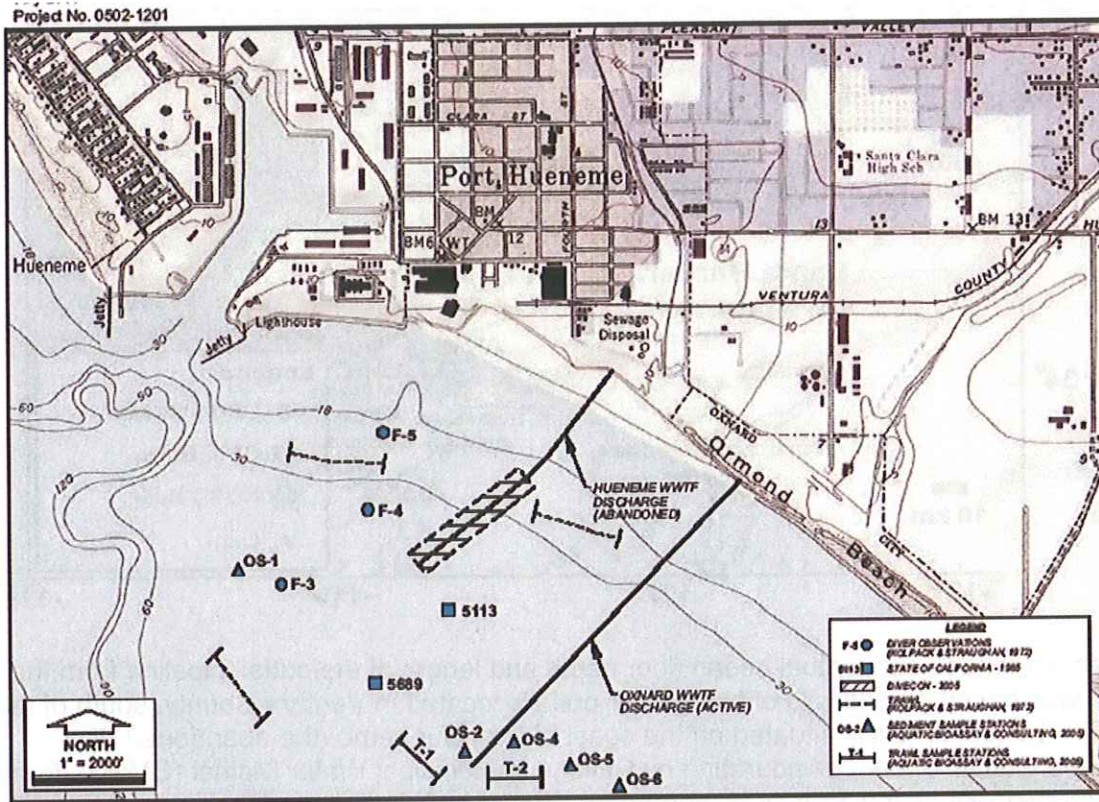


The recommended conceptual ocean floor depth and length of the outfall pipeline from the WRF was based on analysis of two similar outfalls located in Ventura County, south of the WRF. The first outfall is situated off the coast of Port Hueneme (the abandoned Port Hueneme Outfall, under consideration by Calleguas Municipal Water District (CMWD) for re-use and improvement as the Salinity Management "Brine Line" Outfall) and the second outfall is situated off the coast of Oxnard (the Oxnard WWTP ocean outfall). Figure 3 identifies the location of these two outfalls on a USGS quadrangle map (CMWD 2007).

Brine Line Outfall

The Brine Line outfall, once constructed, will extend a total of 0.95 miles (5,000 lf) offshore, and at its terminus will be located at a depth of 48 feet below sea level. Specifically, the HDD and outfall component of the Brine Line requires the installation and operation of approximately 5,000 feet of pipeline comprising an offshore outfall from the parking lot to the shoreline west of the Port Hueneme Fishing Pier where it terminates offshore. The initial 2,350 feet of outfall pipeline extends from the parking lot under the surf zone to a tie-in point in approximately 30 feet of water. The remaining 2,350 linear feet of pipeline extends from the tie-in point to the diffuser in approximately 48 feet of water.

FIGURE 3
 LOCATION OF HUENEME AND OXNARD WWTP OUTFALLS



Oxnard WWTP Outfall

The Oxnard WWTP outfall extends offshore approximately 1 mile, and is at a similar depth ranging from 30 feet to 50 feet below sea level at its terminus. The Oxnard WWTP outfall is designed for an average flow of 18 mgd, and a maximum design flow of 37.1 mgd. The outfall currently discharges secondary treated effluent.

Ventura WRF Outfall (Conceptual)

Accordingly, it is recommended that the WRF ocean outfall be conceptually designed to a length of 1 mile. The depth of the outfall will be less than either of the outfalls indicated above due to the long gentle slope of the Ventura Shelf extending outward from the beach at the WRF facility. Available depths on this shelf are 20 feet or less extending several miles from the beach. Geotechnical reports along the beach north of the WRF and seafloor contour information verify the existence of a long gentle sloping shelf extending westward from the beach comprised of sands, gravels, silty sand and interspersed clay layers.

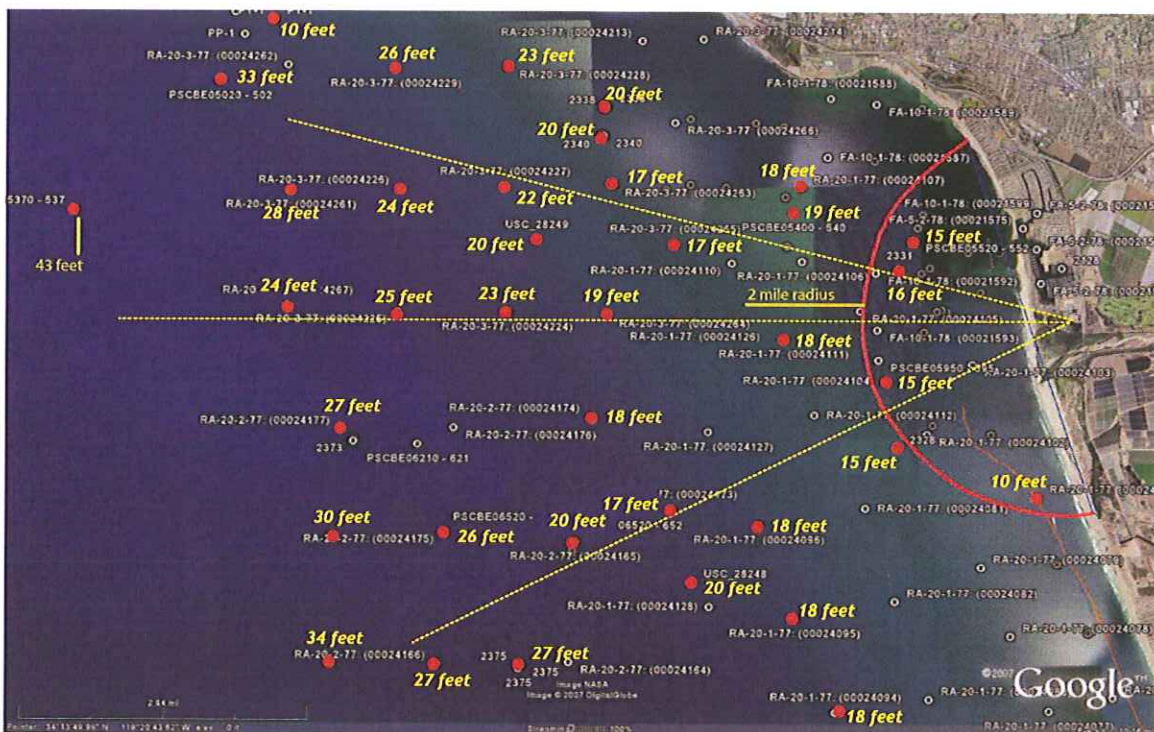
Studies conducted on the sediment dispersal and turbidity plume associated with large runoff events of the Santa Clara River indicate that rapid settling of sediment mass occurs immediately within 1 km (3,280 feet) of the river mouth (at depths ranging from 10 to 18 feet below sea level), and continues to settle (albeit more slowly) outside of this relatively shallow Ventura mainland shelf (J.A. Warrick et al. 2004). Other outfalls in the area presented above extend outside of the initial 10 m isobath (about 32 feet below sea level). The question for the VWRFF outfall that remains to be answered is how dependent is depth in this range to obtain adequate mixing and reduction of potential turbidity plumes at the point of dispersal. A site-specific model that evaluates tidal action, impact of wind, outward migration of groundwater from the Santa Clara River Watershed and other factors is needed to determine the amount of mixing obtained in shallower water.

The actual depth and length needed to ensure proper mixing of effluent ratios would be defined and confirmed in future studies, should the outfall become a viable option for handling the additional discharge requirements following adoption of the NPDES restrictions.

Seafloor Elevations Ventura Shelf

Figure 4 provides elevation information of the seafloor on the Ventura shelf. It is significant to note that the seafloor exhibits a gentle slope from the beach westerly for a distance of several miles. Little additional depth is obtained from extending the outfall beyond 1 mile from the beach. To obtain a significant increase in ocean depth requires a minimum of 9.5 miles of outfall from the beach. This distance is well beyond the available technical capability of current trenchless methods and available funding from the City.

FIGURE 4
VENTURA SHELF SEAFLOOR ELEVATIONS

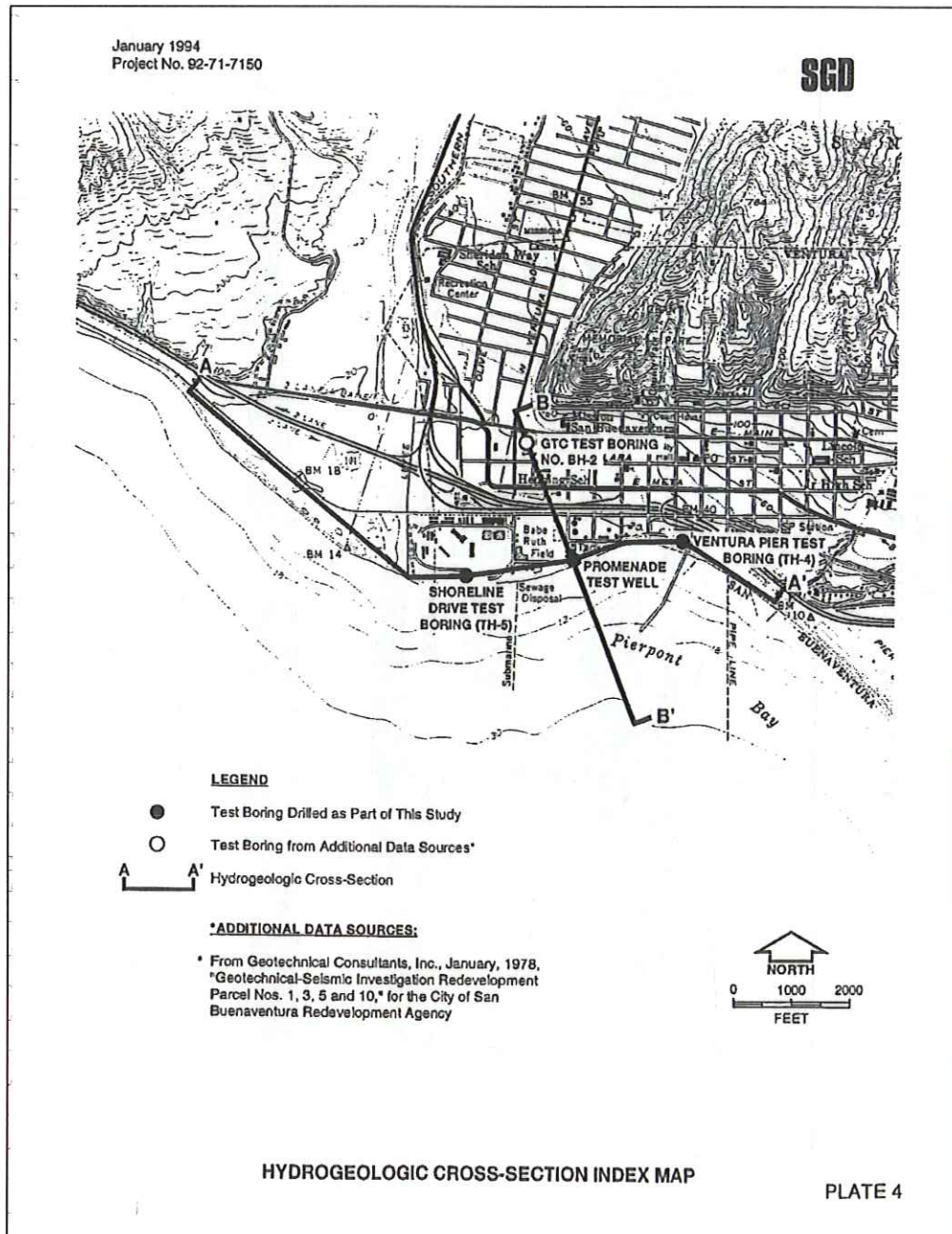


Construction**Geology**

The City's Desalination Project Feasibility Study (Staal, Gardner & Dunne Inc. 2004) undertook soil borings in the Ventura area adjacent to the beach and north of the VWRP. These borings are deep enough to provide a comparable picture of the geology anticipated to be encountered by an ocean outfall constructed between mean sea level and -120 feet MSL. According to this study, the area is located near the edge of the geologic province known as the Ventura Basin, a structural depression characterized by thick sedimentary deposits and major faulting. Alluvial deposits in the basin include, from youngest to oldest, fan deposits from streams draining the Ventura foothills, floodplain deposits of Holocene and upper Pleistocene age, (from both the Ventura and Santa Clara Rivers), the San Pedro Formation of lower Pleistocene age, and the Santa Barbara Formation of upper Pliocene/lower Pleistocene age. The maximum accumulated thickness of these sediments beneath the subject site is likely on the order of 1,000 feet (Staal, Gardner & Dunne Inc. 2004).

Figures 5, 6 and 7 present Plates 4, 5, 6 from the 2004 Staal, Gardner and Dunne, Inc. study. These figures provide information about the subsurface soil classifications in the area. Figure 6 identifies the locations of the soil crosssections within the City of Ventura presented in Figures 7 and 8.

**FIGURE 5
HYDROGEOLOGIC CROSS-SECTION INDEX MAP**

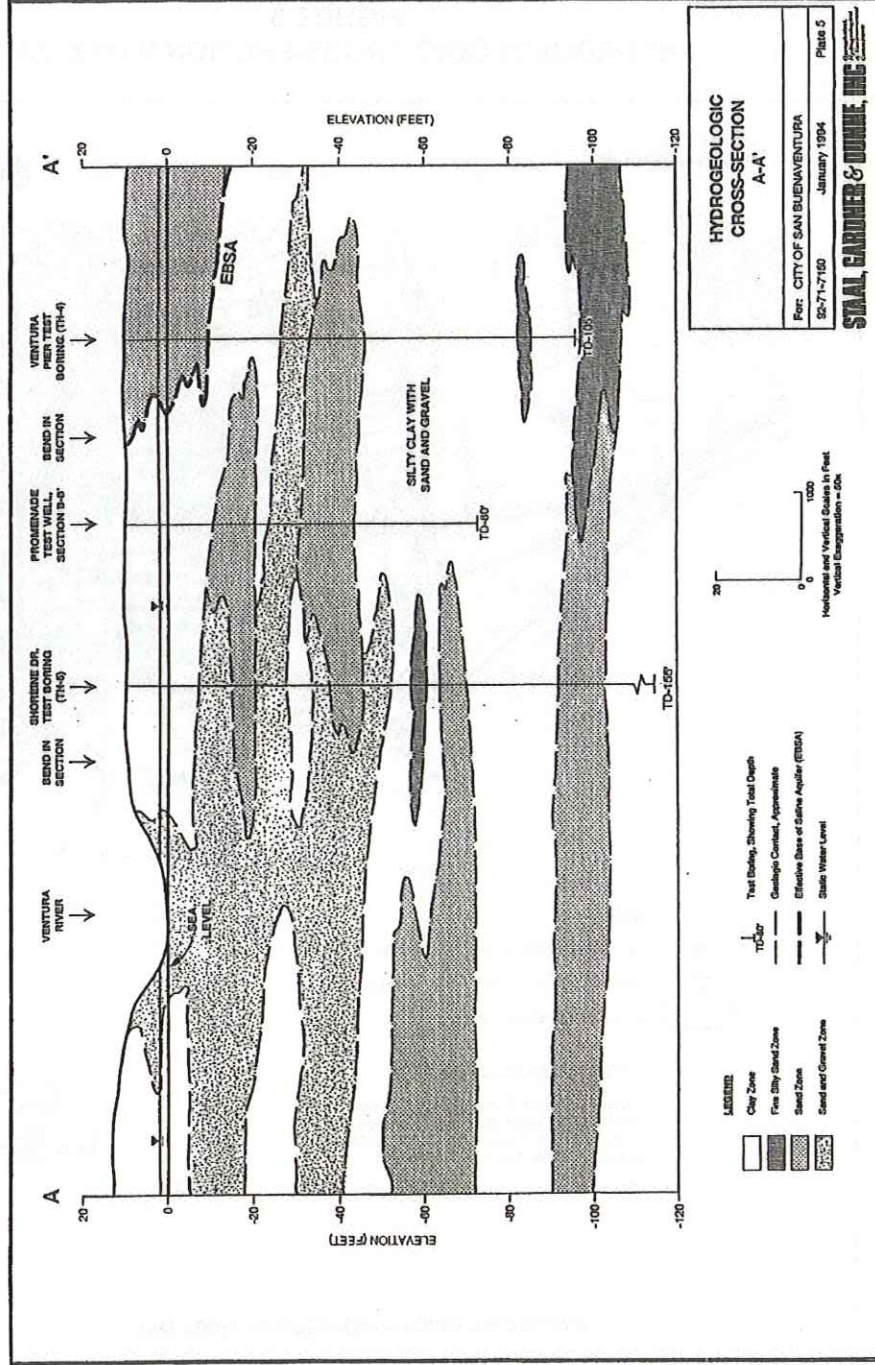


Technical Memorandum

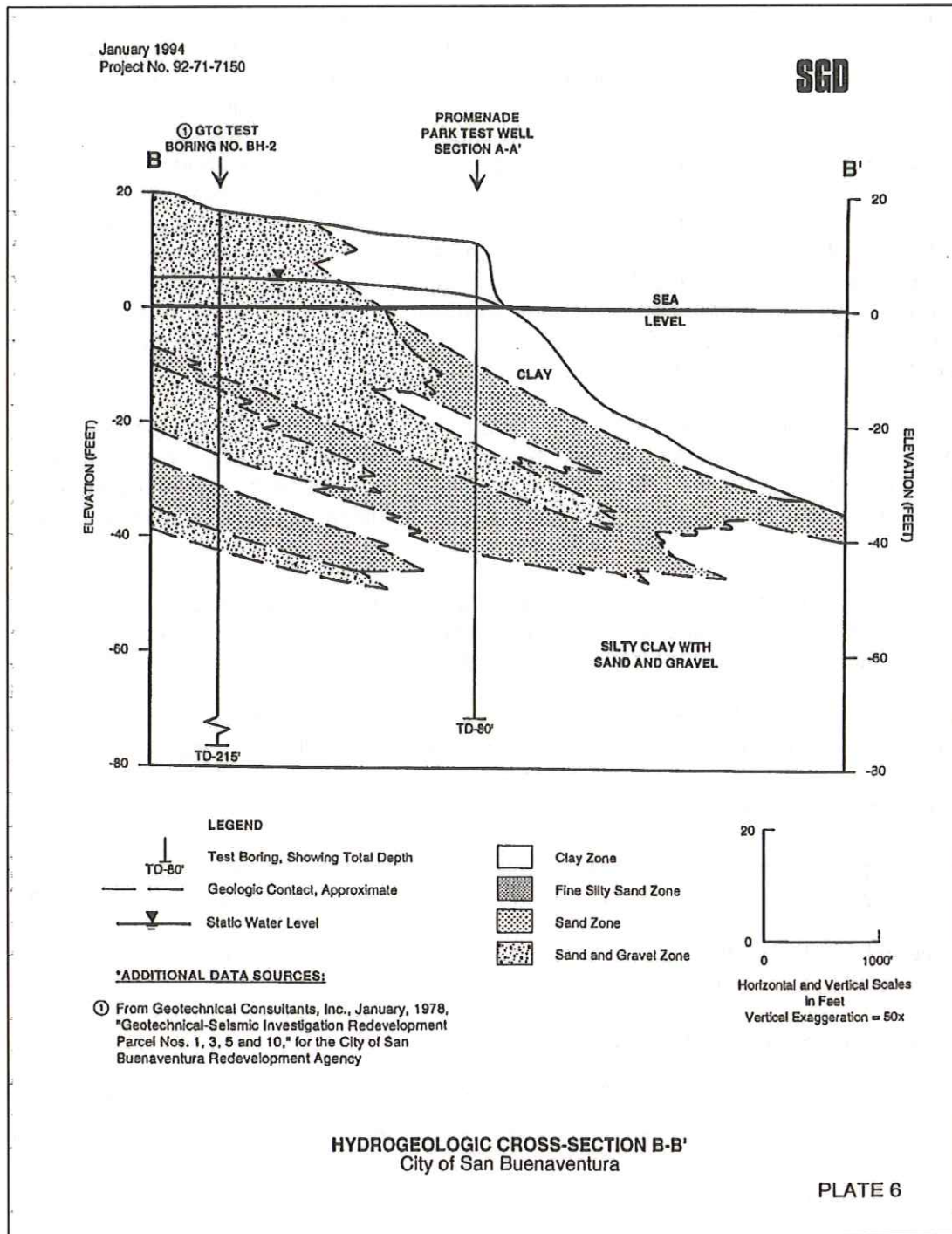
Mr. Dan Pfeifer
 3 December 2007
 Page 10

Kennedy/Jenks Consultants

**FIGURE 6
 HYDROGEOLOGIC CROSS-SECTION A**



**FIGURE 7
HYDROGEOLOGIC CROSS-SECTION B**



Additional, relevant information on the geology of the area is available within the CMWD's "Brine Line" EIR/EA. The findings within that document further attest to the alluvial nature of the offshore sediments in the area. According to that assessment, the Oxnard plain and Ventura Mainland Shelf is a prograding delta resulting from the deposition of sediments transported to the coast by the Ventura and Santa Clara Rivers. The Santa Clara is the largest river in terms of discharge and suspended sediment load, and is the largest source of sediment to the area. During periods of lowered sea levels, these two large rivers crossed the exposed delta and adjacent offshore continental shelf, transporting sediments directly to the shelf edge. Both the Ventura and Santa Clara Rivers have migrated across the coastal plain and shelf through geologic time. Geologic evidence suggests that the Santa Clara River has migrated as far south as the Hueneme Canyon during periods of lowered sea level in the late Pleistocene. Soils within the Port Hueneme Beach Park are characteristic of coastal beaches (CnB). Coastal beaches consist of narrow, sandy beaches and adjacent sand dunes, some of which are partly covered by waves during high tide. Offshore, seafloor sediments within a few kilometers of the coast are characterized as dense silty sand with patches of gravel and scattered rocks. Further offshore, the seafloor sediments become more silty (CMWD 2007).

Understanding the site-specific impact of geologic conditions on the outfall pipeline and ancillary facilities is vital to characterizing the best fit alignment and profile. There are known faults in the area, but it is unknown whether the outfall alignment will cross a fault zone. A geotechnical investigation would be required to be conducted prior to initiating a pipeline design for an ocean outfall.

Any pipeline design should also consider standard measures to address geologic hazards that enable the pipeline to withstand forces that have a potential to occur during its design life. The recommendations should include pipe material, pipe joints, depth of bury and route.

The proposed outfall will traverse an offshore area with bottom slopes of 1 to 2 percent. At this time, the outfall is not expected to cross or lie within any steep slopes or canyons.

Outfall Construction Options

The outfall is proposed to originate at the southwest corner of the VWRP and to terminate at approximately 1 mile offshore from the beach. The total distance is estimated to be 7,300 feet.

Four options have been identified for consideration in constructing the outfall, and are described in greater detail below. These options include:

- Option 1 – Horizontal Directional Drilling (HDD)
- Option 2 – Horizontal Directional Drilling (HDD) and Seafloor Construction Methods
- Option 3 – Horizontal Directional Drilling (HDD) Offshore and Open Cut Construction on Land
- Option 4 – Horizontal Directional Boring (HDB)

Technical Memorandum

Kennedy/Jenks Consultants

Mr. Dan Pfeifer
3 December 2007
Page 13

Option 1 – Horizontal Directional Drilling (HDD)

This option proposes to begin the HDD effort at the southwest corner of the VWRP facility extending to the diffuser location proposed for 1 mile off shore for a total length of 7,300 feet.

Option 2 – Horizontal Directional Drilling (HDD) and Seafloor Construction Methods

Option 2 is identical to Option 1 from the southwest corner of the VWRP to outside the wave breaking/surf line zone. This portion of the alignment would be constructed using HDD methods. The actual length of HDD installed outfall would be based on the successful advance of the outfall when using these methods. For planning purposes, the HDD outfall would at least extend to a total length of 1 mile (5,280 feet). The remaining 2,300 feet would then be advanced with seafloor methods using open water trench excavation methods in the shallow seafloor strata.

Option 3 – Horizontal Directional Drilling (HDD) Offshore and Open Cut on Land

In this option the 30-inch pressurized outfall from the VWRP to near the beach would be advanced with open cut construction methods. The route of the outfall is proposed to extend westerly from the southwest corner of the VWRP between open water and Spinnaker Drive in an open vegetated area. At the eastern extreme of Surfer's Knoll Beach, behind the fore dune an appropriate distance, the HDD portion of the alignment would be initiated and continue under the ocean to the proposed location of the diffuser. The minimum length of the HDD portion of the alignment would be 1 mile (5,280 feet) offshore and have a sufficient distance on shore to develop a vertical pipeline alignment that would cross under the surf line at a depth of 60 feet. At a slope of 15 percent this distance would be approximately 500 feet. Therefore the outfall distance completed by HDD methods would extend to approximately 5,800 feet. The length of open cut construction methods on shore would be approximately 1,500 feet.

Option 4 – Horizontal Directional Boring (HDB)

The final option considered is Horizontal Directional Boring (HDB). This technology is unique, combining the attributes of Horizontal Directional Drilling and Microtunneling. It is particularly adept at long distance bores, and in locations where the potential to hydro-fracture (frac-out) due to the presence of soft soil is present in an extremely sensitive ecological environment.

HDB advances a welded steel casing behind a drilling head by applying jacking forces to the steel casing in similar fashion to microtunneling. The drilling head is steerable allowing the advancement of the bore on a horizontal and vertical alignment. A positive displacement pump is used in the steel casing to deliver the excavated material back to the inlet where mud separation equipment removes excavated soil cuttings from the drilling fluid. Because a pump is used inside a casing to remove the drilling fluid the pressure on the bore hole at the face of the machine does not increase with distance from the inlet, as is the case with HDD. In addition, the pressure at the face of the bore can be closely controlled to provide the increased certainty of protection against frac-out.

Comparison of Outfall Construction Options

The four options for constructing the outfall will be compared based on comparative risk, cost and environmental sensitivity.

Risk

Each of the four options presents a varying amount of risk. The highest risk is associated with Option 1 where HDD is proposed over a length of 7,300 lineal feet. Ocean outfalls constructed using HDD in the 5,000 foot range do exist. Stretching this length to 7,300 lineal feet will require substantial experience, resources and knowledge on the contractor's part. The lowest risk is associated with Options 3 and 4. Option 3 constructs the onshore portion of the outfall using open cut methods. Where this is possible it shortens the HDD portion of the outfall into a more commonly accomplished length. Option 4 uses Horizontal Directional Boring (HDB) technology which limits borehole collapse and controls the pressure to an acceptable level at the face of the drilling head. Option 2 also limits the required length of the HDD bore, however, there is uncertainty associated with seafloor excavation.

Cost

Each of these options offers a varying degree of cost for construction. Option 4 using HDB and Option 2 are likely to present the highest cost. A high potential cost for Option 4 using HDB is related to the scarcity of this type of equipment and skill to operate it involved in drilling fluid management to provide absolute protection of the environment. The likely high price for construction using Option 2 is related to the uncertainty of seafloor construction from the surface of the ocean. Option 1 and Option 3 represent the lowest cost options. Option 3 which combines HDD offshore and open cut onshore reduces the price for HDD by shortening its length, makes the HDD portion more in line with current capabilities in the industry. The cost of open cut should also be significantly less than HDD in the onshore area.

Environmental Sensitivity

Sensitivity to the environment varies from option to option. The most environmentally sensitive alternative for construction is Option 4. This option is able to complete the outfall from the VVRF to the diffuser while maintaining the highest factor of safety relative to the potential for release of drilling fluid into the environment. Option 3 is also environmentally sensitive, although to a lesser degree. This option limits the length of HDD reducing the potential for frac-out of drilling fluid. The onshore construction using open cut methods, however, could have an impact on sensitive species of plants and animals and to surface water quality in the area. Option 1 and Option 3 present environmental concerns. Option 1 calls for construction of the outfall using HDD methods over its entire length (7,300 lineal feet). As in the pipeline bore advances toward the diffuser the risk of frac-out, though manageable, increases. Option 3 calls for open excavation in the seafloor to install the pipeline where the HDD terminates. This option will have environmental impact including resuspension of sediment and disturbance to be seafloor along the route of pipeline installation.

Preferred Outfall Construction Options

Overall, the most preferred option when using the comparative concerns identified above is Option 4 - Horizontal Directional Boring (HDB). This option is more costly but greatly reduces the potential for environmental impact and provides an option to construct below the surface from the VWRP to the diffuser. Second to this option is Option 3, which combines open cut construction on shore with HDD construction offshore. This option reduces cost, reduces risk of frac-out for the HDD alignment and reduces the length of HDD outfall construction. The negative associated with this option is the potential for impact to surface areas associated with onshore open cut construction. The third preferable alternative is Option 1, which uses HDD construction methods to develop the entire outfall. There are two (2) uncertainties that lower this alternative into third position. The first is the 7,300 lineal foot length of the bore. The second is the potential for frac-out of drilling fluid onto the seafloor as the bore approaches the diffuser location.

The last alternative to be considered is Option 2 which pairs HDD outfall development with open seafloor construction. The potential environmental impact from seafloor construction is a significant concern.

Offshore HDD and HDB Construction Issues

The primary geologic impacts to HDD and HDB crossings are limited to the potential for release of clay-based drilling fluids and settlement of the ground or seafloor surface along the alignment of the bore. The potential release of drilling fluids can be minimized by the incorporation of an appropriate drilling fluid and through adherence to a drilling fluid monitoring program. An appropriate program will specify drilling parameters such as drilling equipment capacity, directional bore depths and entry and exit angles. Drilling fluid properties including fluid weight, viscosity, water loss and gel strength will be designed and monitored by a qualified drilling fluids engineer (Fugro 2006).

As indicated, the outfall pipeline is suggested to be installed using one of the options for HDD or HDB methods from the VWRP site on Spinnaker Drive, located approximately 1,200 feet from the closest beach access (Surfer's Knoll). A steel conductor casing will likely be required to be driven in the initial portion of an HDD/HDB alignment to contain drilling fluids and to obtain a depth below adjoining surface water bodies without causing an impact from the release of drilling fluid or surface subsidence. Use of a steel casing may also be of value in drilling through the sands and silts under the seafloor as it can be driven from the shore and will help to maintain an open hole in difficult soil conditions. In the case of HDB, a steel casing is advanced as the boring proceeds. Where a steel casing is used, an HDPE pipeline should be inserted inside to provide a long life solution that is resistant to corrosion.

The land-based portion of the pipeline where HDD/HDB would begin requires an approximate 10 to 15 percent down angle drilling, to ensure a depth of approximately -60 feet MSL when crossing under the public beach. It would continue offshore at a similar angle to a depth of approximately -120 feet MSL for HDD and a continuous depth of -60 feet MSL for HDB. Near the HDD/HDB termination offshore, the drilling would then continue up at an angle of 10 to

Mr. Dan Pfeifer
3 December 2007
Page 16

15 percent to a point located approximately 1 mile from the beach, to the connection with the associated diffuser section.

The offshore diffuser section would likely be laid on the seabed using a pipe barge. The offshore installation method would be chosen during the preliminary design phase, and finalized with input gathered from permitting agencies as well as site-specific geotechnical data obtained during the environmental and regulatory process. The depth attained at the termination of the outfall will also impact the diffuser design and placement.

Once outfall construction is completed the only elements of the outfall that will be visible will be the entry structure and appurtenances at the VWRf.

Conceptual Estimate of Probable Cost

The cost for an ocean outfall that will extend to a mile offshore can vary greatly. One of the primary contributors to cost is the site constraints to be dealt with by the contractor hired to undertake the work. It is important to have sufficient lay-down area at the beginning of the HDD or HDB operation on land to undertake the bore and to allow storage and stringing of the pipeline. Pipe that will require assembly prior to installation needs sufficient area behind the drilling rig. Typical pipelines include welded steel casing pipe and/or an HDPE piping system, often with a partial or full steel casing. A pipeline extended from the land side into the borehole can also utilize steel casing installed in sections pushed into place with a mechanical joint design.

The costs for this conceptual estimate should be considered to vary between a plus 30 percent and a minus 30 percent and were derived from input obtained in discussions with Horizontal Directional Drilling contractors and offshore contractors. We anticipated in this effort that the on-shore HDD contractor would be the prime contractor for the work and would obtain an offshore contractor as a subcontractor.

The estimated per foot probable cost per lineal foot for the outfall described in this memorandum ranges from:

- Low estimate of probable cost - \$1,300 per foot
- Estimate of probable cost - \$1,750 per foot
- High estimate of probable cost - \$2,300 per foot

The outfall is estimated to be 5,280 feet offshore and 2,000 feet onshore for a total length of 7,280 lineal feet. Therefore the total estimate of probable cost on a conceptual basis is:

- Low estimate of probable cost - \$1,300 per foot x 7,300 lineal feet = \$9,500,000
- Estimate of probable cost - \$1,750 per foot x 7,300 lineal feet = \$12,800,000

- High estimate of probable cost - \$2,300 per foot x 7,300 lineal feet = \$16,800,000

Outfall Corrosion and Longevity

Corrosion of outfall piping material can be a serious matter for steel pipe in a marine environment. In fact, in excess of 20 mils per year of corrosion can be encountered for ferrous metals exposed to seawater. For this reason steel pipeline often acts as the outer pipe material for construction purposes where limited layout space is available and bore hole stability is in question. Once the steel pipe is in place an HDPE pipeline is inserted on the inside to act as a carrier pipe for the effluent.

Conclusions

A significant barrier to evaluation of the outfall exists due to the shallow depth of the seafloor for nearly 10 miles offshore from Ventura. A dynamic mixing model to determine the available mixing from the tides, wind and ocean currents is needed to determine if an effluent outfall placed a mile offshore meets appropriate dispersal rates to avoid any potential for turbidity or beach/estuarine contamination. This analysis should be the next step in the process of determining the potential feasibility to place an ocean outfall off the Ventura Coast at a reasonable distance.

Installation from the VVRF by means of HDB or an HDD Option into the ocean is an effective method for placement of an outfall pipeline. An option to use a steel outer casing may offer advantages for construction in sand and silt sediments due to its inherent stiffness, the ability to weld or use mechanical press fit joints and the material's ability to withstand high thrust forces during jacking into the borehole. Where steel casing is used, an HDPE carrier pipe installed within this pipeline offers extended longevity due to corrosion resistance of this material. Once the HDPE carrier pipe is installed the diffuser at the end of the outfall can be installed by an offshore contractor.

Substantial variability exists in the options available to extend an outfall a mile out into the ocean. This variability translates to a range of cost to construct the outfall. One method of improving on the estimate and fine tuning the potential option to be selected is to enlist the assistance of a noted HDD/HDB contractor (such as the Cherrington Corporation) along with K/J and the addition of a modeling consultant experienced in evaluating mixing of a wastewater effluent in a shallow marine environment.

In summary, the potential exists to construct an ocean outfall off the Ventura Coast. The above steps will help to further define the location, cost and construction option most advantageous to the City of Ventura.

References

- Calleguas Municipal Water District. 2007. Draft Supplemental Environmental Impact Report/ Environmental Assessment for the Regional Salinity Management Project - Hueneme Outfall Replacement Project. August.
- Fugro West, Inc. 2006. Draft Calleguas Municipal Water District Site Characterization Study Proposed Port Hueneme Ocean Outfall Project, Port Hueneme, California, March – April 2006. Prepared for Black & Veatch. May.
- J.A. Warrick et al. 2004. Continental Shelf Research, pps. 2029 – 2043. *A Conceptual Model for River Water and Sediment Dispersal in the Santa Barbara Channel, California*. Available online at: www.sciencedirect.com
- Kennedy/Jenks Consultants. 2006. *Technical Memorandum No. 1 – Service Area, Land Use, Design Criteria, Return-to-Sewer Ratios, Peaking Factors, Basic Assumptions and Wastewater Flows, City of San Buenaventura Wastewater Master Plan*. 27 July.
- Staal, Gardner & Dunne Inc. 1994. Desalination Project Feasibility Study, Onshore Production and Disposal Options for Saline Ground Water Ventura, California, Volumes I and II, Promenade Park Site. January.

Appendix I

Brown & Caldwell's Preliminary Design Report
for the North Bank Lift Station

CITY OF SAN BUENAVENTURA

PREDESIGN REPORT FOR NORTH BANK LIFT STATION

October 2001

Prepared by:

B R O W N A N D
C A L D W E L L
16735 Von Karman Avenue, Suite 200
Irvine, California 92606-4953

CONTENTS

LIST OF TABLES	ii
LIST OF FIGURES.....	ii
CHAPTER 1 RECOMMENDED PROJECT.....	1-1
CHAPTER 2 BACKGROUND AND DESIGN FLOWS.....	2-1
Background	2-1
Design Flows	2-2
CHAPTER 3 PUMPING STATION CONFIGURATION	3-1
Pumping Station Design Alternatives	3-1
Option 1 - Submersible Pumping Station.....	3-1
Option 2 – Dry Pit Submersible Pumping Station.....	3-1
Option 3 – Column Type Solids Handling Pumping Station	3-1
Option 4 – Dry Pit/Wet Pit Pumping Station	3-4
Advantages and Disadvantages of Pumping Options	3-4
Option 1 – Submersible Pumping Station	3-4
Option 2 – Dry Pit Submersible Pumping Station.....	3-4
Option 3 – Column Type Solids Handling Pumping Station	3-6
Option 4 – Dry Pit/Wet Pit Pumping Station	3-6
Recommended Option.....	3-7
Pumping Station Location	3-7
Pump Selection.....	3-7
Pumping Station Wet Well.....	3-7
Pump Control Strategy.....	3-8
CHAPTER 4 AUXILLIARY PROCESSES.....	4-1
Odor Control.....	4-1
Power Supply.....	4-1
Standby Generator	4-1
Coordination with Existing Facilities	4-2
Modifications to Existing Pumping Station.....	4-2
Influent Sewer	4-2
Architecture.....	4-2
Landscaping	4-2

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 5 DESIGN CRITERIA	5-1
CHAPTER 6 SCHEDULE AND COSTS	6-1
Project Costs	6-1
Project Schedule	6-2
APPENDIX A. SYSTEM CURVES AND CALCULATIONS	
APPENDIX B. PRELIMINARY LAYOUT DRAWINGS	
APPENDIX C. COST ESTIMATE	
APPENDIX D. LIST OF VTSH PUMP INSTALLATIONS AND NAMES	
APPENDIX E. ARCHITECTURAL VIEWS	

TABLES

<u>No.</u>		<u>Page</u>
2-1	Projected Flows at New North Bank Lift Station.....	2-2
5-1	Lift Station Design Data	5-1
6-1	Estimated Construction Cost	6-1
6-2	Design Contingency.....	6-1

FIGURES

<u>No.</u>		<u>Page</u>
3-1	Submersible Pumping Stations.....	3-2
3-2	Dry Pit Pumping Station	3-2
3-3	Column Type Solids Handling Pumping Station.....	3-3
3-4	Dry Pit/Wet Pit Pumping Station	3-5
6-1	Project Schedule	6-3

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 1 RECOMMENDED PROJECT

The recommended project is summarized below, additional details can be found in the applicable report chapters. Estimated construction cost for the project is \$1.65 million.

- Ultimate station capacity of 3035 gpm (4.4 mgd) with initial average flow of 300 gpm (0.43 mgd)
- Dry pit/wet pit pumping station to provide reliability, ease of maintenance, and increased safety
- Vertical non-clog centrifugal pumps with extended shafts to motors located at a middle level
- Ultimate arrangement of four pumps with variable frequency drives, each with a rated capacity of 1,040 gpm (1.5 mgd)
- Trench-type wet well to reduce odors and reduce capital and maintenance costs
- Power supply from PG&E with standby diesel generator
- MCC room located at ground level, over the pumping station
- Odor control with type to be determined after field testing
- Architectural style to be residential to match surrounding area
- Landscaping to match the surrounding area and soften the visual impact of the station

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 2 BACKGROUND AND DESIGN FLOWS

In August 2001, the City of San Buenaventura retained Brown and Caldwell to prepare contract drawings and specifications for the construction of a new North Bank Lift Station. On August 30, 2001, the City and Brown and Caldwell met to kick-off this project and to brainstorm the design features Brown and Caldwell should provide in the North Bank Lift Station facility. In the brainstorming session, the City directed Brown and Caldwell to further evaluate the following pumping station parameters prior to proceeding with final design:

- alternate pump types and related arrangement plans;
- lift station power supply and emergency power;

This Report presents the findings of our evaluations conducted since the brainstorming meeting, and identifies our recommendations for the design of the North Bank Lift Station. This Report is intended to serve as the Basis of Design for the North Bank Lift Station. Upon acceptance of the Report recommendations, Brown and Caldwell will immediately proceed with the preparation of drawings and specifications for this project.

Background

The existing North Bank Lift Station was installed as a temporary means of sewer service. The station is located in the southwest corner of Tract 4395 along North Bank Drive. The need for upgrading the North Bank Lift Station was identified in the City's East Ventura Sanitary Collector Study, dated August 1995 (Collector Study). In the report, the impact of future projects on the City's collection and treatment systems is assessed. The report concluded that the existing North Bank Lift Station will not have the capacity needed for the additional wastewater flow that will be discharged to the station from future developments identified in the comprehensive plan development scenario.

Based on the findings presented in the Collector Study, the City made the decision to replace the existing North Bank Lift Station to handle future wastewater flows projected through the year 2040. The City further made the decision to construct these needed improvements in the year 2002. In support of the City's decision to construct the needed improvements, the City requested proposals for engineering design services for the new North Bank Lift Station. In July 2001, the City selected Brown and Caldwell to provide the needed engineering services. In August 2001, the City contracted with Brown and Caldwell to provide contract documents for the construction of the new North Bank Lift Station.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Design Flows

The Collector Study recommended that wastewater flow from the Wells Road Lift Station, Topaz Ave Lift Station, Harper Drive Lift Station, and Saticoy Wastewater Treatment Plant be routed to the new North Bank Lift Station. The capacity of the existing North Bank Lift Station is 0.83 mgd (576 gpm). Based on the Collector Study, the peak design flow will be 4.4 mgd (3035 gpm) by 2040. Table 2-1 provides projected flows at the location of the New North Bank Lift Station. Existing flows are based on City personnel estimates. Ratios of 2:1 and 1.5:1 were used for peak to average flows and for average to minimum flows, respectively.

Table 2-1. Projected Flows at New North Bank Lift Station

Year	Min Flow gpm (mgd)	Avg Flow gpm (mgd)	Peak Flow gpm (mgd)	Direction of Flow
2002	200 (0.29)	300 (0.43)	600 (0.87)	Flows from only North Bank Lift Station
2005	495 (0.71)	740 (1.07)	1485 (2.15)	Flows from North Bank & Wells Road Lift Stations
2040	1012 (1.46)	1518 (2.2)	3035 (4.4)	Flows from North Bank, Wells Road, Topaz, & Harper Lift Stations & Saticoy Wastewater Treatment Plant

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 3 PUMPING STATION CONFIGURATION

In the August 30, 2001 brainstorming meeting, it was agreed that the new pumping station should be designed to provide:

- easy operation and maintenance
- easy access to pumping equipment
- pumping even in flooded conditions
- variable frequency drives
- standby power

To satisfy these conditions several pumping station arrangements and pump types were discussed. It was concluded that more evaluation was required prior to selecting the pump type and arrangement for final design.

Pumping Station Design Alternatives

At the request of the City, Brown and Caldwell considered four pumping arrangement plans for this application. The alternates considered are listed below, followed by a brief description of each:

- Option 1 – Submersible Pumping Station
- Option 2 – Dry Pit Submersible Pumping Station
- Option 3 – Column Type Solids Handling Pumping Station
- Option 4 – Dry Pit/Wet Pit Pumping Station

Option 1 – Submersible Pumping Station. For Option 1, as shown in Figure 3-1, submersible pumps would be located in a larger wet pit or wet well. An above grade structure would be provided to house the VFDs, MCCs and a standby generator. Each pump would be provided with a guide rail system that would allow the pump to be raised to grade level by a lifting chain and lowered by gravity.

Option 2 – Dry Pit Submersible Pumping Station. For option 2, as shown in Figure 3-2, dry pit submersible type pumps would be located in a dry pit and the pumps would draw suction from a wet pit. Separate stairs would be provided to the dry pit pump area. VFDs, MCCs and an emergency generator would be provided and located in an above grade structure. The dry pit equipment area would be provided with lighting and ventilation systems.

Option 3 – Column Type Solids Handling Pumping Station. For Option 3, Vertical Turbine Solids Handling (VTSH) pumps were considered. As shown in Figure 3-3 the pumps and motors would be located outdoors with the motors and pump discharge at grade. Each pump's column, housing shaft, impeller, and suction, would extend down into the wet pit area. An above grade structure would be provided to house the VFDs, MCCs, and an emergency generator.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

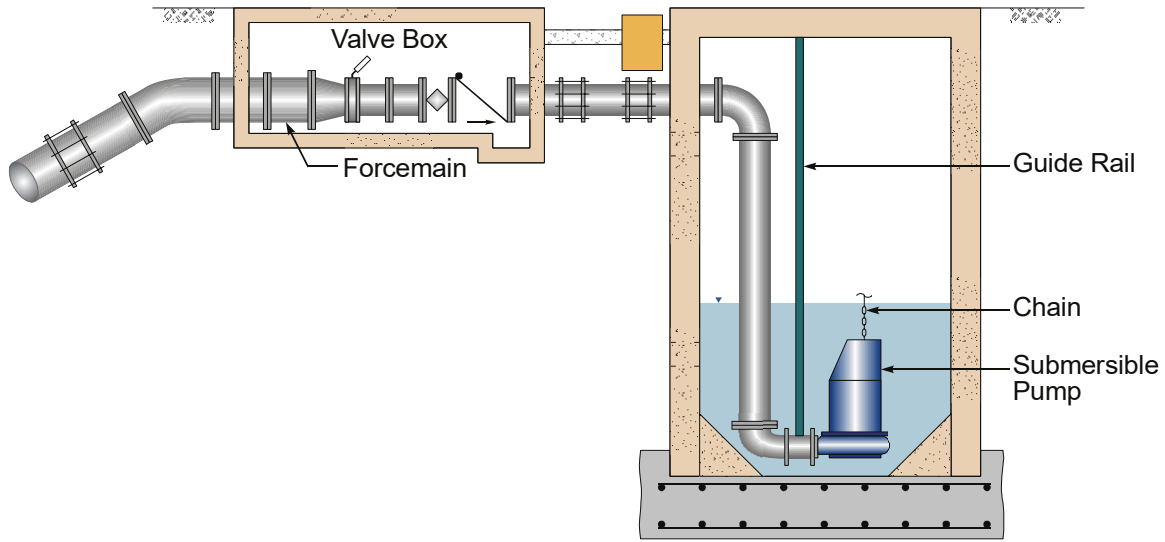


Figure 3-1. Submersible Pumping Stations

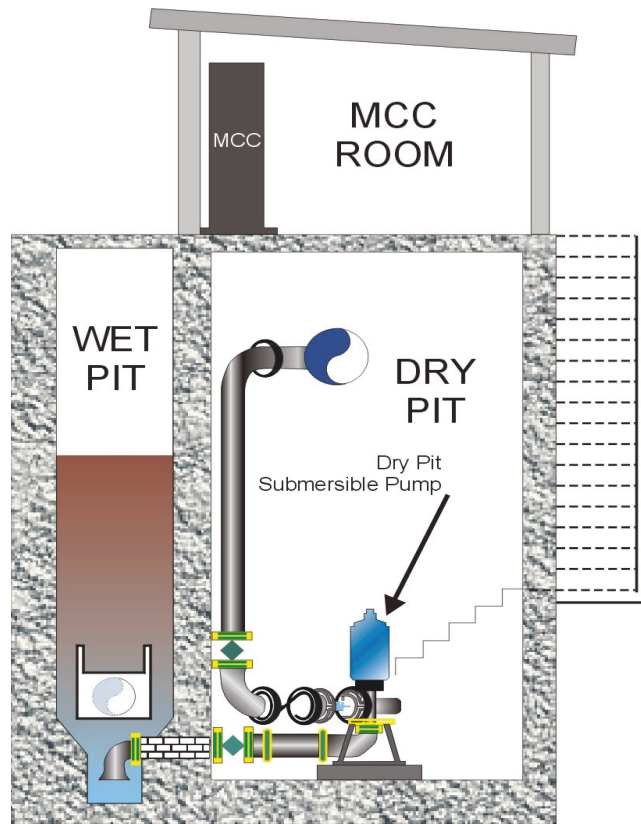


Figure 3-2. Dry Pit Pumping Station

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

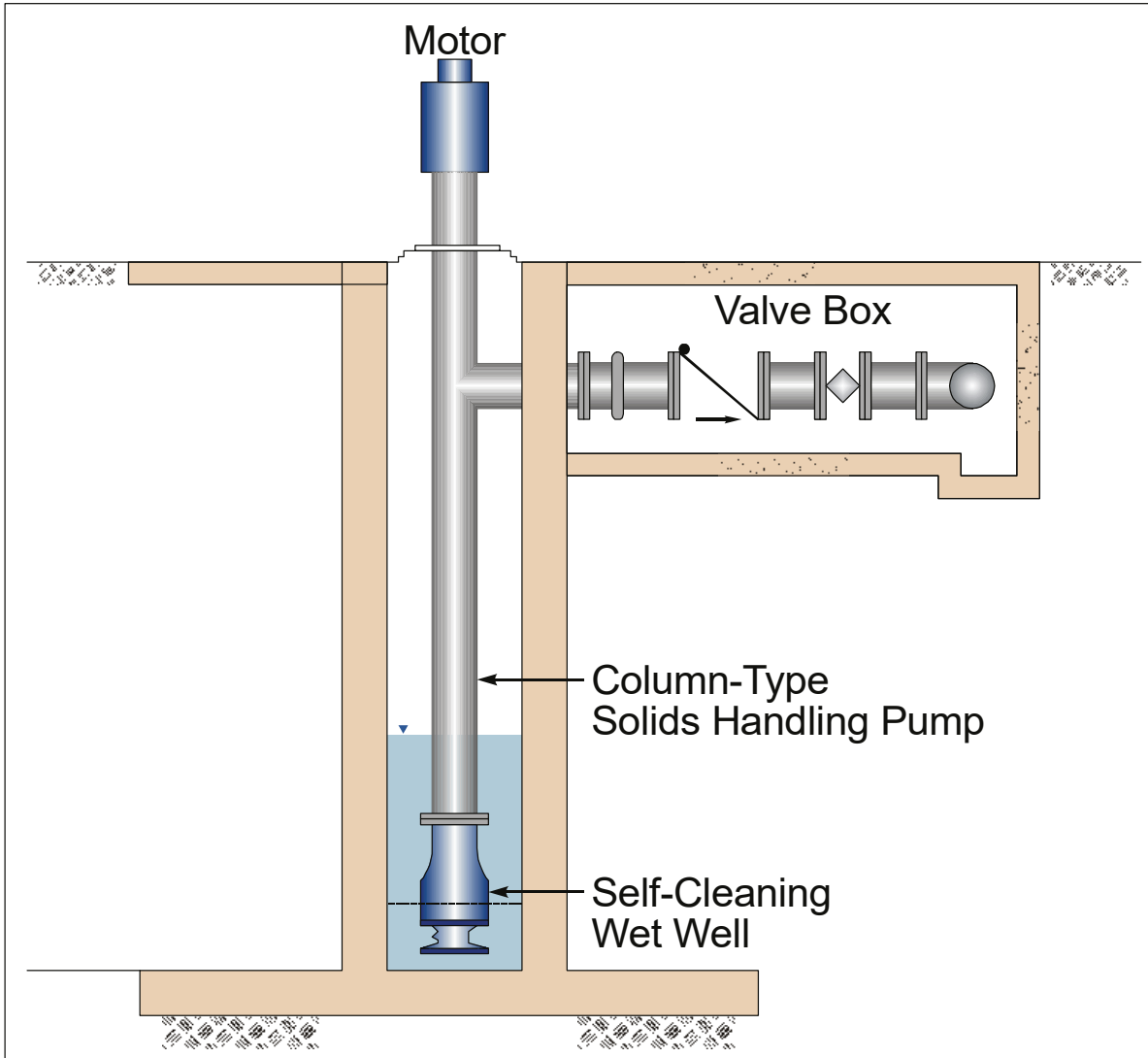


Figure 3-3. Column Type Solids Handling Pumping Station

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Option 4 – Dry Pit/Wet Pit Pumping Station. For Option 4, as shown in Figure 3-4, non-clog centrifugal vertical pumps would be located in a dry pit and the pumps would draw suction from the wet pit. Pumps would be provided with an extended shaft so the motors can be located at a level above the pumps. Separate stairs would be provided to access the motor room and dry pit pump area. VFDs, MCCs and a standby generator would be provided and located in an above grade structure. The dry pit equipment area would be provided with lighting and ventilation systems.

Advantages and Disadvantages of Pumping Options

The major advantages and disadvantages of each pumping station alternative for this application were identified. Equipment manufacturers were contacted and preliminary equipment was selected. Highlights of the evaluation are summarized below:

Option 1 – Submersible Pumping Station. A submersible pumping station features pumping equipment that will work under submersible conditions. In this arrangement the pumps are located in the wet pit area. This arrangement eliminates the need for a dry pit area, and offers lower construction cost.

The major disadvantage of a submersible pumping station is that it requires significantly more effort to perform preventative maintenance. Unlike the other three options, access to the pump motors and equipment is difficult, potentially making the pumping system less reliable. Operation and maintenance personnel need to lift the pumps to grade to perform maintenance procedures. According to the manufacturer of the submersible pumping equipment, each pump needs maintenance work at least every six months. This pumping station will be one of the City's largest and it should be highly reliable and easily maintained. Brown and Caldwell does not recommend a submersible pumping station for this application. It was agreed in the brainstorming meeting not to further consider a submersible pumping station arrangement for the new North Bank Lift Station.

Option 2 – Dry Pit Submersible Pumping Station. A dry pit submersible pumping station features pumping equipment that will work under submersible conditions in case the dry pit becomes flooded. Locating submersible pumps in a dry pit area encourages easy operation and maintenance. The pumps are located in a dry pit area below grade and draw suction from an adjacent wet well. Access to pump equipment is convenient, which facilitates preventative maintenance. Pump parts are easily accessible to perform preventative maintenance, troubleshoot, and make repairs.

Three submersible pump manufacturers, Flygt, ABS, and Fairbanks Morse, currently build pumps suitable for this application. The pumps include a jacket of circulating cooling fluid that surrounds the pump motor. Manufacturers may use a hydraulic fluid, potable water, and even the pumped fluid itself as cooling liquid. Hydraulic fluid requires occasional replacement and a separate pumping system is used to circulate the liquid. Potable water (City water) systems use a continuous supply, which is not recirculated, leading to high water use. Systems that use the pumped liquid (wastewater) for cooling utilize a unique, self-cleaning, rotating flow-control disc which prevents solids from entering and accumulating in the mechanical seal area and cooling water jacket; this results in a longer mechanical seal life as well as a clean cooling system, greatly increasing pump life.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

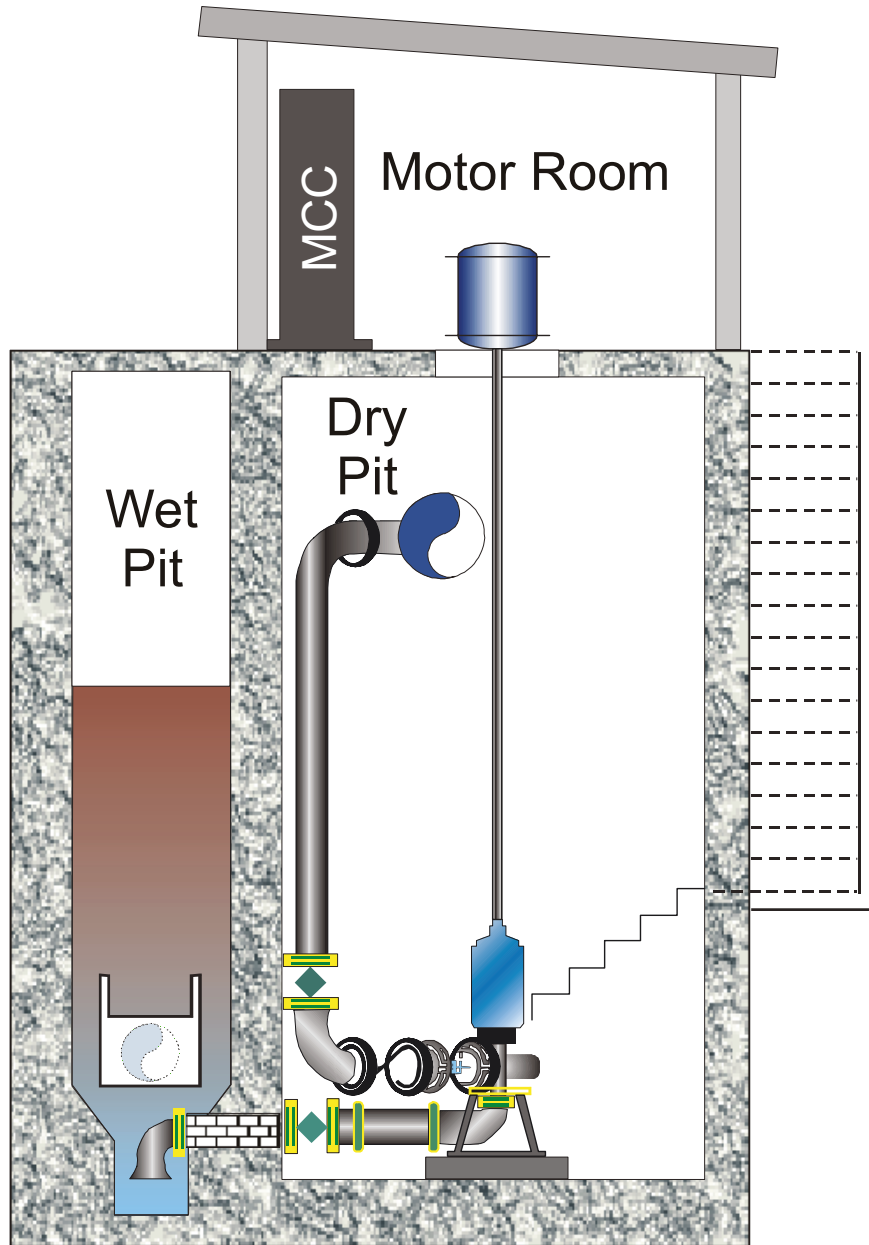


Figure 3-4. Dry Pit/Wet Pit Pumping Station

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

The major advantages of this pumping station style are that it increases operator safety, simplifies routine maintenance procedures, allows for a self-cleaning wet well and smaller future odor control system, and is highly reliable.

There are several disadvantages when selecting this pump style and pump arrangement plan. The major disadvantage is the higher costs incurred in the construction of a dry pit equipment area. Another disadvantage is the concern the City has about increased maintenance costs due to cleaning and fluid change out. Any plugging will result in major repair costs. There have been mixed testimonials from actual pump users. Due to these reasons, we do not consider the Dry Pit Submersible Pumping Station as the best choice for this important lift station.

Option 3 – Column Type Solids Handling Pumping Station. Column type solids handling pumping stations feature pump motors and discharges located above grade allowing for easy access for preventative maintenance. This type of pump has been developed as an alternate to centrifugal dry pit pumps and submersible pumps. The pumps have higher pump efficiency than standard centrifugal pumps and submersible pumps. Higher pump efficiencies can potentially lower annual electrical costs. The likelihood of pumps being out of service due to flooding is remote since motors are not located in an underground dry pit room. There is no need to construct an underground dry pit area, reducing construction costs.

Typically this type of pumping station provides the most reliable pumping system and easiest to operate and maintain. Considering the North Bank Lift Station is the largest pumping station in the City's collection system, we believe the City should select the pumping station arrangement that will be easiest to operate and maintain. However VTSH pumps are not available in sizes that fit this application due to expected low flows and high discharge pressure required.

The City requested that Brown and Caldwell provide background information on VTSH pumps and a list of installations and names of individuals the City could contact to discuss the success and shortcomings of VTSH pumps, as well as their operation and maintenance requirements. Information collected is included in Appendix D.

Option 4 – Dry Pit/Wet Pit Pumping Station. A dry pit/wet pit pumping station features pumps in a below grade room with their suction extending through a wall into the wet well. This arrangement allows for easy access to the pumps for maintenance. Pumps would be provided with an extended shaft so the motors can be located at above flood level. Although close coupled pumps may be less expensive initially, having the motor separated from the pumps allows easier maintenance of the equipment and keeps the motors above water level of the wet well in the remote chance of flooding of the dry pit. The pumps would be non-clog centrifugal vertical pumps. VFDs, MCCs and an emergency generator would be provided and located in an above grade structure. The dry pit equipment area would be provided with lighting and ventilation systems.

The major advantages of this pumping station style are that it increases operator safety, simplifies routine maintenance procedures, allows for a self-cleaning wet well and smaller future odor control system, and is highly reliable.

The major disadvantage is the higher costs incurred in the construction of a dry pit equipment area compared to Option 3. But VTSH pumps are not available in sizes to fit this application.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Recommended Option

Option 4 the dry pit/wet pit pumping station, is the recommended configuration. It provided high reliability, ease of operation and maintenance.

Pumping Station Location

The existing North Bank Lift Station is located in the southwest corner of Tract 4395. The new lift station will be located about 1000 ft west of the existing station on the opposite side of the Sudden Barranca. Brown and Caldwell recommends that the new pumping station be located as shown on drawings in Appendix B. Brown and Caldwell also recommend that fencing topped with barbed wire should be considered for security.

Pump Selection

Brown and Caldwell recommends that the North Bank Lift Station be designed to pump a peak flow of 3,035 gpm (4.4 mgd). Four pumps should be installed, where three pumps will be duty pumps, and one pump will be standby. This will provide smaller capacity pumps that meet the initial low flow conditions. Under reduced speed operation each pump should have a maximum capacity of 1,040 gpm (1.5 mgd) at a TDH of 95 feet.

Considering the flow range, we recommend four variable speed pumps, each with a rated capacity of 1040 gpm (1.5 mgd). To reduce the initial capital cost of the project, we recommend installing only three pumps at this time, providing flow of 3 mgd with one pump as the standby. Two pumps will be able to pump the expected year 2005 peak flow of 1485 (2.15 mgd). The facilities will be designed to allow easy addition of a fourth pump in the future to achieve the 3035 gpm (4.4 mgd) maximum flow and retain one standby pump.

Preliminary pump selection for this application is 6-inch non-clog centrifugal pumps with 60 horsepower motors, operated at 1180 rpm. Preliminary system head curves and calculations are presented in Appendix A. Selection details will be confirmed during detail design.

The recommended plan arrangement for final design is provided in Appendix B. Flexibility will be provided in the pump layout that will allow operations to directly pump from the wet well to the force main using portable pumps in the event of catastrophic failure.

Pumping Station Wet Well

We propose using a trench-type wet well as described in the Hydraulic Institute Standards, Section 9.8.3.2. As the name implies, the wet well will be long and narrow with the wastewater entering at one end. Using the variable speed capability of the drives, the speed of the pumps would be changed to match the flow-depth relationship of the incoming sewage. This eliminates all influent turbulence, thus minimizing the release of hydrogen sulfide and other gasses. This type of wet well also allows the wet well to be easily cleaned. During the cleanup cycle, only the end pump is operated, at a flow greater than the influent flow. This allows the level of the wet well to drop and cause a hydraulic jump to form in the wet well, resuspending any solids and cleaning the wet well. The primary advantages of the trench-type wet well are:

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

- reduction in capital costs due to a smaller wet well,
- increase in personnel safety due to a reduction in toxic and corrosive gases released by eliminating turbulence of the wastewater,
- reduction in foul air treatment cost due to a smaller wet well, and
- reduction in maintenance costs due to elimination of extensive wet well cleaning.

Pump Control Strategy

The pumps will be sequenced on and off and their speeds varied to match the flow and level of incoming sewage in the pumping station wet well. Pump speed will be varied by using a variable frequency drive (VFD). Each VFD will be provided with a HAND-OFF-REMOTE selector switch and manual speed controls in case of PLC failure.

The pump lead-lag standby sequence will be selected at the host unit using a selector switch whose status is monitored by a PLC. The level signal from the wet well will be transmitted to the PLC based level controller as well as the host unit for backup monitoring. The operator will determine the level setpoints of the controller by input to the PLC. The level controller output will determine the common VFD speed. When the HOR switch on the VFD is in the R position, all operating VFDs will operate at the same speed. When the output of the level controller rises to a preset point, a start time delay sequence will be triggered. If the output of the controller remains above the trigger point until the timer times out, an additional pump will start. When the output of the level controller falls to a preset point, a stop time delay sequence will be triggered. If the output of the controller remains below the trigger point until the timer times out, a pump will shut down. Pumps will be shed based on the first one on, last one off, until the sequence is changed by the Lead-Lag-Standby selector switch.

Normally a maximum of three pumps will run at a time. If the standby pump is needed, an alarm will be activated. Operators will also be able to start and stop the pumps and set pump speed manually from the host unit.

VFD fault will be indicated at the VFD and will be input to the PLC. A fault condition will shut down the pump motor until the condition has been cleared, and the reset button at the VFD has been depressed.

Motor running status and Hand-Off-Remote mode status will be indicated at the VFD and input to the PLC.

The pumps will not run in any mode when the Lockout Stop pushbutton located near the pump is depressed.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

A seal water valve will open whenever the associated pump runs. The valve will open on loss of power (fail-open). If the seal water pressure does not rise to a preset value within a short time after the pump starts, an alarm will sound at the host.

Alarms will be provided for wet well low level, wet well high level, VFD fault, pump high motor temperature, pump low seal water pressure, for standby pump running, power failure, for loss of communication with host unit, and for dry well flooded. Alarms will be transmitted back to the main treatment plant using radio transmission to match the existing system.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 4 AUXILLIARY PROCESSES

This chapter presents various auxiliary processes: odor control, power supply, standby generator, coordination with existing facilities, architecture, and landscaping.

Odor Control

At the time of this writing, the City is performing sulfide testing at the North Bank and Wells Road lift stations. Based on the results of this testing, the extent of odor control will be determined. Types of odor control to be considered will be a small soil-type biofilter or a packaged activated carbon scrubber. Both these are reliable and low maintenance systems. Preliminary evaluation indicates that (a biofilter will be adequate due to reasonable low levels of sulfides)(the carbon will be needed due to high sulfides) in the wastewater.

Power Supply

The existing North Bank Lift Station is powered by a secondary power source serviced by Pacific Gas and Electric. The new station will continue to use this power source. As shown on the drawings in Appendix B, in the recommended project, pump motor controls, and VFDs will be located in the MCC Room directly above the motor room.

Standby Generator

The recommended project will be designed with standby power. Our calculations found that a 230 kW generator is required to provide emergency power to start and operate three 60 hp pump motors with VFDs and other pump station loads. The recommended generator is Caterpillar 3306. A 500-gallon fuel tank, which provides fuel for 28 hours of full-load operation, will be provided with the generator. The fuel tank requires a 36-inch deep base. Any fuel storage more than 120 gallons will change the classification of the building to "H" rating that requires fire sprinklers in the generator room. Alternatively, a 500-gallon tank can be provided outside the building either as an above ground concrete tank or a below ground fiberglass tank. The emergency generator will be located in a separate room as shown on the drawings in Appendix B.

As shown on the drawings in Appendix B, in the recommended project, pump motor controls, and VFDs will be located in the MCC Room.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Coordination with Existing Facilities

Modifications to Existing Pumping Station. For the recommended project, the existing North Bank Lift Station must remain in service while the new pumping station is constructed. Upon start-up of the new facilities, the existing pumping station should be taken out of service.

Influent Sewer. Flow will be conveyed by gravity from the existing North Bank Lift Station to the new North Bank Lift Station through 450 feet of 21-inch diameter pipe. The pipe is not presently in the project scope. Brown and Caldwell will provide 20 feet of pipe upstream of the station to ensure proper flow conditions entering the wet well.

Architecture

In the brainstorming meeting, the City requested that Brown and Caldwell use architecture that blends in with the houses planned in the area. Brown and Caldwell recommends that the MCC room, Generator room, and stairway access buildings be designed in a style similar to the houses in the area. Architectural views of the recommended above grade structures are presented in Appendix E. Features include:

- Stucco exterior (over concrete block)
- Concrete tile on sloped roof
- Generator exhaust to look like chimney
- Rollup door to be residential garage door type

Landscaping

Landscaping will be provided to screen the facility from North Bank Drive. Landscaping will give the facility the look of a park. Plants will be selected to match plants in the surrounding area.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 5 DESIGN CRITERIA

This chapter presents design data and criteria for key equipment and processes recommended for the new North Bank Lift Station. The criteria are presented in Table 5-1.

Table 5-1. Lift Station Design Data

Design Flows:	
Minimum	200 gpm (0.29 mgd)
Peak	3035 gpm (4.4 mgd)
Pumps:	
Number	4 (3 duty, 1 standby)
Type	Non-clog centrifugal
Speed	1180 rpm with VFDS
HP	60
Standby Generator:	
Number	1
Rating	230 ekW
Odor Control:	
HVAC Motor Wet Well Room	3000 cfm
Pump Room	30 air changes/hr

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

CHAPTER 6 SCHEDULE AND COSTS

This chapter presents the predesign estimated construction costs for the North Bank Lift Station, as well as the predesign estimated project schedule.

Project Costs

A preliminary construction cost has been developed using Brown and Caldwell's Cost Estimating Program. Details of the estimate are included in Appendix C. Costs include VFDs, MCCs, and an emergency generator located in an above grade room, and odor control equipment.

Table 6-1. Estimated Construction Cost

Item	Cost (\$1,000)
Lift Station	1,377
Design Contingency (25%)	273
Total	1,650

The cost estimate is based on 4th quarter 2001 dollars. The design phase contingency amounts are calculated based on the degree of completeness of the design and the level of the estimate (in this case, predesign level). A 25 percent design contingency has been included based on the following items and contingency percentages.

Table 6-2. Design Contingency

Item	Percentage (%)
Plot plans	3
P&Ids	2
Site conditions	7
Major equipment pricing	3
Layout details	3
Unlisted items	5
Labor resources	2
Total	25

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Project Schedule

The project schedule is presented on Figure 6-1. The schedule shows the duration, start and finish dates of key tasks.

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

Figure 6-1. Project Schedule

This is a draft report and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.

APPENDIX A

SYSTEM CURVES AND CALCULATIONS

APPENDIX B

PRELIMINARY LAYOUT DRAWINGS

APPENDIX C
COST ESTIMATE

APPENDIX D

VTSH PUMP INSTALLATIONS

VTSH Pump Installations

Customer	Impeller size, inch	Service	Number	Flow gpm	TDH Feet	Hp	RPM	Year	Contact	Telephone	Comments
New Orleans, LA.	16	Raw Sewage	3	3,800	50	60	1180	1981	K. Styles	504-585-2420	Unscreened Sewage
Kenner, LA.	20	Raw Sewage	3	10,600	57	200	860	1984	A. Abade	504-468-7282	Unscreened Sewage
Carthage, MO	10	Raw Sewage	3	2,100	22	25	1180	1985	B. Trent	417-358-5904	
Ames, IA	16	Raw Sewage	6	5,500	63	125	1180	1987	J. Ringlestein	515-232-7423	
Mamaroneck, NY	24	Raw Sewage	5	16,500	58	300	705	1989	J. Onel	914-698-2645	Unscreened Sewage
Tolleson, AZ	24	Raw Sewage	3	14,583	7	50	440	1989	S. Schreth	602-936-3381	Unscreened Sewage
San Luis Obispo, CA	24	Raw Sewage	2	15,277	13	75	585	1991	D. Marks	805-781-7243	
San Luis Obispo, CA	10	Return Sludge	4	1,500	16	10	1175	1991	D. Marks	805-781-7243	
Scheffield, HI	10	Return Sludge	2	1,425	17	7.5	1175	1990	M. Verhoeve	606-656-2627	
San Leandro, CA	10/16	Bio Filter	2	3,500	40	75	1175	1992	B. Howard	510-577-3435	
Eastern Muni	16	Mixed Liquor	8	5,800	8	40	900	1992	C. Jones	909-765-1344	
Port Angeles, WA	16	Bio Feed	2	4,200	45	75	900	1993	M. Robertson	206-457-0411	
Turlock, CA	16	Return Sludge	2	4,000	40	75	900	1995	S. St John	209-668-5375	
Jefferson Parish	20	Raw Sewage	3	8,000	50	300	900	1994	R. Bordelons	504-349-5167	Unscreened Sewage
Boise, ID Landers St.	20	Raw Sewage	2	8,000	35	150	900	1995	B. Kreske	208-384-4261	Unscreened Sewage
Central Valley Rec.	30	Bio Feed	3	25,000	40	450	514	1996	R. Roberts	801-973-9100	
International Boundary	24	Raw Sewage	53	18,000	45	300	585	1995	T. Solo	-	

APPENDIX E
ARCHITECTURAL VIEWS

Appendix J

Seaside Transfer Station Force Main Condition Assessment Report



CITY OF VENTURA

Sanitation Division



Seaside Transfer Station Force Main

CONDITION ASSESSMENT REPORT

Prepared by

Mimiaga **E**ngineering **G**roup

August 2007

Table of Contents

<u>Tab#</u>	<u>Description</u>
1.	Executive Summary
2.	Existing As-Built Record Drawings
3.	Photographic Pipe Alignment Mapping
4.	STS Force Main Repair and Maintenance Log
5.	STS Condition Assessment Inspection Log
6.	Existing Condition Assessment (Narrative)
7.	Risk Management Failure Analysis
8.	Air-Vac Assembly Impact Analysis
9.	Pipe Line Materials and Appurtenances Index
10.	Recommended Repair and Rehabilitation Projects

Item No. 1 - Executive Summary

The purpose of this report is to provide comprehensive information relative to the existing **SEASIDE TRANSFER STATION (SEWER) FORCE MAIN**. The pipe alignment runs along the City's environmentally sensitive oceanfront between the Seaside Transfer Station and the Ventura Water Reclamation Facility. On average the force main carries more than 2 million gallons per day of raw sewage from the City's west side to the regional water reclamation facility near Ventura Harbor. The force main is an essential pipe line that cannot be shutdown for any significant amount of time without severe impacts. Pipeline ruptures have occurred in the past resulting in NPDES Permit violations and major expenditures of City resources in responding to the public health emergency. The City has commissioned this report as part of an effort to prevent future pipe line failures and permit violations.

General Condition Assessment

The 35 year old force main appears to be in surprisingly good condition along most of the alignment with only a few problem areas. The exterior of the pipe appears to be in very good condition in most of the potholed locations. The pipe line preservation appears to be attributable to polyethylene pipe wrap that was carefully and properly installed during the original construction. Ultrasonic metal thickness test results appear to confirm the pipeline's current integrity along the vast majority of the alignment.

Current High Risk Conditions

The segment of force main directly upstream of the Arundell Barranca appears to be severely corroded. This is the general vicinity of the two major pipeline ruptures that occurred previously due to corrosion failures. During recent potholing and pipeline inspections it was determined that this segment of pipe continues to be at risk of eminent failure. This determination is based on observed levels of exterior pipe corrosion and ultrasonic metal thickness test results. It is recommended that the City urgently replace a 500-ft segment of the existing 20" pipe from the Arundell Barranca to 500-ft north of the Barranca.

Potential Future Problem Areas

Exterior pipe surfaces appear to be severely corroded where the pipeline passes through five existing maintenance vaults. However, ultrasonic metal thickness test results appear to indicate that these locations are currently not at high risk of eminent failure.

Item No. 2 - Existing As-Built Record Drawings

The Seaside Transfer Station Force Main was constructed in four separate construction projects designed by Boyle Engineering. Four sets of as-built drawings have been re-compiled and combined into a single comprehensive as-built set encompassing the entire pipe alignment.

A printed full sized copy of the combined as-built drawing set is on file in Sanitation Division's plan archives located at 1400 Spinnaker Drive.

The existing as-built drawing packages were assembled as follows:

Boyle Engineering Plans dated 2/24/71

- From Seaside Transfer Station to Figueroa St.
- From California St. to San Pedro St.
- From Seaward Ave. to Arundell Barranca
- *From Arundell Barranca to Spinnaker Dr. (gravity sewer segment)*

Boyle Engineering Plans dated 1/21/71

- From Figueroa St. to California St.

Boyle Engineering Plans dated 9/23/70

- From San Pedro St. to near Seaward Ave.

Boyle Engineering Plans dated 1/21/71

- From near Seaward Ave. to Seaward Ave.

The above four as-built drawing sets have been combined and re-configured into a single drawing package which includes the entire continuous pipe alignment. The combined as-built drawings have been updated to include the following information obtained during potholing: (1) pipeline condition assessment data; (2) pipeline location relative to existing surface improvements; and (3) major and obvious changes to surface improvements occurring since the pipeline installation.

Attached herein are the following as-built drawing versions:

- Printed reduced size copy (8.5 x 11 paper)
- Compact disk PDF copy (Adobe Acrobat)

Item No. 3 - Photographic Pipe Alignment Mapping

The following pages contain photograph record of the alignment above the pipeline.

Photo	Station	Photo	Station	Photo	Station	Photo	Station	Photo	Station
1	10+00	2	10+50	3	12+00	4	15+00	5	16+00
6	16+00	7	21+00	8	22+00	9	24+00	10	25+00
11	27+00	12	29+00	13	30+00	14	30+00	15	31+00
16	31+50	17	32+00	18	33+50	19	31+00	20	33+00
21	34+00	22	36+00	23	35+00	24	37+00	25	36+00
26	37+00	27	39+00	28	38+00	29	38+50	30	39+00
31	39+00	32	44+00	33	45+00	34	45+50	35	46+00
36	46+00	37	46+50	38	46+50	39	48+50	40	48+50
41	50+00	42	50+00	43	51+00	44	51+50	45	56+00
46	55+00	47	56+00	48	56+00	49	57+00	50	57+00
51	58+00	52	58+00	53	58+50	54	59+00	55	59+50
56	60+00	57	60+00	58	60+00	59	61+00	60	63+00
61	66+00	62	66+00	63	73+00	64	69+00	65	67+00
66	68+00	67	60+00	68	71+00	69	73+00	70	75+00
71	77+00	72	79+00	73	80+00	74	80+00	75	81+00
76	81+00	77	85+00	78	85+00	79	84+00	80	83+00
81	90+00	82	92+00	83	96+00	84	99+00	85	102+00
86	105+00	87	108	88	112+00	89	115+00	90	117+00
91	119+00	92	121+00	93	125+00	94	130+00	95	135+00
96	138+00	97	141+00	98	141+00	99	144+00	100	149+00
101	156+00	102	160+00	103	163+00	104	166+00	105	168+00
106	170+00	107	177+00	108	177+50	109	178+00	110	178+50
111	182+00	112	183+00	113	187+00	114	187+00	115	191+00
116	186+00	117	195+00	118	196+00	119	192+00	120	194+00
121	203+00	122	209+00	123	209+50	124	210+	125	210+



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19



20



21



22



23



24



25



26



27



28



29



30



31



32



33



34



35



36



37



38



39



40



41



42



43



44



45



46



47



48



49



50



51



52



53



54



55



56



57



58



59



60



61



62



63



64



65



66



67



68



69



70



71



72



73



74



75



76



77



78



79



80



81



82



83



84



85



86



87



88



89



90



91



92



93



94



95



96



97



98



99



100



101



102



103



104



105



106



107



108



109



110



111



112



113



114



115



116



117



118



119



120



121



122



123



124



125

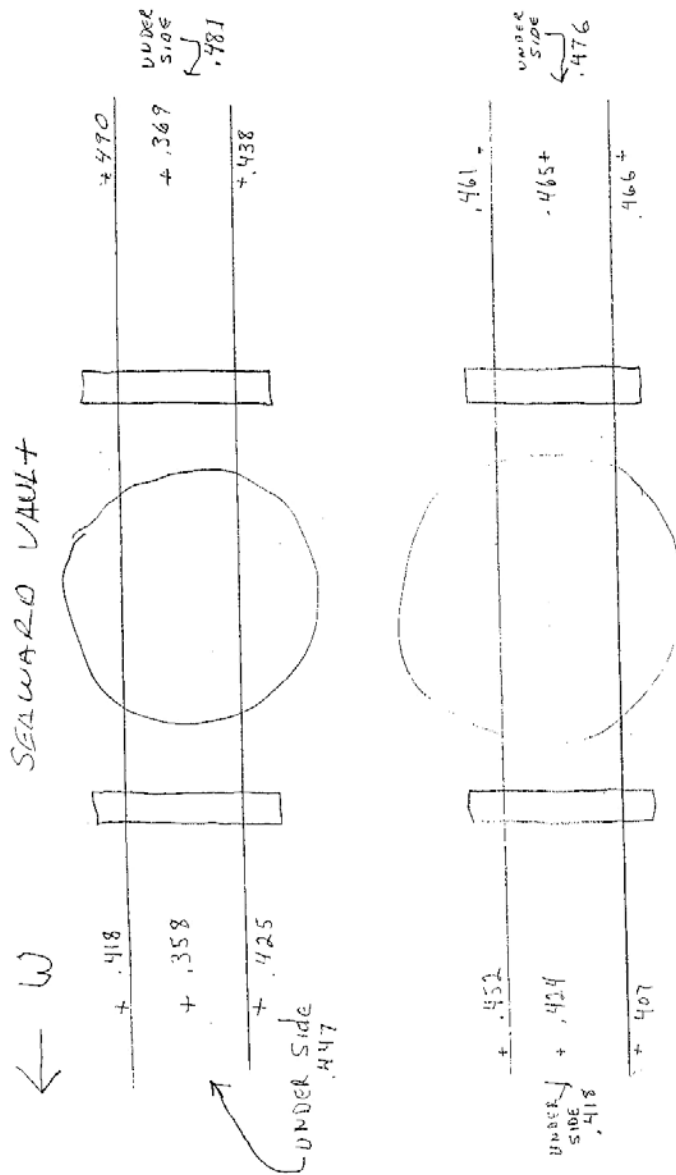
Item No. 4 – STS Force Main Repair and Maintenance Log

Station	Description	Date of Inspection	Pipe Wall Thickness Measured				Comments and Observations
			top	mid	mid	bottom	
32+00	Pothole excavation during adjacent pipeline installation for city of Ventura Beach Water Quality Project	11/1/06	na	na	na	na	Visqueen wrap still in place. Exterior of pipe in good condition. Original pipe coating in good condition. No ultrasonic testing performed. This location does not appear to be a concern.
60+00	Vault Inspection by City Sanitation Staff at Harbor and San Jon	4/21/92	na	na	na	na	City observed badly rusted pipe inside of vault. Vault was infiltrated with ground water. See photo included under this tab.
164+30	Pothole excavation performed by Sam Hill & Sons for inspection by city staff (Engineering & Sanitation)	2/20/97	0.442	0.446	0.433	na	Ultrasonic readings taken by City All reading are above 0.40.
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe.	9/29/97	0.440	na	na	na	Tapping core measured by City. Noted interior pipe lining is mortar. Reading are above 0.40.
166+30	Pothole excavation performed by Sam Hill & Sons for inspection by City staff (Engineering & Sanitation)	2/20/97	0.462	0.450	0.432	na	Ultrasonic readings taken by City All reading are above 0.40.
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe.	9/29/97	0.430	na	na	na	Tapping core measured by City. Noted interior pipe lining is mortar. Reading are above 0.40.
168+30	Pothole excavation performed by Sam Hill & Sons for inspection by City staff (Engineering & Sanitation)	2/20/97	0.437	0.467	0.437	na	Ultrasonic readings taken by City All reading are above 0.40.
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe.	9/29/97	0.430	na	na	na	Tapping core measured by City. Noted interior pipe lining is mortar. Reading are above 0.40.
170+30	Pothole excavation performed by Sam Hill & Sons for inspection by City staff. (Engineering & Sanitation)	2/20/97	0.474	0.461	0.500	na	Ultrasonic readings taken by City All reading are above 0.40.
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe.	9/29/97	0.464	na	na	na	Tapping core measured by City. Noted interior pipe lining is polyethylene. Reading are above 0.40.

STS Force Main Repair and Maintenance Log cont...

Station	Description	Date of Inspection	Pipe Wall Thickness Measured				Comments and Observations
			top	mid	mid	bottom	
172+30	Pothole excavation performed by Sam Hill & Sons for inspection by City staff (Engineering & Sanitation)	2/20/97	0.445	0.477	na	na	Ultrasonic readings taken by City all reading are above 0.40
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe	9/29/97	0.459	na	na	na	Tapping core measured by City. Noted interior pipe lining is polyethylene. Reading are above 0.40.
174+30	Pipe Rupture	Sept 2003	MAJOR PIPE RUPTURE				
174+30	Pipe Rupture	March 1996	PIPE RUPTURE				
175+00	Pothole excavation performed by Sam Hill & Sons for inspection by City staff (Engineering & Sanitation)	2/20/97	0.526	0.523	0.513	na	Ultrasonic readings taken by City All reading are above 0.50.
	Tapping Valve installation for visual inspection of tapping bore to evaluate interior pipe.	9/29/97	0.485	na	na	na	Tapping core measured by City. Noted interior pipe lining is polyethylene. Reading are above 0.40.
Notes 1	See attached field notes from previous vault inspections and ultrasonic pipe thickness testing performed by City Staff on 3/13/96.						
Notes 2	The original total pipe wall thickness is in inches is 0.578 DIP thickness is 0.390 and mortar thickness is 0.188.						

3-13-96 Inspection Notes



3-13-96 Inspection Notes

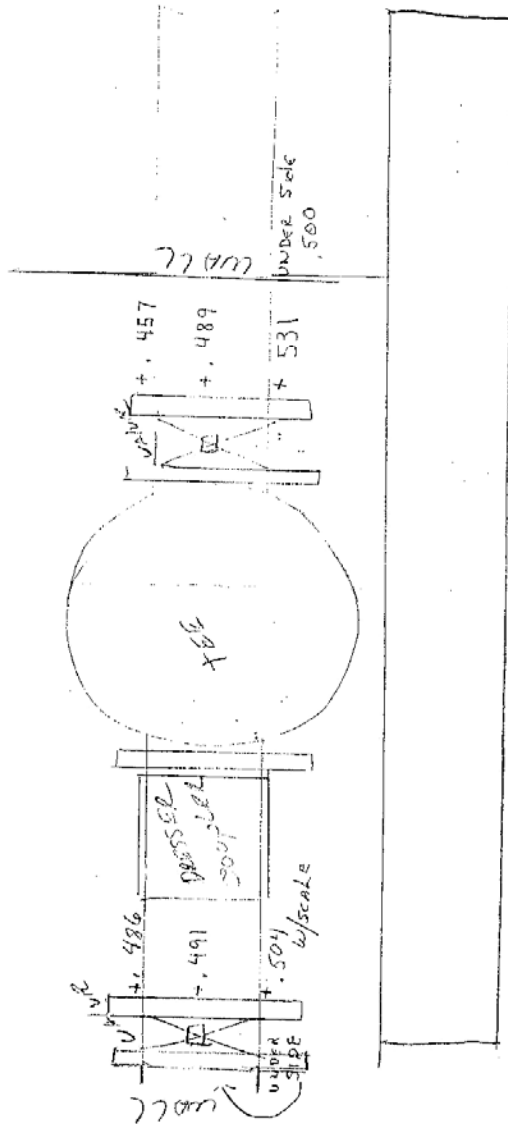
STATE BEACH UNIT
West →



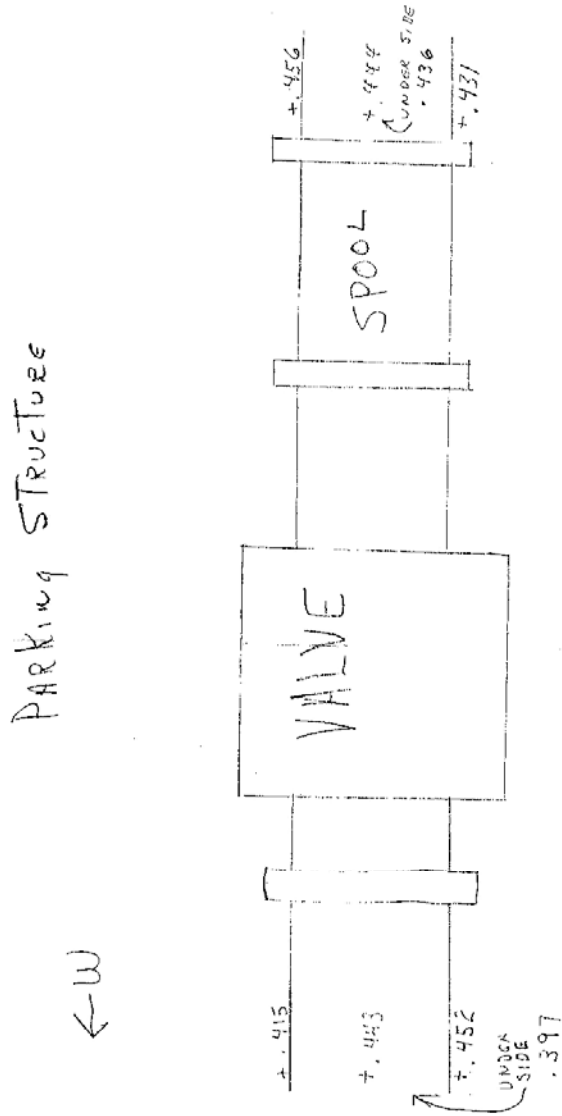
3-13-96 Inspection Notes

SAN JON

← W



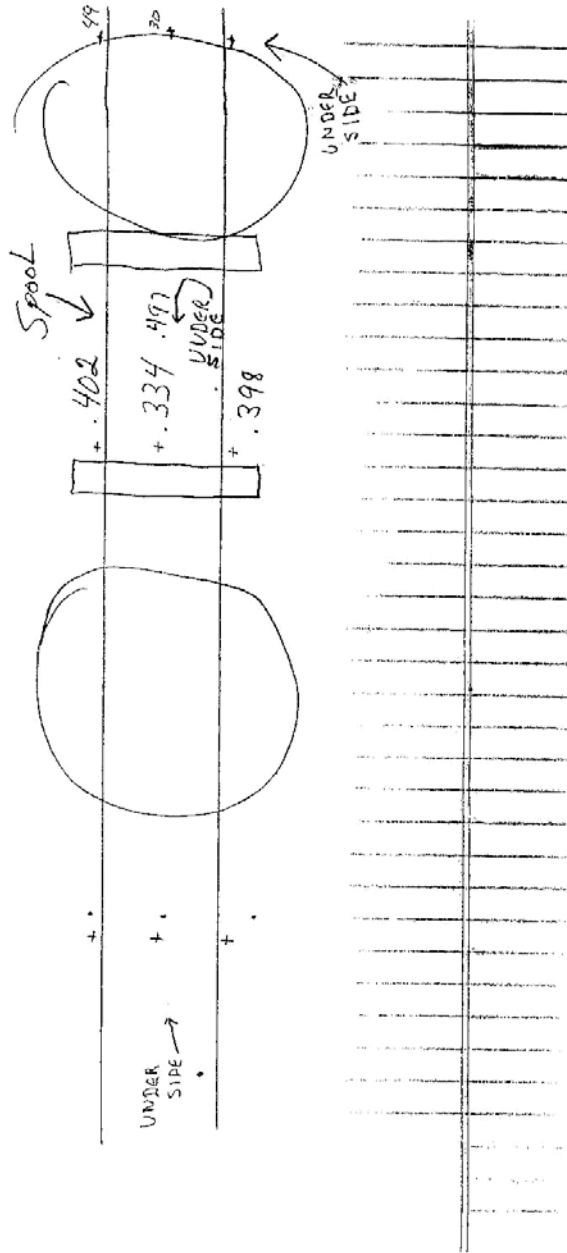
3-13-96 Inspection Notes



3-13-96 Inspection Notes

VAULT HARBOR +
PENINSULA

←N



CC : MANNY RAMIREZ

CITY OF SAN BUENAVENTURA
MEMORANDUM

DATE: November 7, 1996
TO: Dan Rayburn
FROM: Betsy Cooper, Associate Civil Engineer
SUBJECT: Seaside Transfer Station Force Main Repair

I am now the project engineer for the subject project. I met with Manny Ramirez last week and discussed the project in detail.

I am recommending that the first order of work be to pothole the existing pipeline, from the point of the failure upstream, and measure the pipes thickness at each pothole, so we can verify the limits of the repair work. The attached map shows the points that should be potholed.

Basically, I'm recommending that measurements be taken every 200 feet for a distance of 1000 feet. If the measurements indicate substantial pipe deterioration at 1000 feet, measurements should continue upstream until the condition is found to improve. It is also recommended that the line be potholed and measurements taken at one location downstream of the failure, just upstream of Arundell Barranca.

Since your staff would be responsible for taking the measurements, I was hoping they could take care of coordinating with Sam Hill, or another contractor, to have the potholing performed. I would like to have the information by early December if possible.

If you have any questions, please contact me at ext. 4756. Thanks for your help.

cc: Bob Zastrow
Manuel Ramirez

MANNY - FYI

Betsy

CITY OF SAN BUENAVENTURA
MEMORANDUM

DATE: February 26, 1997
TO: Dan Rayburn, Greg Morehead, Rick Raives, Bob Zastrow
FROM: Betsy Cooper, Associate Civil Engineer
SUBJECT: Seaside Force Main Repairs

BACKGROUND

In March of 1996, repairs were made to a section of the Seaside Force Main that had ruptured. The point of rupture occurred north of Arundell Barranca just upstream of the point in which the force main changes to a gravity main. A Capital Improvement Project, "Seaside Force Main Repairs", was later activated in order to analyze what additional repairs were necessary to protect the sewerline from future damage.

On February 13, 1997 the Sanitation Department, as requested by the Engineering Department, conducted a series of pipeline wall thickness measurements along the Seaside Force Main, upstream of Arundell Barranca. Sam Hill & Sons performed the potholing and Sanitation took the measurements. Measurements were taken at six locations. Five were located at 200-foot increments starting 200 feet upstream of the point of rupture. One was located approximately 70 feet downstream of the point of rupture. The results are summarized on the attached table.

ANALYSIS

It was originally envisioned that the project would consist of sliplining a portion of the existing mortar lined ductile iron pipe with polyethylene. The measurements were taken in order to define the limits of sliplining. However, measurements did not show the expected improvement of pipeline conditions as the measurements progressed upstream. The measurements indicated that approximately 60% to 80% of the mortar lining has deteriorated (the pipeline was constructed in 1971). The measurement taken downstream of the rupture surprisingly showed the least amount of deterioration. In addition, measurements previously taken by Sanitation at a vault at Harbor and Peninsula indicate that all the lining has deteriorated from the top of the pipe.

The point of rupture occurred at a high point in the pipeline, just before the pipeline steeply drops to cross under Arundell Barranca. This location was original designed with a maintenance station which contained an air release valve. Five other maintenance stations were originally designed along the force main. According the Manny Ramirez, the stations have never operated properly and are a constant maintenance problem. They fill up with water in the winter and the air release valves do not work.

FEB 26 1997

SANITATION DIV.

The rupture was obviously caused by the buildup of hydrogen sulfide. The long force main (approximately 3.5 miles) has little natural ventilation, and thus is deficient in oxygen which has led to sulfide production. The rate of release of hydrogen sulfide would be the greatest at points of high turbulence, as is the case at Arundell Barranca where the force main contains a steep vertical drop.

In analyzing the system it becomes apparent that only sliplining a portion of the pipe, without any modifications to reduce sulfide production, will not take care of future problems within other areas of the pipeline. In addition to sulfide production, the accumulation of air at high points of the pipeline, without any means of releasing it, decreases the capacity of the force main.

RECOMMENDATIONS

Without further analysis, I would recommend to slipline the pipeline with a polyethylene liner a distance of approximately 500 feet upstream of the rupture. This is the location that the pipeline was originally designed with polyethylene lining, instead of the mortar lining that was actually installed, and is the theoretical distance in which the pipeline could become unsealed during low flows. In addition, I would recommend redesigning the maintenance stations in order to maintain a sewage system that is not excessively deficient in oxygen. It is my understanding that air-relief valves on force mains do not typically function well, since they are likely to become clogged with grease. Some sort of manually controlled valves or vertical riser pipes may instead be installed in order to vent the pipeline. Other problems that are occurring, such as the stations filling up with water, should also be addressed, so that maintenance at these stations is minimized.

There may also be other economical solutions such as pumping air into the pipeline at the pump station or adding chemicals to the system. I understand that Sanitation has experimented with some of these ideas.

Since the measurements taken did not show an improvement in the condition of the pipeline, I recommend that, prior to spending any money improving the system, we contact Yosh Katsura (who originally designed that system) and have him prepare a small study. I think his expertise in this area would provide the most cost effective solution to correct the problems occurring in the force main. It was originally envisioned that the slipline repairs would occur during the summer of 1997. However, having a study performed and adding other improvements would most likely delay the project until the summer of 1998.

If you have any comments or questions, please contact me at ext. 4756. I plan to contact Dan Rayburn within the next week to discuss this memo. If you agree that we should have Yosh prepare a study, I will try to get a proposal from him prior to March 21st (my last day prior to maternity leave) and have another engineer oversee the study in my absence.

TABLE 1
 SEASIDE FORCE MAIN
 THICKNESS MEASUREMENT RESULTS

Station *	Measurements (inches)				Decrease in Mortar Lining (based on worst case)	
	Top	Westside	Eastside	Worst Case	Inches	% decrease
164+30	0.442	0.446	0.433	0.433	0.146	77%
166+30	0.462	0.450	0.432	0.432	0.146	78%
168+30	0.437	0.467	0.437	0.437	0.141	75%
170+30	0.474	0.461	0.500	0.461	0.117	62%
172+30	0.445	0.477	n/a	0.445	0.133	71%
174+30	Point of Rupture					
175+00	0.526	0.523	0.513	0.513	0.065	35%

* Stations are shown of City Plan Drawing No. 71-D-46.

Total Original Design Thickness (inches):

Thickness of Ductile Iron Pipe =	0.390
Min. Thickness of Mortar Lining =	0.188
Total Original Design Thickness =	<u>0.578</u>


- Notes: 1) Measurements taken on Feb. 20, 1997
 2) Accuracy of instrument per manufacturer is ± 0.003



CITY MEMORANDUM

RECEIVED

OCT 22 1997

DATE: October 22, 1997
TO: Greg Morehead, Utility Manager
FROM: Robert Du Boux, Assistant Engineer 
SUBJECT: Seaside Force Main Repair
Project Recommendations

BACKGROUND

The original scope of work for this project was to inspect and repair the damaged sections of the Seaside Force Main. The scope was later refined to slipline the existing 20" mortar lined ductile iron pipeline approximately 500 linear feet north of the Arundell Barranca with a polyethylene lining. To verify the length of the slipline, the thickness of the existing mortar-lined pipeline needed to be measured.

On February 13, 1997, San Hill and Sons performed the potholing while Sanitation performed the thickness measurements. These measurements were taken at six different locations. Five were located at 200-foot increments starting 200 feet upstream from the abandoned Maintenance Station and one was located approximately 70 downstream of the abandoned Maintenance Station. The length of the sliplining was to be based on the amount of deterioration of the mortar lining. The results are summarized on the attached Table 1.

It was later determined that the measurements taken using the Ultrasonic Thickness Gage measured the thickness of the DIP and not the mortar lining. Also, the gage was not calibrated correctly for the measurements taken. Therefore, the measurements taken were erroneous and were not used.

During a meeting on March 6, 1997, with Greg Morehead, Don Davis, Dick Simmons, Manny Ramirez, Bob Zastrow, Betsy Cooper and Robert Du Boux, it was agreed that the amount of deterioration of the mortar

lining still needed to be determined. The method to determine the amount of deterioration was as follows:

- Install tapping sleeves
- Install 6" valves
- Hot tap each location
- Remove the 6" diameter "cookie" and measure the thickness.

On September 29, 1997, Sam Hill and Sons began this work. The samples were taken at the same locations as the previous potholing plus an additional location was added near the Arundell Barranca. The result of this testing are outlined in the attached Table 2. The new sample located near the Arundell Barranca could not be taken because of the lack of room in the trench and unstable trench conditions.

RECOMMENDATIONS

I would recommend that the existing 20" DIP sewerline located north of the abandoned maintenance station not be sliplined at this time. This line is coated with a polyethylene coating for approximately 500 linear feet and is in good condition. Beyond the 500 linear feet north of the abandoned maintenance station, the 20" CIP sewerline is coated with a mortar lining. Three samples were taken of this mortar-coated line (#5-7). Unfortunately, Sanitation was only able to retrieve a small sample of the mortar lining (sample #5). Of the other samples, the mortar lining fell into the line while the contractor was hot tapping. Based on the condition of the mortar lining and the DIP, this section does not need to be lined at this time. But, due to some deterioration, it is recommended that the mortar-coated line be sliplined in approximately seven (7) years. Additional testing will be needed to determine the length of deteriorated pipe to be sliplined.

Cc.

Dan Rayburn
Brad Clark
Neil Cole
Susan Pan
Dick Simmons
Don Davis

TABLE 1
 SEASIDE FORCE MAIN
 THICKNESS MEASUREMENT RESULTS

Station *	Measurements (inches)				Decrease in Mortar Lining (based on worst case)	
	Top	Westside	Eastside	Worst Case	Inches	% decrease
164+30	0.442	0.446	0.433	0.433	0.146	77%
166+30	0.462	0.450	0.432	0.432	0.146	78%
168+30	0.437	0.467	0.437	0.437	0.141	75%
170+30	0.474	0.461	0.500	0.461	0.117	62%
172+30	0.445	0.477	n/a	0.445	0.133	71%
174+30	Point of Rupture					
175+00	0.526	0.523	0.513	0.513	0.065	35%

* Stations are shown of City Plan Drawing No. 71-D-46.

Total Original Design Thickness (inches):

Thickness of Ductile Iron Pipe =	0.390
Min. Thickness of Mortar Lining =	0.188
Total Original Design Thickness =	0.578

- Notes:
- 1) Measurements taken on Feb. 20, 1997
 - 2) Accuracy of instrument per manufacturer is ± 0.003

**TABLE 2
SEASIDE FORCE MAIN
THICKNESS MEASUREMENTS RESULTS**

Station *	Thickness (inches)	Lining	Flow Type
164+30	0.440	Mortar	Pressure
166+30	0.430	Mortar	Pressure
168+30	0.430	Mortar	Pressure
170+30	0.464	Polyethylene	Pressure
172+30	0.459	Polyethylene	Pressure
175+00	0.485	Polyethylene	Gravity
174+00	N/A		

* Stations are shown on City Drawing No. 71-D-46

Drill
Please Reconnect
MPLA

File STS FM

MAINTENANCE WORKSHEET

(To remain with equipment until work complete)

Equipment Name and Number STS valve vault SAN JON
Reason for Repair inspection
Name(s) of Person(s) Performing Work Santos, Simmons, Radford
Date Started 4-21-92
Date Completed 4-21-92
Date Installed _____
Hour Meter Reading _____



Date 4-21-92

Condition of unit, type of work performed. (Be specific, note dates and daily activity.)

- ① opened vault, pump out 4 1/2' of water.
- ② Piping badly rusted
- ③ Resealed cover

San Jon Maintenance Station Vault



STS Force Main Failure 25 Sept 2003

Street Dept identified a sinkhole on Harbor Blvd 11 September 2003.

Wastewater Division notified of possible sewer issue 3pm on 25 September 2003.

Contacted Sam Hill construction to expose line. Top of pipe gone due to H2S. Line failure just west of Arundel Barranca on Harbor Blvd and East of Beachmont.

Length of failure is about 15 feet. Potholed upstream and down stream to find good pipe. Left bridge of dirt on top afraid that if we attempted to remove it might cave in.

Took fast lane out of service on Harbor so no cars can drive over it.

Do to concert at fair grounds over weekend will start set of for bypass Monday.

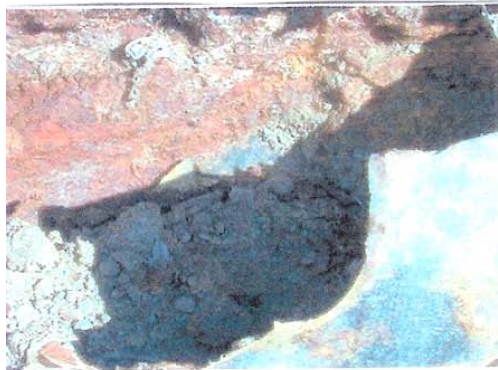
Ordered 12 storage tanks (21,000 gallons each) from ECI (Ruddy 648-5123)

Ordered 2 each 8" pumps that can handle 2000gpm from Rain for Rent (Dick 525-3306) and for them to set up piping to storage tanks.

Met with Ron Murphy Maintenance Supervisor for Ventura County Fair Grounds. Met at fair grounds to show him where we needed to set up storage tanks and pumps. No problem

Removed Section of Ruptured Pipe at Section 174+30





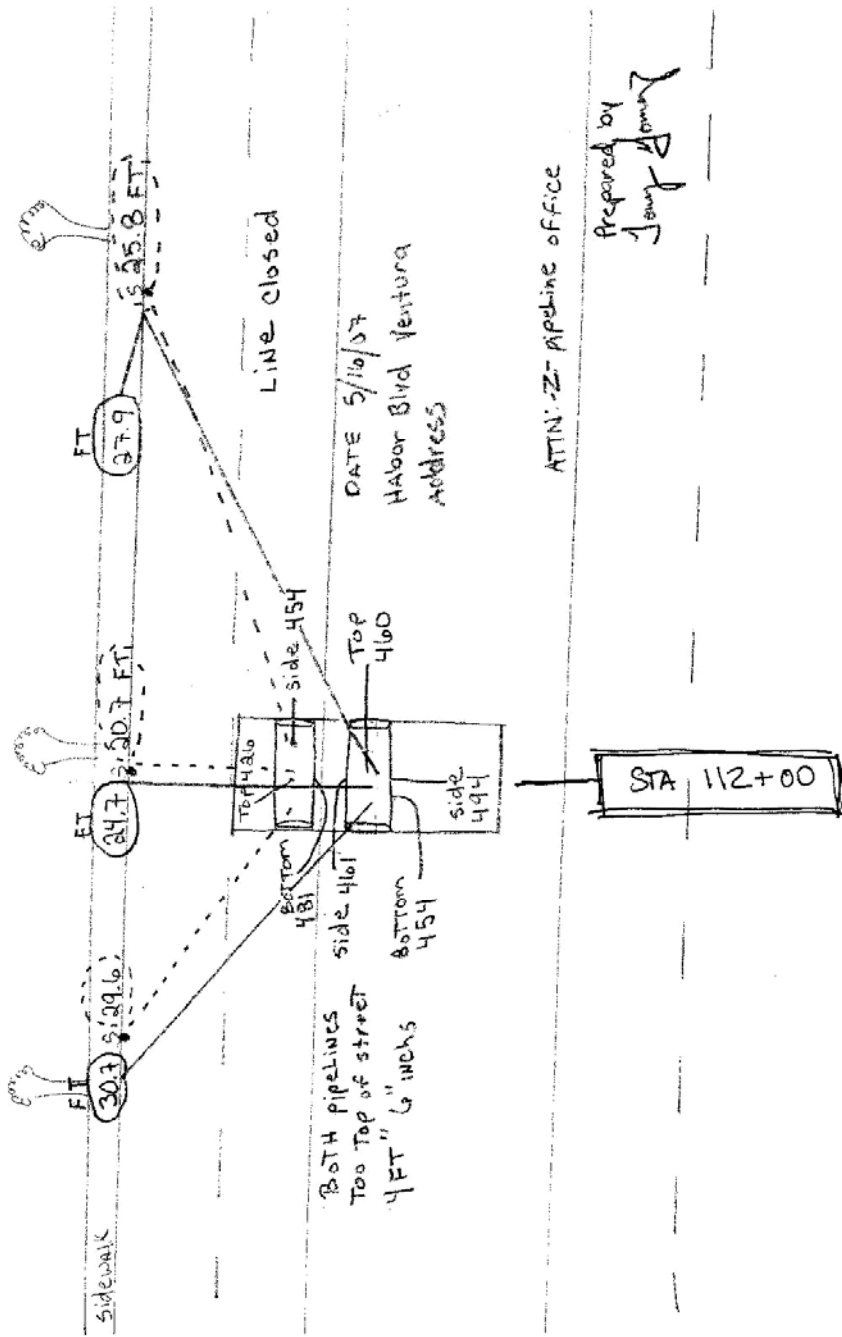
Item No. 5 – STS Condition Assessment Inspection Log

Station	Location/Description	Date of Inspection	Depth of Cover	Pipe Wall Thickness Measured			
				top	mid	mid	bottom
60+00	Maintenance Station Vault at Harbor and San Jon	8/8/07	14'-0"	na	na	na	na
	Comments and Observations	Exterior pipe is visually in poor condition inside of vault. Extensive corrosion is evident and exterior coating has failed. Ultrasonic testing not performed. This location should be a concern due to visible corrosion.					
91+00	Maintenance Station Vault at Harbor and San Pedro. See attached Longview Inspection Report.	3/29/07	4'-0"	0.431	0.415	0.421	0.436
	Comments and Observations	Exterior pipe is visually in fair condition inside of vault. Only minor corrosion is visible and most of coating is still in place. Ultrasonic readings are above 0.40.					
112+00	Pothole excavation at center of Harbor 600 ft north of Seaward Two pipes found at this location. See attached field notes.	5/17/07	4'-6"	0.426	0.454	0.454	0.481
			4'-6"	0.460	0.494	0.461	0.454
	Comments and Observations	Visqueen wrap still in place. Exterior of pipe in good condition. Original pipe coating is also in good condition. Ultrasonic readings are above 0.40. This location does not appear to be a concern.					
117+00	Maintenance Station Vault at Harbor and Seaward. See attached Longview Inspection Report	3/29/07	5'-0"	0.406	0.367	0.440	0.451
	Comments and Observations	Exterior pipe is visually in poor condition inside of vault. Extensive corrosion is evident and exterior coating has failed. One Ultrasonic reading at spring line is below 0.40. This location should be considered an immediate concern due to low ultrasonic reading.					
118+00	Pothole excavation at center of Harbor at Seaward. See attached Longview Inspection Report	3/29/07	5'-0"	0.403	0.403	0.423	0.426
	Comments and Observations	Visqueen wrap was still in place. Most of exposed pipe appeared to show some level corrosion. Compared to other buried sections inspected, this location showed the most wide-spread corrosion. Ultrasonic readings are above 0.40. This location should be a concern due to visible corrosion & proximity to 117+00.					
127+00	Pothole excavation at center of Harbor at 200' south of driveway to the Vons shopping center.	4/4/07	4'-5"	na	na	na	na
	Comments and Observations	Visqueen wrap was still in place. Exterior top, sides, and bottom of pipe appear to be in good condition. Original pipe coating is also in good condition. No ultrasonic testing performed at this location. This location does not appear to be a concern due to the observed exterior pipe condition.					

Item No. 5 – STS Condition Assessment Inspection Log

Station	Location/Description	Date of Inspection	Depth of Cover	Pipe Wall Thickness Measured			
				top	mid	mid	bottom
143+00	Pothole excavation at center of Harbor at 200' north of Maintenance Station (between Peninsula & Oyster). See attached field notes.	4/5/07	8' -3"	0.450	0.442	0.432	0.438
	Comments and Observations	Visqueen wrap was still in place. Exterior top, sides, and bottom of pipe appear to be in good condition. Original pipe coating is also in good condition. Ultrasonic readings are above 0.40. this location does not appear to be a concern.					
145+00	Maintenance Station Vault on Harbor between Peninsula and Oyster. See attached Longview Inspection Report.	3/29/07	9'-0"	0.474	0.516	0.483	0.430
	Comments and Observations	Exterior pipe is visually in poor condition inside of vault. Extensive corrosion is evident and exterior coating has failed. Ultrasonic readings are above 0.40. This location should be considered a concern due to visible corrosion.					
167+00	Pothole excavation at center of Harbor at 900' north of Barranca. See attached field notes.	4/10/07	6'-1"	0.469	0.423	0.456	0.465
	Comments and Observations	Visqueen wrap was still in place. Exterior top, sides, and bottom of pipe appear to be in good condition. Original pipe coating is also in good condition. Ultrasonic readings are above 0.40. This location does not appear to be a concern.					
170+00	Pothole excavation at center of Harbor at 600' north of Barranca (north of Beachmont). See attached field notes.	4/10/07	5'0"	0.475	0.474	0.456	0.465
	Comments and Observations	Visqueen wrap was still in place. Exterior top, sides, and bottom of pipe appear to be in good condition. Original pipe coating is also in good condition. Ultrasonic readings are above 0.40. This location does not appear to be a concern.					
173+00	Pothole exaction at center of Harbor at 300' north of Barranca (south of Beachmont). See attached Longview Inspection Report.	3/29/07	4'-5"	0.475	0.474	0.463	*na
	Comments and Observations	Visqueen wrap was still in place. Exterior top and sides of pipe appear to be in fair condition. While excavating below pipe, extensive corrosion was discovered on the exterior bottom of pipe. Ultrasonic readings are above 0.40. This location should be considered a concern due to visible corrosion.					
174+50	Pothole excavation in #1 lane of Harbor at 150' north of Barranca. See attached Long view Inspection Report.	3/29/07	3'-9"	0.418	0.202	0.240	*na
	Comments and Observations	Visqueen wrap was still in place. Exterior pipe is visually in fair condition. Ultrasonic readings at spring line are dangerously low. While grinding pipe for ultrasonic testing at pipe spring line, interior mortar lining was exposed indicating a failure of DIP at this location. This location is considered a high priority immediate concern due to the visual observations and low ultrasonic thickness readings.					
Notes: 1	See attached field sketches and notes from potholing inspections noted above.						
Notes: 2	The original total combined pipe wall thickness is 0.578", DIP thickness is 0.390" and mortar thickness is 0.188".						

Z - Pipeline Field Notes

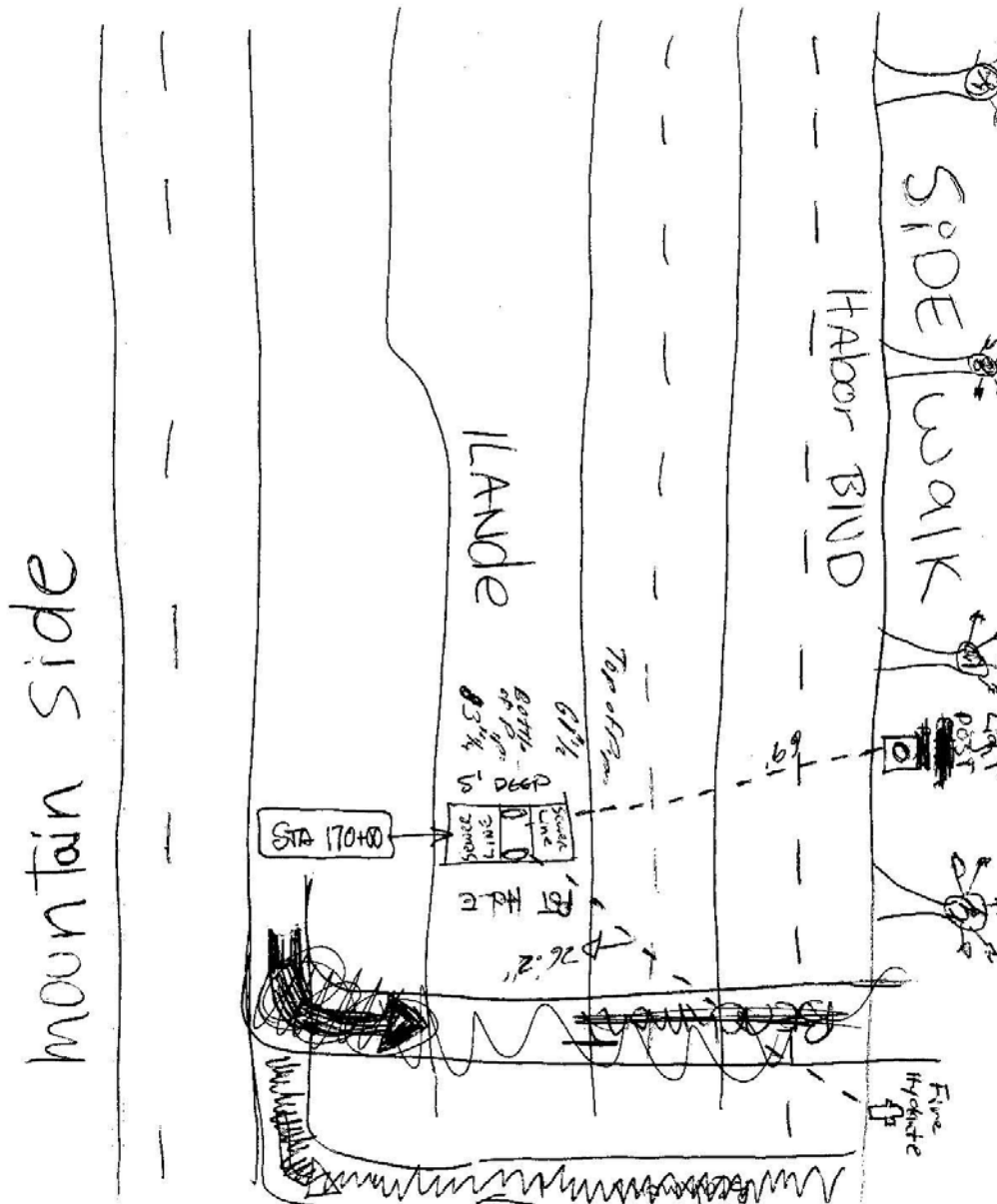


Subway McDonalds
 Motel
 2145 E. Harbor Blvd., Ventura

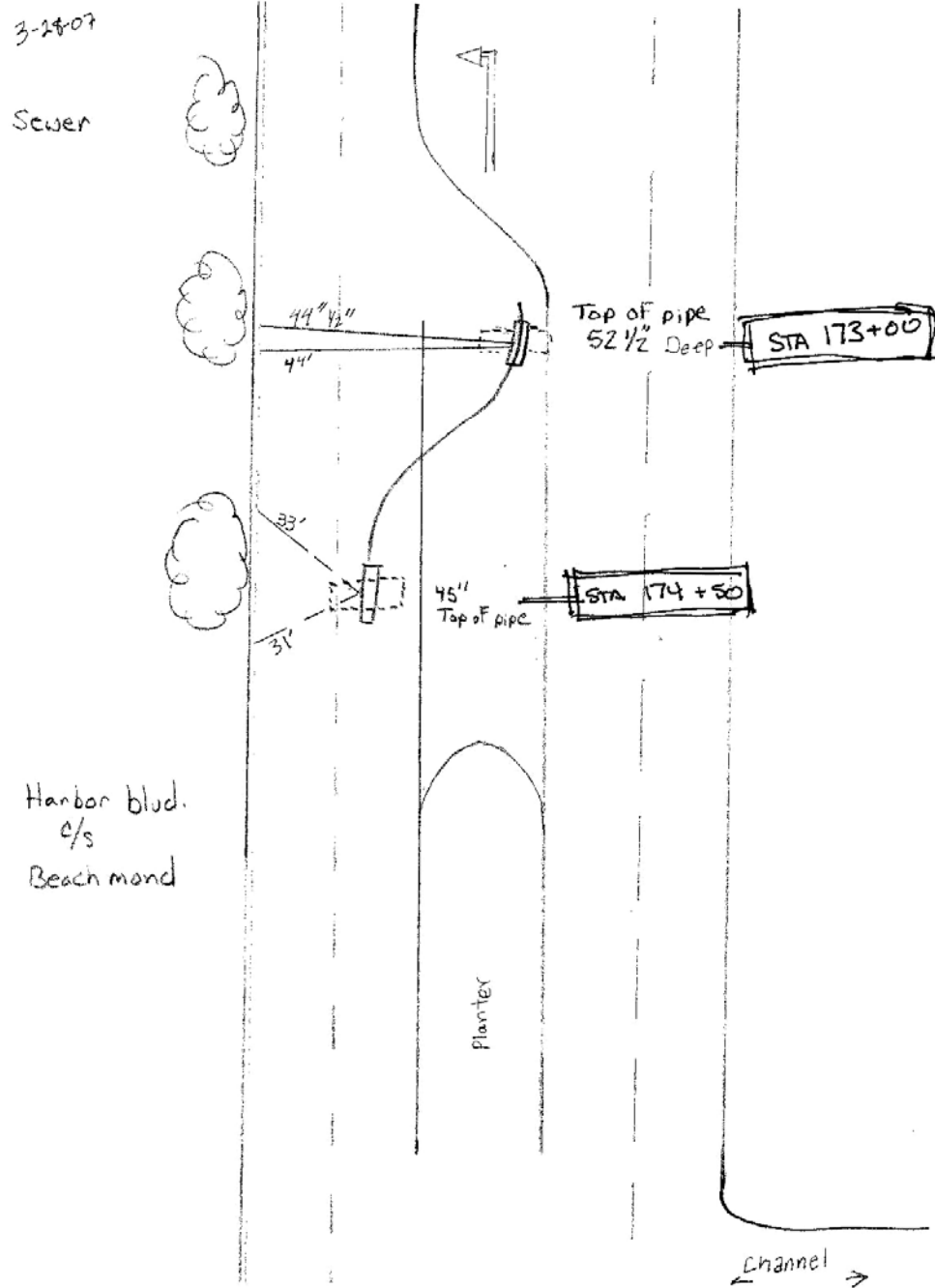
Z - Pipeline Field Notes



Z - Pipeline Field Notes



Z - Pipeline Field Notes



Item No. 6 - Existing Condition Assessment

The 35 year old force main appears to be in surprisingly good condition along much of the alignment with only few potential problem areas . This general statement of pipeline condition is based on inspection observations and metallurgy testing as noted in the Condition Assessment Inspection Log (Tab 5). The recommendations and assumptions included in this report are based on the extrapolation of _____ inspection points along the alignment.

The actual condition of the pipeline between these inspection points is not known and as such it is certainly possible that isolated areas of severe corrosion do exist. The exterior of the pipe appeared to be in near perfect condition at most pothole locations. The pipeline exterior longevity is most likely a result of the polyethylene pipe wrap being carefully and properly installed during the original construction. Therefore, it should be assumed that isolated and undiscovered areas of deficient polyethylene pipe wrap and severe pipe corrosion could be present.

This report provides data and analysis to support the general conclusion that the existing pipeline currently has a minimum remaining service life of five years, with the following isolated exceptions:

Locations & Segments of Potential Pipeline Deficiency

Arundell Barranca (underground pipe from the Barranca to about 500' upstream)

Maintenance Vaults (Exposed piping inside of 5 maintenance vaults)

Seaward & Harbor (underground pipe corrosion noted during inspection)

Undiscovered areas of severe corrosion on underground piping (unknown)

Item No. 7 - Risk Management Failure Analysis

Arundell Barranca (Upstream of Channel Crossing)

- Start at Station 172+00
- End at Station 177+00
- Repair Length: 500-ft approximate
- Pipe Condition: Segment is currently considered at high risk for future rupture based on inspection observations of surface corrosion and ultrasonic metal thickness testing of pipe wall thickness.
- Failure Scenario: The segment of force main directly upstream of the Arundell Barranca is the general vicinity of two major pipeline ruptures that occurred previously. During recent potholing and pipeline inspections it was determined that this segment of pipe continues to be at risk of eminent failure.
- Recommendation: City should immediately begin plans to replace a 500-ft segment of the existing 20" pipe from the Arundell Barranca to 500-ft north of the Barranca.

Maintenance Station Vault No. 2

- Location Station 60+00
- Repair Length: 15-ft approximate
- Pipe Condition: Exposed segment of force main pipe inside the vault is currently considered at moderate risk for future rupture based on observed surface corrosion of exposed pipe.
- Failure Scenario: The segment of force main that passes through the vault is visibly damaged due to corrosion. Many locations of exposed piping in the vaults exhibit signs of severe corrosion including major flaking of oxidized piping material. The City should still consider this location a significant risk based on the level of observed surface corrosion (i.e. in spite of the favorable pipe wall thickness testing)
- Recommendation: City should include vault piping rehabilitation projects in upcoming CIP budgets such that projects are undertaken within the next 24 to 36 months.

Maintenance Station Vault No. 3

Location Station 91+00

Repair Length: 15-ft approximate

Pipe Condition: Exposed segment of force main pipe inside the vault is currently considered at moderate risk for future rupture based on observed surface corrosion of exposed pipe.

Failure Scenario: The segment of force main that passes through the vault is visibly damaged due to corrosion. Many locations of exposed piping in the vaults exhibit signs of severe corrosion including major flaking of oxidized piping material. The City should still consider this location a significant risk based on the level of observed surface corrosion (i.e. in spite of the favorable pipe wall thickness testing)

Recommendation: City should include vault piping rehabilitation projects in upcoming CIP budgets such that projects are undertaken within the next 24 to 36 months.

Maintenance Station Vault No. 4

Location Station 117+00

Repair Length: 15-ft approximate

Pipe Condition: Exposed segment of force main pipe inside the vault is currently considered at moderate risk for future rupture based on observed surface corrosion of exposed pipe.

Failure Scenario: The segment of force main that passes through the vault is visibly damaged due to corrosion. Many locations of exposed piping in the vaults exhibit signs of severe corrosion including major flaking of oxidized piping material. The City should still consider this location a significant risk based on the level of observed surface corrosion (i.e. in spite of the favorable pipe wall thickness testing)

Recommendation: City should include vault piping rehabilitation projects in upcoming CIP budgets such that projects are undertaken within the next 24 to 36 months.

Maintenance Station Vault No. 5

Location Station 145+00

Repair Length: 15-ft approximate

Pipe Condition: Exposed segment of force main pipe inside the vault is currently considered at moderate risk for future rupture based on observed surface corrosion of exposed pipe.

Failure Scenario: The segment of force main that passes through the vault is visibly damaged due to corrosion. Many locations of exposed piping in the vaults exhibit signs of severe corrosion including major flaking of oxidized piping material. The City should still consider this location a significant risk based on the level of observed surface corrosion (i.e. in spite of the favorable pipe wall thickness testing)

Recommendation: City should include vault piping rehabilitation projects in upcoming CIP budgets such that projects are undertaken within the next 24 to 36 months.

Seaward & Harbor Intersection

Start at Station 117+00

End at Station 119+00

Repair Length: 200-ft approximate

Pipe Condition: Segment is currently considered at low risk for near term failure and rupture based on inspection observations of surface corrosion and ultrasonic metal thickness testing of pipe wall thickness.

Failure Scenario: The segment of force main is the single most prominent high point in the pipeline alignment. There is a high potential for interior pipe damage due to likelihood that foul air is being trapped at the high point. During recent potholing and pipeline inspection it was determined that this segment of pipe shows significant exterior corrosion as compared to the very good exterior pipe condition noted at other pothole locations.

Recommendation: City should plan to replace a 200-ft segment of the existing 20" pipe from north of Seaward to across the intersection.

Item No. 8 - Air-Vac Assembly Impact Analysis

The original STS Force Main pipeline design and construction included a total of six (6) air-vacuum release assemblies housed in the maintenance station vaults. These air-vac assemblies were located as follows:

Maintenance Station No. 1 (Station 34+00) near the Beach Parking Structure
Maintenance Station No. 2 (Station 60+00) near Harbor Blvd. and San Jon
Maintenance Station No. 3 (Station 91+00) near Harbor Blvd. and San Pedro
Maintenance Station No. 4 (Station 117+00) near Harbor Blvd. and Seaward
Maintenance Station No. 5 (Station 145+00) near Harbor Blvd. and Peninsula
Maintenance Station No. 6 (Station 174+00) near Harbor Blvd. and Beachmont

The air-vac systems did not operate correctly and were ineffective. The air-vac systems were decommissioned and dismantled years ago due to on going problems with clogging, sewage containment, and foul air containment. The vaults for Maintenance Stations 1 through 6 remain in place and serve no significant purpose. Maintenance Station No. 6 vault was demolished and removed as part of the repairs made in response to a preceding pipeline rupture.

Adverse Conditions Resulting from Decommissioned Air Vacuum Assemblies:

The following is an analysis of adverse effects on the pipeline due to the decommissioned air-vac assemblies:

- The ductile iron and steel coatings exposed within the Maintenance Station vaults are currently failing.
- The pipe exteriors are severely corroded and in need of immediate rehabilitation to ensure that future failures do not occur.
- The extensive corrosion inside of the vaults was caused by the presents of sewage and/or foul air while the air-vac assemblies were in service.
- The on-going presents of ground water in the vaults continues to exacerbate the exterior pipeline corrosion problem.
- It should be assumed that the pipeline interior coating systems are also being adversely affected by the inability to vent trapped foul air and hydrogen sulfide gas. This should be a significant concern currently and in the future.
- It should also be assumed that the pipeline flow capacity is being reduced as a result of trapped foul air and hydrogen sulfide gas.

Potential Positive Impact from Adding Air Vac Assemblies:

The following are the potential positive impacts of adding air-vac assemblies:

- Reduce the presents of corrosive conditions inside the pipeline.
- Increase pipeline flow capacity and reduce the strain on pumping systems.
- Provide a project opportunity to rehabilitate adjacent pipe coatings.

It is strongly recommended that the City consider adding back the decommissioned air-vacuum assemblies with foul air systems and drainage to local gravity sewers.

Item No. 9 - Line Materials and Appurtenances Index

Material Description	Description of Installation	Locations	Comments
Pipeline	20" ductile iron pipe with bell & Spigot joints, and polyethylene wrap.	Sta 10+00 to Sta 177+00	Mortar lining sta 18+00 to 170+00 polyethylene lining sta 170+00 & 177+00
Redundant Pipe Line	Intermittent installation of parallel line.	The location of the second parallel pipe is not clear on as-builts.	City would have to T.V. inspect pipe to verify locations & conditions.
Valves	20" gate valve (each side of maintenance stations).	Stations 32+00, 91+00, 60+00, 117+00, 145+00	Valves are no longer operable.
Air Vacs.	None. Air Vacs were decommissioned & removed.	Previous locations 32+00, 91+00, 60+00, 117+00, 145+00, 174+00	It is recommended that Air Vacs be reinstalled.
Tapping Valves	20"x6" tapping sleeves with 6" tapping valve install by hot tap	Sta 164+30, 166+30, 168+30, 170+30, 172+30, 174+30, 175+00	Installed by City staff to inspect pipe interior.
Maintenance Station Vaults	Installed to house Air Vacs.	Stations 32+00, 91+00, 60+00, 117+00, 145+00	Vaults remain in place but serve no purpose.
Tees and Blind Flanges	20x20x20 tees install with tapped blind flanges at Air Vacs.	Stations 32+00, 91+00, 60+00, 117+00, 145+00	Tees and blind flanges remain in place but serve no purpose.
Gravity Sewer with Manholes	Force main converts to gravity sewer at Arundell Barranca.	Sta 177+00 to Sta 210++	Not included in this analysis.

Item No. 10 - Recommended Repair and Rehab Projects

1. (Urgent) Force Main Replacement from Arundel Barranca to 300' north

Possible Design Approach: Open Trench installation of new 24" HDPE or PVC pipe parallel to existing pipe with diversion manholes at each end of replacement section to facilitate tie-ins and provide future access to the pipe. Perform tie-ins during low flow limited time shutdowns of pipeline using baker tanks for temporary storage of sewage.

2. Rehabilitate Corroded Piping Exposed in Maintenance Vaults

Possible Design Approach: Remove existing corrosion and scale from exposed pipes, apply sealant and water-stops on piping and existing vault interiors, fill vaults with concrete to fully encase the corroded piping. No shutdowns necessary.

Possible Design Approach: Remove and replace existing pipe to beyond outside of vault walls during low flow shutdowns of pipeline using multiple baker tanks for temporary storage of sewage.

3. Add Air Vac Assemblies with connections to locate gravity sewers

Possible Design Approach: Provide new 2" saddle type pipe taps on existing 20" force main at all high points along the alignment. Provide new sewage rated air vac assemblies in small pre-cast concrete vaults installed over the force main pipeline. Provide gravity sewer drainage from the vault into a nearby gravity sewer system.

4. Add Mandrel Launching Facilities

Possible Design Approach: Add 20" wyes in vaults at mandrel launching locations.

5. Add In-Line Force Main Isolation Valves

Possible Design Approach: Add 20" valves in vaults at mandrel launching locations.

6. In Situ Pipe Rehabilitation

Possible Design Approach: Provide new pipe liner during short pipeline shutdowns.

7. Survey and Mark Pipe Alignment at 100-ft intervals

Possible Design Approach: NA

Appendix K

Collection System “Priority Area” Details

Existing System "Priority Area" Details

Loc	Pipe	Date	Status	Description	Reason	Precaution
0						
1			DE-ACTIVATED	CACHUMA AND MAMMOTH	DE-ACTIVATED	INACTIVE FILE
1	E_H13_P-4876			BRENT AT LOMA VISTA	GREASE (RESTAURANT) HYDRAULIC STOPPAGE IN MANHOLE	ROD BRENT
2						
3	G_G13_P-4839, G_G12_P-4838			BRENT & MAIN ALLEY TO 5-POINTS	GREASE (YOLANDA'S SPAGETTI FACTORY RESTAURANT)	CARPET STORE LOW PRESSURE
4			DE-ACTIVATED	DOS CAMINOS AT TELEGRAPH	DE-ACTIVATED	6/9/99 DE-ACTIVATE
5	E_I10_P-5557, E_I10_P-5558, E_I9_P-5793, E_I10_P-5794, E_I9_P-5798, E_I9_P-5799, E_I9_P-5800			POLI FROM RINCON TO CRIMEA	FLAT LINE, GREASE (RESIDENTIAL)	
6	L_E15_P-3936			M/H BEHIND ARMORY	GREASE (EVITA'S RESTAURANT)	LOTS OF GREASE
7	K_G15_P-4026			COLLEGE AND MAPLE	HYDROULIC STOPPAGE IN MANHOLE FROM COLLEGE	ROD WEST ON MAPLE
8	S_H23_P-2783		DE-ACTIVATED	PIERPONT INN AND VISTA DEL MAR	GREASE (PIERPONT INN RESTAURANT) DEACTIVATED 23-JUL-01	Rod line all the way to State Beach
9			DE-ACTIVATED	FIGUEROA AND SANTA CLARA	FLAT LINE AND RESTAURANT GREASE DEACTIVATED 23-JUL-01	LOTS OF GRIT HERE
10	S_H23_P-2784		DE-ACTIVATED	BRISTOL AND RAMELLI	DEACTIVATED 23-JUL-01	
11	F_E11_P-4587			BEHIND VONS AND HARBOR BL	HEAVY GREASE	HEAVY GREASE
12	S_H23_P-2779, S_H23_P-2778, S_H23_P-2782, F_G10_P-5318			MONMOUTH AND HARBOR	FLAT LINE, RESTAURANT GREASE (HUNGRY HUNTER & IN-OUT)	HIGH GREASE AREA, USE ROOT CUTTER
13	D_H7_P-5936			PROMADE TO STS	GREASE (APARTMENTS) TROUGH NEEDS REPAIR	HIGH GREASE AREA, USE ROOT CUTTER
14	E_H7_P-129			CALIFORNIA AND THOMPSON	GREASE (BAREFOOT BISTRO RESTAURANT)	ROD THOMPSON
15	E_H10_P-5434			THOMPSON AND HURST	FLAT LINE AND GREASE FROM 2 MOTELS (KITCHENETTES)	ROD WEST ON THOMPSON
16			DE-ACTIVATED	SANTA YNEZ AND HURST	DEACTIVATED 23-JUL-01	ROD SANTA YNEZ
17			DE-ACTIVATED	SAN NICHOLAS AND HURST	DEACTIVATED 23-JUL-01	ROD BOTH DIRECTIONS
18	E_I9_P-5561, E_I10_P-5560			BUENA VISTA AND RINCON	HYDRAULIC PROBLEM IN MANHOLE	ROD BOTH DIRECTIONS , HEAVY GREASE
19			DE-ACTIVATED	FRANCES AND CHANNEL	DEACTIVATED JUNE 11-01	ROD FRANCES ROOTS
20	E_I9_P-5819			BUENA VISTA AND ANN	LOW FLOW, RESIDENTIAL GREASE IN LINE	ROD EAST ON BUENA VISTA
21	E_I9_P-5900, E_I9_P-5901			ALISO AND CHURCH	ROOTS	ROD BOTH DIRECTIONS CHURCH
22	E_I10_P-5620			MANZANITA & LUPINE UP LUPINE WAY		ROD UP LUPINE WAY
23			DE-ACTIVATED	PACIFIC AND EVANS	DEACTIVATED 23-JUN-01	LINE FLAT, LOTS GRIT. ROD EVANS
24	E_I9_PC-23			ALISO AND BRODIEA	ROD UP BRODIEA	ROOTS
25						
26	E_H11_P-5116			MAIN AND CORONADO	GREASE (RESTAURANT, HOSPITAL)	ROD TACO BELL
27						

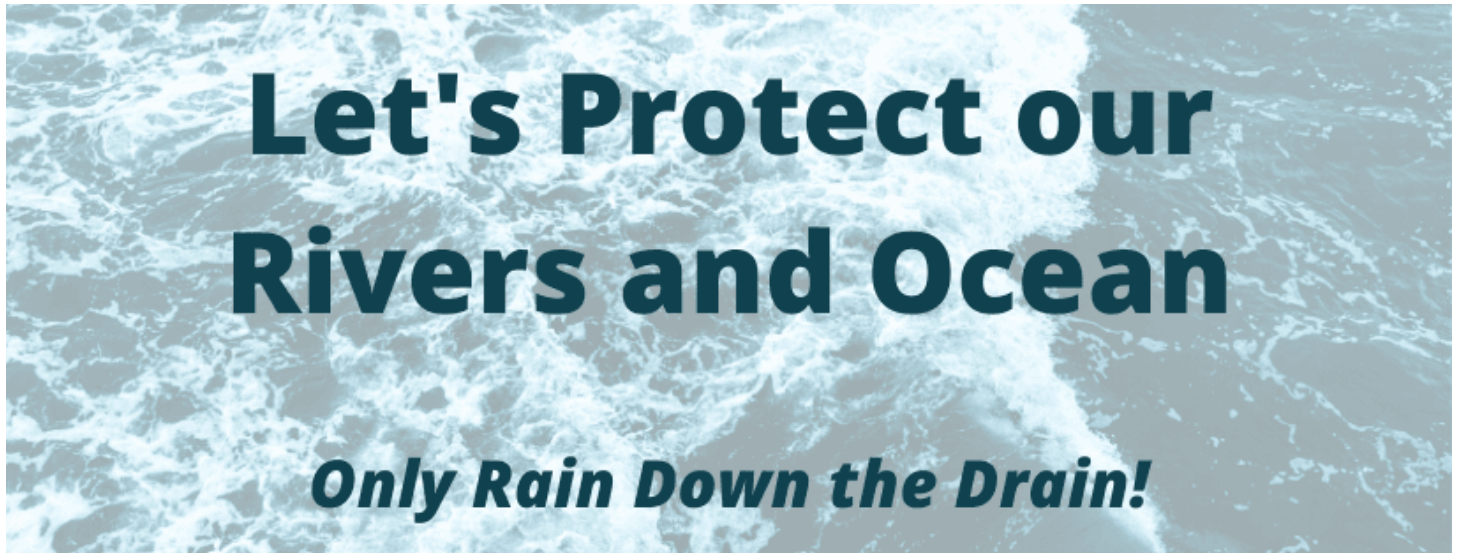
Existing System "Priority Area" Details

Loc	Pipe	Date	Status	Description	Reason	Precaution
28	E_H10_P-5438			THOPSON AND SANTA ROSA	SAG, GREASE (CASA DE SORIA RESTAURANT)	ROD EAST ON THOMPSON
29				CHRISMAN TO CITY YARD	OFFSET	HIGH GREASE, USE ROOT CUTTER
30	C_H7_P-5951			FIGUEROA AT HARBOR	FLAT LINE	HIGH GRIT AREA
31	E_I11_P-5509			1928 TERRACE DR	ROOTS (EASEMENT)	CALL 643-2364 BEFORE RODDING
32	G_G12_P-5047			ARCADE AND THOMPSON	GREASE (CARL'S JACK IN BOX, ECT. RESTAURANTS)	HIGH GREASE AREA
33	R_C21_P-2182			6329 NIGHTINGALE	GREASE (APARTMENTS), HYDRULIC STOPPAGE IN MANHOLE	HEAVY GREASE, ROD DOWNSTREAM
34	F_E12_P-4966			SEAHORSE AND PENINSULA	GREASE (RESIDENTIAL) AND LINE SAG	HEAVY GREASE, USE ROOT CUTTER
35	A_J6_P-6386, A_J6_P-6389			MISSION AND OLIVE	HYDRAULIC STOPPAGE IN MANHOLE	HEAVY GREASE, ROD BOTH WAYS ON MISSION
36			DE-ACTIVATED	NIGHTINGALE AT EASEMENT	DEACTIVATED 11-JUL-014	HEAVY GREASE, USE ROOT CUTTER
37	H_A11_P-4394			SPINNAKER DRIVE	GREASE	DON'T PUSH GREASE INTO WET WELL
38						
39	N_H19_P-1265			HILLVIEW AT HUNTER STREET	BAILEY TREATMENT PLANT BACKWASH MEDIA	ROD HILLVIEW-WATER DEPT. SILT
40	E_H7_P-6056, E_I7_P-6070, E_I7_P-6115, E_H7_P-6116, E_I7_P-6069			MAIN AND OAK	FLAT LINE, RESTAURANT GREASE (FRANKIE'S, BUSY BEE)	ROD MAIN ST. FOLLOW OAK TO THOMPSON
41	E_I7_PC-25			SANTA CLARA AND CALIFORNIA	UNDERSIZE LINE AND RESTAURANT GREASE	ROD CA. USE LOW PRESSURE 1ST 200'
42	Q_E19_P-1811			K-MART CENTER ON VICTORIA	FLAT LINE AND 2 DOG LEGS IN LINE	HIGH GREASE AREA, USE ROOT CUTTER
43	E_H9_P-5714, E_H9_P-5734			FRONT ST. & ANN	ROD UP ANN TO THOMPSON	ROD ANN-GREASE
44	A_I6_P-6321		DE-ACTIVATED	JULIAN ST TO WEST MAIN	DEACTIVATED MISSION LINEN INDUST. RELOCATED TO OXNARD	HIGH SULFIDES, USE CAUTION
45	I_F14_P-4090			BUENAVENTURA MALL	HEAVY GREASE	
46	F_F10_P-4600			SEAWARD & PIERPONT	GREASE (JOANNAFINAS, DUKE'S ARVINS, ECT RESTAURANTS)	ROD TOWARDS BEACH
47	L_E15_P-3889			MARKET AND WALTER	GREASE (TARGET CENTER RESTAURANT)	HIGH GREASE, ROD FROM CHURCH
48	K_G16_P-1374			DEAN AND VARSITY	ROOTS	ROOT AREA, ROD DEAN
49			DE-ACTIVATED	RAINIER AND VALLEY VIEW	DEACTIVATED JUNE 3 2001	DEACTIVATED JUNE 3 2002
50	B_H6_P-6190			VENTURA AVE. AND HARBOR	FLAT LINE, SLOW FLOW	HIGH GREASE, ROD FROM TRAIN PLATFORM
51	E_I9_P-993, E_I10_P-5551, E_I9_P-5764, E_I9_P-5765			SANTA CLARA FROM MAIN TO CRIMEA	UNDER SIZE LINE	GREASE
53	R_E21_P-2073			JOHNSON AND RALSTON	HYDRAULIC PROBLEM IN MANHOLE	HIGH GREASE ROD EAST ON RALSTON
54	T_H25_P-2993, T_G25_P-3056, T_G25_P-3055			PHOENIX FROM BOISE TO OGDEN	ROOTS (IVY REMOVED JUST INSPECT NOW)	INSPECT ALL MHS IN AREA FOR ROOTS

Existing System "Priority Area" Details

Loc	Pipe	Date	Status	Description	Reason	Precaution
55			DE-ACTIVATED	CABRILLO VILLAGE, SEWERMAIN N	DEACTIVATED 23-JUL-01	LINBE FLAT, USE ROOT CUTTER
56			DE-ACTIVATED	VICTORIA AND WOODLAND	DE-ACTIVATED	1/5/2000 deactivate
60	Q_E20_P-1749			VICTORIA AND RALSTON	HYDRAULIC PROBLEM IN MANHOLE ON VICTORIA	GREASE ROD EAST ON RALSTON
61	L_E15_P-3930, L_E15_P-3937			MARKET & FLEET TO 3586 MARKET	GREASE (EVITA'S AND TOPPER'S RESTAURANTS)	LOTS OF GREASE
62			DE-ACTIVATED	KENNEBEC & SAVANNAH	DEACTIVATED	
63	U_G26_P-3035			TELEPHONE AND PETIT	DOG-LEG AROUND STORM DRAIN AND SAG	ROD KINDER-CARE
64	E_H8_P-5707, E_H8_P-5700, E_H8_P-5705, E_H9_P-5710, E_H9_P-5715			FRONT ST. FROM ANN TO ASH	HIGH IMPACT AREA, UNDER SIZED	ROD ALL SIDE STREETS
65	S_H25_P-580			IDYLLWILD AND PETIT	HYDRAULIC STOPPAGE IN EASEMENT MANHOLE AND GREASE	ROD THRU EASEMENT ON PETIT TO IDYLLWILD
66			DE-ACTIVATED	KALORAMA	DE-ACTIVATED LINE REPAIRED IN FEBRUARY (NO PROBLEM)	DEACTIVATED 23-JUL-01
67			DE-ACTIVATED	SANTA ROSA	UNDER SIZE LINE	DEACTIVATED 23-JUL-01
68	E_H13_P-4878, E_H13_P-4879			LOMA VISTA & N. DOS CAMINOS	GREASE AND SOAP (HOSPITAL)	ROD FROM THOMPSON TO SAN NICHOLAS
69	E_H11_P-5391			ALLEY WEST OF CATALINA	HYDRAULIC STOPPAGE IN MANHOLE	ROD LOMA VISTA AT BRENT TOWARDS DOS CAMINOS
70	E_H8_P-5748			THOMPSON AND ASH	UNDER SIZE LINE, RESIDENTIAL GREASE OFFSET JOINT	ROD FROM CATALINA NORTH OF THOMPSON
71	E_H8_P-5711			FRONT ST. & LAUREL	UNDER SIZE LINE RESIDENTIAL GREASE	ROD FROM THOMPSON TO ASH REMOVE AVOIDER (SWEEP IN LINE) UP LAUREL
72	B_H6_P-6184			HARBOR BL. JUNIPERO TO FIGUEROA		
73	T_G25_P-3021, T_G26_P-3022, T_G26_P-3025, T_G26_P-3023			TELEPHONE (CLINTON TO PETIT)	CONCRETE IN LINE	HIGH H2S AT CLINTON START 3RD MH BEFORE
74	B_H6_P-6201			GARDEN & THOMPSON		ROD FROM MANHOLE AT R& R UNDER 101
75	E_H8_P-6016			THOMPSON & FIR	GREASE, RESTAURANT AND RESIDENTIAL	ROD UP FIR AND EAST ON THOMPSON
76			DE-ACTIVATED	GARNER & TELEPHONE	DEACTIVATED 23-JUL-01	HEAVY TRAFFIC
77			DE-ACTIVATED	RAMELLI & BRISTOL	GEASE, RESIDENTIAL	DEACTIVATED 23-JUL-01
78			DE-ACTIVATED	KALORAMA FROM MAIN TO TIOGA	DEACTIVATED 5-MARCH-2008	
79			DE-ACTIVATED	SHERIDEN WY AND CENTER ST	DEACTIVATED 5-MARCH-2008	HEAVY GREASE
80	A_N7_P-6586			2777N VENTURA AVE AT DAKOTA DR		HEAVY GREASE
81	F_E12_P-4964			PENINSULA & HARBOR ALLEY	HEAVY GREASE USE SMALL SKID	HEAVY GREASE
82	R_E21_P-2078			JOHNSON DR IN FRONT OF BALL PARK	SAG IN LINE TWO WEEKS HOT SPOT	HEAVY GREASE

Stormwater Quality Management



What is Stormwater Runoff?

Runoff is generated when water flows over pervious and impervious surfaces (paved streets, parking lots, building rooftops, lawns, etc.) and does not percolate into the ground. As cities grow and people move into new areas, we create more opportunity for runoff to be generated. Stormwater runoff is runoff associated with rainstorms, snowmelt and surface water drainage. Non-stormwater runoff is any runoff not entirely comprised of stormwater. Common sources of non-stormwater runoff are commercial and industrial wash water, sidewalk rinsing/cleaning, landscape irrigation and construction site discharges. Stormwater and non-stormwater runoff are often collectively referred to as stormwater pollution.

The City of Ventura is nestled between the Ventura River watershed, Santa Clara River watershed and the Pacific Ocean. The stormwater quality program works to preserve these waterways for the enjoyment by our residents, visitors and future generations to come. The program works to integrate water quality benefits into all City operations. The City's storm drain system drains to local creeks, rivers and the ocean; all materials dumped, discharged or deposited in backyards, driveways, parking lots and City streets eventually ends up in these waters, untreated. Working with our community is essential in order to ensure local water quality continues to provide recreational opportunities as well as support wildlife.

What is a Watershed?

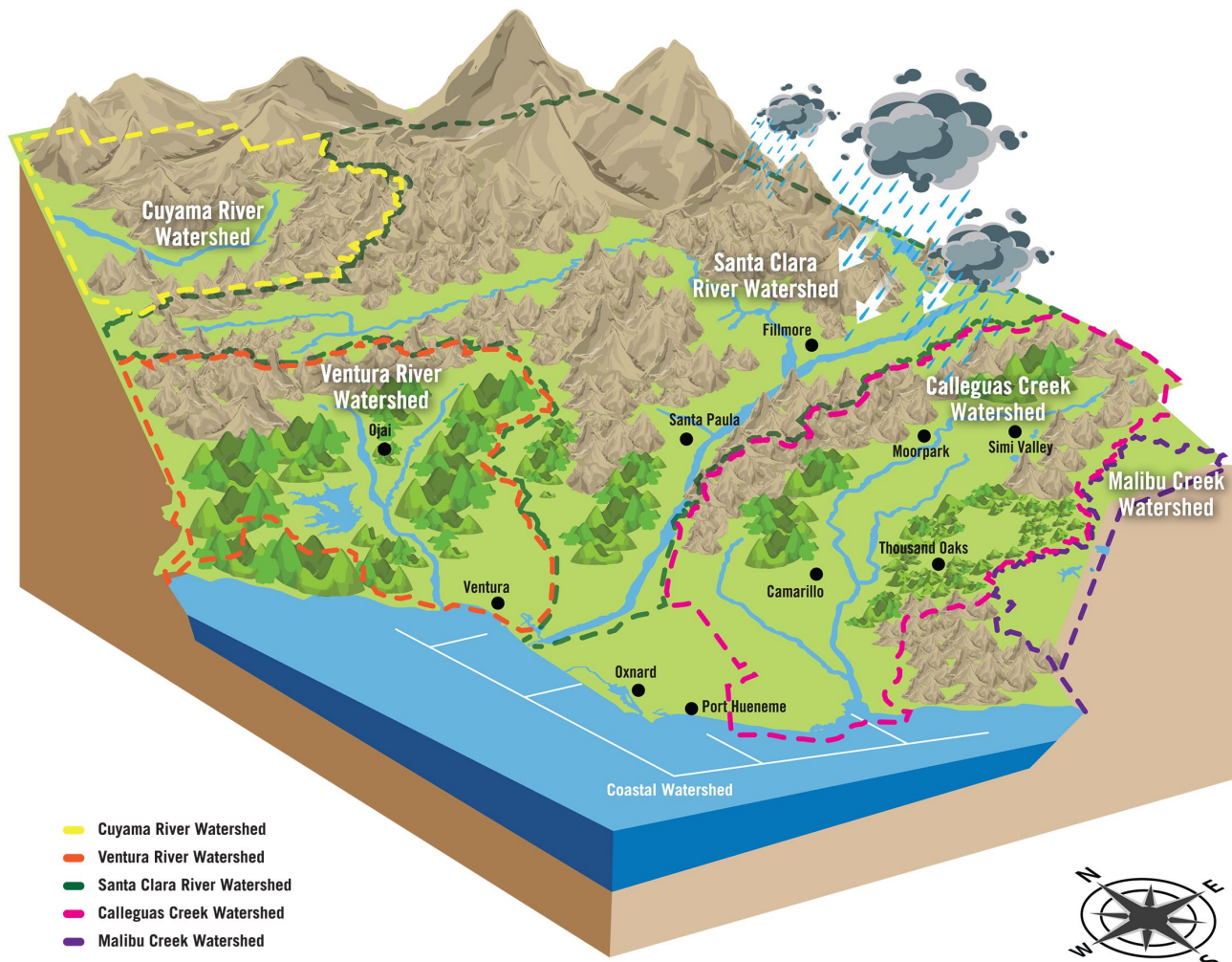
A watershed is the total area of land from which runoff drains into streams, rivers and other bodies of water. Watersheds take many shapes and sizes, but all have one thing in common - they act as a drainage basin. Catchment areas that empty into a single body of water. The City of Ventura is located in three separate



Hello 🙋. How can we help you?



watersheds: the Ventura River Watershed, Santa Clara River Watershed and Ventura Coastal Watershed. Our local watersheds' are beautiful and something to preserve. It is the responsibility of the community to keep our watersheds healthy and clean for generations to come.



What is Stormwater Pollution?

As stormwater and non-stormwater runoff flow over landscapes and impervious surfaces, it accumulates pollutants such as debris, chemicals, sediment and bacteria that can adversely affect water quality. This runoff flows through local creeks, rivers and lakes - eventually draining, untreated, into the ocean. Items like cigarette butts, pet waste, leaves, grass, oil, fast food wrappers, etc. belong in trash or yard waste bins, NOT in our local watersheds.

Many of our daily activities have the potential to cause stormwater pollution. Car washing detergents, lawn/garden fertilizers and pesticides, pool/spa chemicals, oil, gasoline, paint products and many more such items are potentially hazardous and life threatening to plant life, people and animals. These harmful products were never intended to be disposed of in creeks, streams, rivers and the ocean. The "Don't Dump, Drains to Ocean" postings are a continual reminder that we all need to be concerned about stormwater. The majority of harmful impacts caused by pollution can be reduced or eliminated altogether.

The best way to protect our waterways and keep them clean and pollution free is by following best management practices (BMPs). BMPs can be implemented at home and work. Most large stormwater discharges are heavily regulated and require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. The City of Ventura is a Permittee under the Ventura County Municipal NPDES Stormwater Permit and is required to implement programmatic BMPs to reduce pollutants coming from City limits.

Stormwater runoff picks up materials/pollutants on streets, driveways, parking lots and backyards and deposit them into our local waterbodies untreated. These harmful pollutants (metals, grease, oils, fertilizers, soaps, etc.) can cause serious damage to our local streams, creeks, rivers, estuaries and the ocean. In addition, stormwater runoff can be a human health risk when people are swimming in polluted waters. Stormwater pollution is one of the biggest leading threats to water quality in urban and developing areas. As more areas are urbanized in watersheds, the potential for runoff to contain harmful pollutants also increases.

The City implements several programs aimed at reducing and eliminating stormwater pollution impacts. These programs vary from public outreach and education to business and commercial inspections. All stormwater programs share a common goal of improving, protecting and preserving local watersheds for the enjoyment of current and future generations. On a daily basis the City removes trash and debris from city streets and storm drain, inspects local businesses for pollution control measures, and works with construction sites to mitigate discharges of sediment and pollutants to the municipal separate storm sewer system (MS4). Additional projects and programs include the completion of the Hartman Drive Green Street pilot project, residential parkway bioswale program and monthly household hazardous waste collection program.

For over 20 years the City has been working with partner agencies on stormwater management. City of Ventura helped establish the Ventura County Community for a Clean Watershed program to help residents understand how to respect and protect our local watersheds. The City is also a member of the Ventura Countywide Stormwater Quality Management Program that works to improve stormwater quality, monitoring the health of our watersheds and meet compliance requirements of the Ventura Countywide Stormwater Permit.

Things You Can Do for Our Watershed

The [Ventura County Community for a Clean Watersheds](#) as well as [Ventura Countywide Stormwater Quality Management Program](#) website contain publications, watershed protection tips, teaching materials and brochures for businesses and residents that focus on pollution reduction. These websites contain great information for to all age groups on how to protect and enhance our local environments. [Check out 10 quick and easy ways to protect our watersheds here.](#)

Want to get involved? [Check out upcoming community and volunteer events, including cleanup events!](#) Or you can organize your own small group cleanup or self-led cleanup. View the [Litter and Trash Prevention Toolkit](#) and learn how to plan your own successful cleanup. Contact sustainability@cityofventura.ca.gov for cleanup supplies, including gloves and trash bags.

Preserving the Environment and Water Quality in Ventura



Contact Us

Environmental Sustainability

[Email](#)

Physical Address

336 Sanjon Rd
Ventura, CA 93002

Phone: : 805-652-4525

[Directory](#)



CONTACT US QUICK LINKS USING THIS

SITE

[City of Ventura](#)

[501 Poli Street](#)

[Ventura, CA 93001](#)

[Phone: \(805\) 654-7800](#)

[City of Ventura Social
Media](#)

[City News Releases](#)

[Career Opportunities](#)

[Home](#)

[Site Map](#)

[Resource Agencies](#)

Monday - Thursday

7:30 am - 5:30 pm

[Public Records Online](#)

[Accessibility](#)

[Portal](#)

[Copyright Notices](#)

Friday*

8 am - 5 pm

[Ventura Police](#)

[Privacy Policy](#)

[Department](#)

[*Closed Alternate](#)

[Fridays](#)

[Ventura Fire](#)

[Department](#)

[City Department](#)

[Ventura Water](#)

[Directory](#)



Construction & Demolition Waste Management

About

How To Comply

Forms: WMP and Final Report

About the Program

The City of Ventura Environmental Sustainability division manages the City's Construction and Demolition Debris program. Our goal is to help your project meet state and local requirements by diverting as much landfill-bound waste as possible and protecting our local environment from harmful pollutants.

The Construction and Demolition Debris Program helps ensure that all projects comply with state and local laws. In accordance with the California Green Building Standards Code (CALGreen), all new residential, commercial, and mixed-use construction projects in Ventura are required to divert a minimum of 65 percent of construction and demolition (C&D) waste from landfill disposal. In order to ensure that all projects in the City are compliant, building permit applicants must submit a [Form 1: Waste Management Plan](#) (WMP) for approval before receiving a permit and a [Form 2: Final Report](#) at the time of Final Inspection of their project. The WMP will describe how each applicant plans to manage the waste generated on their project. The Final Report will provide the documentation to show that the applicant carried out their plan as described and achieved the required diversion rate for the project. For more information about the program, check out the [Helpful Tips for Ventura Builders and Residents on Construction and Demolition Debris](#).

The City requires Stormwater Best Management Practices (BMPs) be implemented at any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that causes soil disturbance. An effective combination of stormwater pollution controls to prevent the discharge of wastes to the storm drain system are required to be implemented during all construction and demolition activities. More information can be found [Learn more about Stormwater BMPs](#).

Hello 🙋. How can we help you?

Select Language ▼

Google Translate

Who Must Comply with CALGREEN Standards?

Residential:

- All new construction of permitted structures
- All demolition of permitted structures
- Additions and alterations to residential buildings that increase the structure's conditioned area, volume or size are also required to meet the 65% minimum diversion requirement

Non-Residential:

- All new construction of permitted structures
- All demolition of permitted structures
- Additions of permitted structures
- Alterations of permitted structures

Source

2019 California Green Building Standards Code (CALGreen) Part 11 of Title 24, California Code of Regulations. The applicable sections for residential construction can be found in Section 4.408 and in Section 5.408 for most non-residential new construction. Sections 301.1.1 and 301.3 addresses additions and alterations diversion requirements. [SOURCE](#).

Overview

In the City of Ventura there are two options for handling construction waste: onsite service from E.J. Harrison & Sons or self-haul material to a recycling, disposal, and re-use facility.

Each project that qualifies is required to submit a Form 1: Waste Management Plan (WMP) before a building permit is issued. All records of recycling receipts and/or weight tags must be maintained for all materials generated from the project, which can be used to fill out a Form 2: Final Report. The Final Report is due at the end of the project.

Onsite Roll-offs Or Bins from the City's Hauler

Projects, who choose to use onsite collection services, must use the City's franchise hauler, E. J. Harrison & Sons. They are the only authorized hauler for solid waste (City of Ventura Ordinance Code Article 2, Sec. 6.500.210 et. seq.). E.J. Harrison & Sons can assist by diverting at least 65% of the materials and provide final reporting forms for the project. **Please inform E.J. Harrison & Sons if the construction project is under a WMP when ordering service. Projects using this service will need to request a recycling receipt at the end of the project.**

To request services from E.J. Harrison, please call their customer service line at (805) 647-1414.

Self-Haul C&D Material

Self-hauling of C&D materials is allowed only when a licensed contractor uses his/her own employees and equipment as an incidental part of the total service (City Ordinance Code Article 2, Section 6.500.230.5). If the contractor does not have his/her own bins and hauling equipment or employees to self-haul, the contractor is required to use E. J. Harrison & Sons services. All contractors that self-haul are encouraged to segregate the C&D waste on-site and direct haul the materials to local recycling facilities. For projects that require a WMP, the contractor is responsible for submitting to the City of Ventura, all necessary forms, weight tags and final reports on waste diversion for the project.

Looking for a self-haul drop off location near you? The County of Ventura provides a [list of all available recycling, disposal, and re-use facilities in the County](#). In order to determine what percent diversion a facility can provide your project, please call the facility. All self-haulers are responsible for ensuring that the chosen facility will provide the required diversion rate of 65%.

[View The Construction and Demolition Debris Program Guide For Applicants](#)

Form 1: Waste Management Plan

The Form 1: Waste Management Plan is to be completed and approved before a building permit is issued and before construction begins.

If you do not have a contractor selected at the time of submittal, be sure to check the box at the bottom of section A, which indicated that no contractor has been selected. For projects without a contractor at the time of submittal, you can select a waste management option in section B if you have that information, or leave Section B blank until a contractor is selected. Once a contractor is selected, projects will need to resubmit their updated WMP indicating their waste management options for each material type (Section B).

Form 2: Final Report

The Form 2: Final Report is to be completed and approved at the end of a project before final inspection. Please submit copies of all waste hauler tickets and/or recycling receipts with the Final Report.

How to Submit a Form

The most efficient way to submit a Waste Management Plan and a Final Report is by uploading it to [Ventura Online Permits Services \(OPS\)](#).

Turn around time for approvals can take a few days to a week. Once it is uploaded, The C&D Coordinator can approve the Form 1: WMP or Form 2: Final Report within Ventura OPS.

For additional information or assistance filling out the WMP for Final Report, please email CDFORMS@cityofventura.ca.gov or call (805)652-4525.

Helpful Links & Phone Numbers

- [A Guide for Applicants: Construction and Demolition Debris Program](#)
 - For information regarding the City of Ventura program, please call 805-652-4525
- [California Department of Resource Recycling and Recovery \(CalRecycle\)](#)
 - Overview of State regulations, tips about C&D recycling and reuse, and case studies.
- [Construction and Demolition Recycling Association](#)
 - This is a series of websites specific to asphalt shingle, concrete and gypsum drywall recycling. A national database of recyclers is also available.
- [County of Ventura Public Works Agency](#)
 - A Countywide list of debris recycling companies, facilities, and solid waste collection companies.
- [E.J. Harrison and Sons, Inc.](#)
 - C&D roll-off services for the City of Ventura, 805-647-1414
- [Habitat for Humanity](#)
 - Two Ventura County ReStore locations accept new and gently used furniture, home goods, and building materials. [Self-Haul Drop off Locations](#)
 - Oxnard | 121 S Rice Avenue., Oxnard CA 93030 | 805-981-2268
 - Simi Valley | 1293 E Los Angeles Avenue., Simi Valley CA 93065 | 805-520-7717
- [Self-Haul Drop off Locations](#)
 - Deconstruction is important to sustainable development. Check out where you can drop off construction debris such as concrete, asphalt, rock, brick, dirt, and sand.

Contact Us

Contact Us

Environmental Sustainability

Email

Physical Address

336 Sanjon Rd
Ventura, CA 93002

Phone: : 805-652-4525

Directory



CONTACT US QUICK LINKS USING THIS

SITE

City of Ventura
501 Poli Street
Ventura, CA 93001

Phone: (805) 654-7800

Monday - Thursday
7:30 am - 5:30 pm

Friday*
8 am - 5 pm
*Closed Alternate
Fridays

City Department
Directory

City of Ventura Social
Media

City News Releases

Career Opportunities

Public Records Online
Portal

Ventura Police
Department

Ventura Fire
Department

Ventura Water

Home

Site Map

Resource Agencies

Accessibility

Copyright Notices

Privacy Policy



2020 URBAN WATER MANAGEMENT PLAN

ADOPTED BY THE BOARD OF DIRECTORS ON JUNE 23, 2021

Prepared by:

- Michael Flood, PE, General Manager
- Kelley Dyer, PE, Assistant General Manager
- Julia Aranda, PE, Engineering Manager
- Tyrone LaFay, Public Affairs & Water Conservation Manager
- Michael Shields, Operation and Maintenance Manager
- Janyne Brown, Chief Financial Officer

Table of Contents

- 1. Introduction and Lay Description 1
- 2. Plan Preparation 5
 - 2.1. Plan Preparation 5
 - 2.2. Basis for Preparing a Plan 5
 - 2.2.1. Public Water Systems..... 5
 - 2.2.2. Suppliers Serving Multiple Service Areas/Public Water Systems 6
 - 2.3. Regional Planning..... 6
 - 2.4. Individual or Regional Planning and Compliance..... 6
 - 2.4.1. Regional UWMP 6
 - 2.4.2. Regional Alliance 6
 - 2.5. Fiscal or Calendar Year and Units of Measure 6
 - 2.5.1. Fiscal or Calendar Year 7
 - 2.5.2. Reporting Complete 2020 Data 7
 - 2.5.3. Units of Measure..... 7
 - 2.6. Coordination and Outreach 7
 - 2.6.1. Wholesale and Retail Coordination 7
 - 2.6.2. Coordination with Other Agencies and the Community..... 9
 - 2.6.3. Notice to Cities and County 9
- 3. System Description 11
 - 3.1. General Description 11
 - 3.2. Service Area Boundary Map..... 13
 - 3.3. Service Area Climate 15
 - 3.4. Service Area Population and Demographics..... 15
 - 3.4.1. Service Area Population 16
 - 3.4.2. Other Social, Economic and Demographic Factors 17
 - 3.4.3. Land Uses Within Service Area 17
- 4. Water Use Characterization..... 21
 - 4.1. Non-Potable Versus Potable Use 21
 - 4.2. Past, Current, and Projected Water Use By Sector..... 21
 - 4.2.1. Past Water Use..... 21
 - 4.2.2. Current Water Use 21
 - 4.2.3. Projected Water Use..... 23

4.2.4.	Distribution System Loss	27
4.2.5.	Characteristic Five-Year Water Use	28
4.3.	Water Use for Lower Income Households	29
4.4.	Climate Change Considerations	29
5.	SB X7-7 Baselines, Targets, and 2020 Compliance	31
5.1.	Wholesale Suppliers.....	31
5.2.	SB X7-7 Baselines, Targets, and 2020 Compliance.....	31
5.2.1.	SB X7-7 Verification Form (Baselines and Targets)	31
5.2.2.	SB X7-7 2020 Compliance Form	34
5.2.3.	Regional UWMP/Regional Alliance	34
5.3.	Baseline and Target Calculations for 2020 UWMPs.....	34
5.3.1.	Supplier Submitted 2015 UWMP, No Change to Service Area	35
5.3.2.	Supplier Did Not Submit 2015 UWMP	35
5.3.3.	Supplier Newly Subject to UWMP Requirements	35
5.3.4.	Distribution Area Expansion	35
5.3.5.	Distribution Area Contraction	35
5.3.6.	Large Partial Customers Become Whole Customers	35
5.4.	Methods for Calculating Population and Gross Water Use	35
5.4.1.	Service Area Population	35
5.4.2.	Gross Water Use	36
5.5.	2020 Compliance Daily Per-Capita Water Use (GPCD)	36
5.5.1.	2020 Adjustments for Factors Outside Supplier’s Control	36
5.5.2.	Special Situations	37
5.5.3.	If Supplier Does Not Meet 2020 Target	37
5.6.	Regional Alliance	37
6.	Water Supply Characterization	39
6.1.	Water Supply Analysis Overview	39
6.2.	Narrative Sections for Supplier’s UWMP Water Supply Characterization.....	39
6.2.1.	Purchased or Imported Water	41
6.2.2.	Groundwater.....	43
6.2.3.	Surface Water	47
6.2.4.	Stormwater	50
6.2.5.	Wastewater and Recycled Water	50

6.2.6.	Desalinated Water Opportunities	66
6.2.7.	Water Exchanges and Transfers.....	66
6.2.8.	Future Water Projects.....	67
6.2.9.	Summary of Existing and Planned Sources of Water.....	71
6.2.10.	Special Conditions	73
6.3.	Submittal Tables Completion Using Optional Planning Tool	75
6.4.	Energy Use	75
7.	Water System Reliability and Drought Risk Assessment	80
7.1.	Introduction	80
7.2.	Water Service Reliability Assessment	80
7.2.1.	Service Reliability – Constraints on Water Sources	80
7.2.2.	Service Reliability – Year Type Characterization	81
7.2.3.	Service Reliability – Supply and Demand Comparison.....	84
7.2.4.	Description of Management Tools and Options	88
7.3.	Drought Risk Assessment.....	89
7.3.1.	DRA Data, Methods, and Basis for Water Shortage Condition	89
7.3.2.	DRA Water Source Reliability.....	89
7.3.3.	DRA Total Water Supply and Use Comparison	90
7.3.4.	Optional Planning Tool Workbook.....	93
8.	Water Shortage Contingency Plan	95
8.1.	Water Supply Reliability Analysis.....	96
8.1.1.	Lake Casitas	96
8.1.2.	Water Quality Impacts on Reliability	99
8.1.3.	Groundwater.....	99
8.1.4.	Existing Emergency Supplies.....	99
8.1.5.	Potential Future Emergency Supplies	100
8.2.	Annual Water Supply and Demand Assessment Procedures	100
8.2.1.	Decision-Making Process	100
8.2.2.	Data and Methodologies.....	101
8.2.3.	Evaluation Criteria.....	102
8.3.	Six Standard Water Shortage Stages.....	103
8.4.	Shortage Response Actions.....	103
8.4.1.	Demand Reduction	104

8.4.2.	Supply Augmentation.....	105
8.4.3.	Operational Changes.....	106
8.4.4.	Additional Mandatory Restrictions.....	107
8.4.5.	Emergency Response Plan	107
8.4.6.	Seismic Risk Assessment and Mitigation Plan	107
8.4.7.	Shortage Response Action Effectiveness	107
8.5.	Communication Protocols.....	107
8.5.1.	Stage 1.....	107
8.5.2.	Stage 2.....	108
8.5.3.	Stage 3.....	109
8.5.4.	Stage 4.....	109
8.5.5.	Stage 5.....	109
8.5.6.	Stage 6.....	109
8.6.	Compliance and Enforcement.....	110
8.7.	Legal Authorities	110
8.8.	Financial Consequences of WSCP	111
8.9.	Monitoring and Reporting	112
8.10.	WSCP Refinement Procedures.....	112
8.11.	Special Water Feature Distinction	112
8.12.	Plan Adoption, Submittal, and Availability	113
9.	Demand Management Measures	115
9.1.	Demand Management Measures for Wholesale Suppliers.....	115
9.1.1.	Metering.....	115
9.1.2.	Public Education and Outreach.....	115
9.1.3.	Water Conservation Program Coordination and Staffing Support	115
9.1.4.	Other Demand Management Measures	115
9.1.5.	Asset Management	115
9.1.6.	Wholesale Supplier Assistance Programs	116
9.2.	Demand Management Measures for Retail Suppliers.....	116
9.2.1.	Water Waste Prevention Ordinances	116
9.2.2.	Metering.....	116
9.2.3.	Conservation Pricing	116
9.2.4.	Public Education and Outreach.....	116

9.2.5.	Programs to Assess and Manage Distribution System Real Loss	118
9.3.	Implementation Over the Past Five Years	118
9.3.1.	Water Survey Programs	118
9.3.2.	Water Conservation Devices.....	118
9.3.3.	Smart Rebates: High-Efficiency Washing Machine and Toilet Rebate Program.....	118
9.3.4.	Smart Irrigation Controller Rebates.....	119
9.3.5.	Hobby Farm Survey and Rebate Program.....	119
9.3.6.	Agricultural Rebate Program.....	119
9.3.7.	Public Information & Outreach Programs	120
9.3.8.	Conservation Pricing	120
9.3.9.	Water Waste Prohibition	121
9.4.	Water Use Objectives (Future Requirements).....	121
10.	Plan Adoption, Submittal, and Implementation	125
10.1.	Inclusion of all 2020 Data.....	125
10.2.	Notice of Public Hearing	125
10.2.1.	Notice to Cities and Counties.....	125
10.2.2.	Notice to the Public.....	126
10.3.	Public Hearing and Adoption	126
10.3.1.	Public Hearing	126
10.3.2.	Adoption	126
10.4.	Plan Submittal	126
10.4.1.	Submitting a UWMP and Water Shortage Contingency Plan to DWR.....	127
10.4.2.	Electronic Data Submittal	127
10.4.3.	Submitting a UWMP, including WSCP, to the California State Library	127
10.4.4.	Submitting a UWMP to Cities and Counties	127
10.5.	Public Availability	127
10.6.	Notification to Public Utilities Commission	127
10.7.	Amending an Adopted UWMP or Water Shortage Contingency Plan.....	127
10.7.1.	Amending a UWMP.....	127
10.7.2.	Amending a Water Shortage Contingency Plan.....	127

Figures

1-1 Casitas Water Demands 1999-2020

3-1 Casitas Municipal Water District Boundary Map

- 3-2 Casitas Service Area Boundary Map
- 3-3 Disadvantaged Communities Within Casitas Service Area
- 3-4 Land Use Designations with Casitas Service Area
- 4-1 2016-2020 Water Use
- 4-2 Potential Scenarios – Decline in Lake Casitas Storage
- 6-1 Supply Sources Illustration
- 6-2 SWP Delivery Facilities
- 6-3 Groundwater Basins within Casitas Service Area
- 6-4 Ojai Wellfield Location Map
- 6-5 Historic Lake Casitas Storage Volume, 1970-2021
- 6-6 Mass Balance Model for Estimating Lake Casitas Yield
- 6-7 Wastewater Agency Boundaries
- 7-1 Potential Scenarios – Decline in Lake Casitas Storage
- 8-1 Historic Lake Levels, Inflow, and Drought Periods
- 8-2 Historic Water Use by Customer Class
- 8-3 Hypothetical Decline in Lake Casitas Storage with No Rainfall or Runoff
- 9-1 Major Actions Related to Making Conservation a Way of Life Legislation (SB606 and AB1668)

Tables

- 2-1 Retail Only: Public Water Systems
- 2-2 Plan Identification
- 2-3 Supplier Identification
- 2-4 Wholesale: Water Supplier Information Exchange
- 2-4 Retail: Water Supplier Information Exchange – Casitas Retail
- 2-4 Retail: Water Supplier Information Exchange – Ojai Retail
- 3-1 Wholesale: Population – Current and Projected, Casitas Wholesale
- 3-1 Retail: Population – Current and Projected, Casitas Retail
- 3-1 Retail: Population – Current and Projected, Ojai Retail
- 4-1 Wholesale: Demands for Potable and Non-Potable Water – Actual
- 4-1 Retail: Demands for Potable and Non-Potable Water – Actual, Casitas Retail
- 4-1 Retail: Demands for Potable and Non-Potable Water – Actual, Ojai Retail
- 4-2 Wholesale: Use for Potable and Raw Water – Projected
- 4-3 Wholesale: Total Water Use (Potable and Non-Potable)
- 4-2 Retail: Use for Potable and Non-Potable Water – Projected, Casitas Retail
- 4-3 Retail: Total Gross Water Use (Potable and Non-Potable), Casitas Retail
- 4-2 Retail: Use for Potable and Non-Potable Water – Projected, Ojai Retail
- 4-3 Retail: Total Gross Water use (Potable and Non-Potable), Ojai Retail
- 4-4 Retail: Last Five years of Water Loss Audit Reporting, Casitas Retail
- 4-4 Retail: Last Five years of Water Loss Audit Reporting, Ojai Retail
- 4-5 Water Use for Lower Income Households, Casitas and Ojai Retail Systems
- 5-0 Baseline Average Daily Per Capita Water Use, Casitas Retail System
- 5-1 Baselines and Targets Summary, Casitas Retail
- 5-0 Baseline Average Daily Per Capita Water Use, Ojai Retail System
- 5-1 Baselines and Targets Summary, Ojai Retail
- 5-2 2020 Compliance From SB X7-7 2020 Compliance Form, Casitas Retail
- 5-2 2020 Compliance From SB X7-7 2020 Compliance Form, Ojai Retail
- 5-3 Casitas Retail System 2020 Per Capita Water Use Compliance
- 5-3 Ojai Retail System 2020 Per Capita Water Use Compliance

6-1 Wholesale: Groundwater Volume Pumped, Casitas Wholesale
6-1 Retail: Groundwater Volume Pumped, Casitas Retail
6-1 Retail: Groundwater Volume Pumped, Ojai System
6-2 Retail: Wastewater Collected Within Service Area in 2020, Casitas Retail
6-2 Retail: Wastewater Collected Within Service Area in 2020, Ojai Retail
6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2020, Casitas Wholesale
6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020, Casitas Retail
6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020, Ojai Retail
6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area, Casitas Wholesale
6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Casitas Retail System
6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Ojai Retail System
6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Casitas Wholesale
6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Casitas Retail System
6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Ojai Retail System
6-6 Retail: Methods to Expand Recycled Water Use, Casitas Retail System
6-6 Retail: Methods to Expand Recycled Water Use, Ojai Retail System
6-7 Wholesale: Expected Future Water Supply Projects or Programs, Casitas Wholesale
6-7 Retail: Expected Future Water Supply Projects or Programs, Casitas Retail
6-7 Retail: Expected Future Water Supply Projects or Programs, Ojai Retail
6-8 Wholesale: Water Supplies – Actual, Casitas Wholesale
6-8 Retail: Water Supplies – Actual, Casitas Retail
6-8 Retail: Water Supplies – Actual, Ojai Retail
6-9 Wholesale: Water Supplies – Projected, Casitas Wholesale
6-9 Retail: Water Supplies – Projected, Casitas Retail
6-9 Retail: Water Supplies – Projected, Ojai Retail
O-1C Recommended Energy Reporting – Multiple Water Delivery Products, Casitas Wholesale and Retail
O-1B Recommended Energy Reporting – Total Utility Approach, Ojai Retail
7-0 SWP Allocation for Casitas Wholesale and Casitas Retail
7-1 Wholesale: Basis of Water Year Data (Reliability Assessment), Casitas Wholesale
7-1 Retail: Basis of Water Year Data (Reliability Assessment), Casitas Retail
7-1 Retail: Basis of Water Year Data (Reliability Assessment), Ojai Retail
7-2 Wholesale: Normal Year Supply and Demand Comparison, Casitas Wholesale
7-2 Retail: Normal Year Supply and Demand Comparison, Casitas Retail
7-2 Retail: Normal Year Supply and Demand Comparison, Ojai Retail
7-3 Wholesale: Single Dry Year Supply and Demand Comparison, Casitas Wholesale
7-3 Retail: Single Dry Year Supply and Demand Comparison, Casitas Retail
7-3 Retail: Single Dry Year Supply and Demand Comparison, Ojai Retail
7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison
7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Casitas Retail
7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Ojai Retail
7-5 Five-Year Drought Risk Assessment Tables to address Water Code Section 10635 (b), Wholesale
7-5 Five-Year Drought Risk Assessment Tables to address Water Code Section 10635 (b), Casitas Retail
7-5 Five-Year Drought Risk Assessment Tables to address Water Code Section 10635 (b), Ojai Retail
8-0 Stage Conditions in Relation to Lake Casitas Storage
8-1 Water Shortage Contingency Plan Levels
8-2 Demand Reduction Actions

- 8-3 Supply Augmentation and Other Actions
- 8-4 Percentage of Fixed and Volumetric Revenue 2016-2020
- 9-1 Washing Machine Rebates Completed, 2016-2020
- 9-2 Toilet Rebates Completed, 2016-2020
- 9-3 Smart Irrigation Controller Rebates Completed, 2016-2020
- 9-4 Public Information and Outreach Programs Completed, 2016-2020
- 9-5 Retail Volumetric Rate Structure
- 9-6 Wholesale Volumetric Rate Structure
- 10-1 Wholesale: Notification to Cities and Counties
- 10-1 Retail: Notification to Cities and Counties, Casitas Retail
- 10-1 Retail: Notification to Cities and Counties, Ojai Retail

Appendices

- A – Sample Letter to Other Agencies
- B – Sample Letter to City/County
- C – AWWA Water Loss Audits, 2016-2020
- D – FY 2021-22 Casitas Water Supply and Demand Assessment
- E – SB X7-7 Compliance and Verification Form
- F – Water Efficiency and Allocation Plan (WEAP)
- G – Water Waste Ordinance 15-02
- H – Resolution of Adoption of Water Shortage Contingency Plan and Resolution of Adoption of 2020 Urban Water Management Plan
- I – DWR Standardized Tables
- J – Water Rates
- K – Public Hearing Notification and Proof of Publication of Public Hearing
- L – Public Hearing Presentation

Abbreviations

AF	acre-feet
AFY	acre-feet per year
AMR	Automated Meter Reading
AWIA	American Water Infrastructure Act
AWMP	Agricultural Water Management Plan
BO	Biological Opinion
CA	Coastal Area
CAGR	Compounded Annual Growth Rate
CalWEP	California Water Efficiency Partnership
CDFW	California Department of Fish and Wildlife
CDP	Census Designated Place
cfs	cubic feet per second
CVWD	Carpinteria Valley Water District
DAC	Disadvantaged Community
DCR	Delivery Capability Report
DRA	Drought Response Assessment
DWR	Department of Water Resources
ERP	Emergency Response Plan
ESA	Endangered Species Act
°F	degrees Fahrenheit

FY	Fiscal year
GIS	Geographic Information System
gpcd	gallons per capita per day
GSP	Groundwater Sustainability Plan
GSWC	Golden State Water Company
HAA	Haloacetic acid
kWh	Kilowatt-hours
MCL	Maximum Contaminant Level
mgd	million gallons per day
MWWTP	Marion Walker Water Treatment Plant
NMFS	National Marine Fisheries Service
NVAA	North Ventura Avenue Area
OBGMA	Ojai Basin Groundwater Management Agency
OVA	Ojai Valley Area
OVSD	Ojai Valley Sanitary District
OWS	Ojai Water System
PWS	Public Water System
SB X7-7	Water Conservation Act of 2009
SCADA	Supervisory Control and Data Acquisition
SGMA	Sustainable Groundwater Management Act
SGPWA	San Geronio Pass Water Agency
SWP	State Water Project
SWRCB	State Water Resources Control Board
THM	Trihalomethane
USBR	US Bureau of Reclamation
UVRGA	Upper Ventura River Groundwater Agency
UVRGB	Upper Ventura River Groundwater Basin
UWCD	United Water Conservation District
UWMP	Urban Water Management Plan
VCFCD	Ventura County Flood Control District
VCRCD	Ventura County Resource Conservation District
WAP	California Water Action Plan
WEAP	Water Efficiency and Allocation Program
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency

This page intentionally blank.

1. Introduction and Lay Description

Casitas Municipal Water District (Casitas or District) has prepared this 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act of 1983. This section provides an overview of Casitas' water supplies, demands, water service reliability, and strategies for managing risks.

Overview. Casitas provides wholesale and retail water service to western Ventura County and is governed by a five-member elected Board of Directors (Board). Originally named the Ventura River Municipal Water District, Casitas was formed in 1952 to provide supplemental water to the agricultural communities in its service area. The service area also includes residential, commercial, and industrial uses. Wholesale customers include the City of Ventura and several special districts and mutual water companies. In June 2017, Casitas acquired the Ojai Water System (OWS) from Golden State Water Company (GSWC) and absorbed those customers as retail customers.

Water Supplies. All water supplies are local, consisting of groundwater wells and surface water in Lake Casitas. Lake Casitas was formed by the construction of Casitas Dam by the US Bureau of Reclamation in 1958. The total lake capacity is 237,761 acre-feet (AF) as of 2017. The Robles Diversion and Fish Passage Facility is located on the north end of the Ventura River and allows Casitas to divert river flow to the Robles Canal to feed Lake Casitas. Operation of the Robles Facility is under the jurisdiction of the 2003 non-jeopardy Biological Opinion (BO) prepared by National Marine Fisheries Service (NMFS) due to the listing of steelhead trout as an endangered species.

As of December 31, 2020, Lake Casitas was at approximately 39.3 percent of capacity (93,449 AF in storage) due to the ongoing drought. The Safe Yield of Lake Casitas was re-evaluated in 2020 and the hydrology model was updated as described in Section 6.2.3. The Board adopted a safe yield of 18,420 acre-feet per year (AFY) in April 2021 and applied a supply safety factor of -15 percent and a climate change adjustment of -4.3 percent for planning purposes.

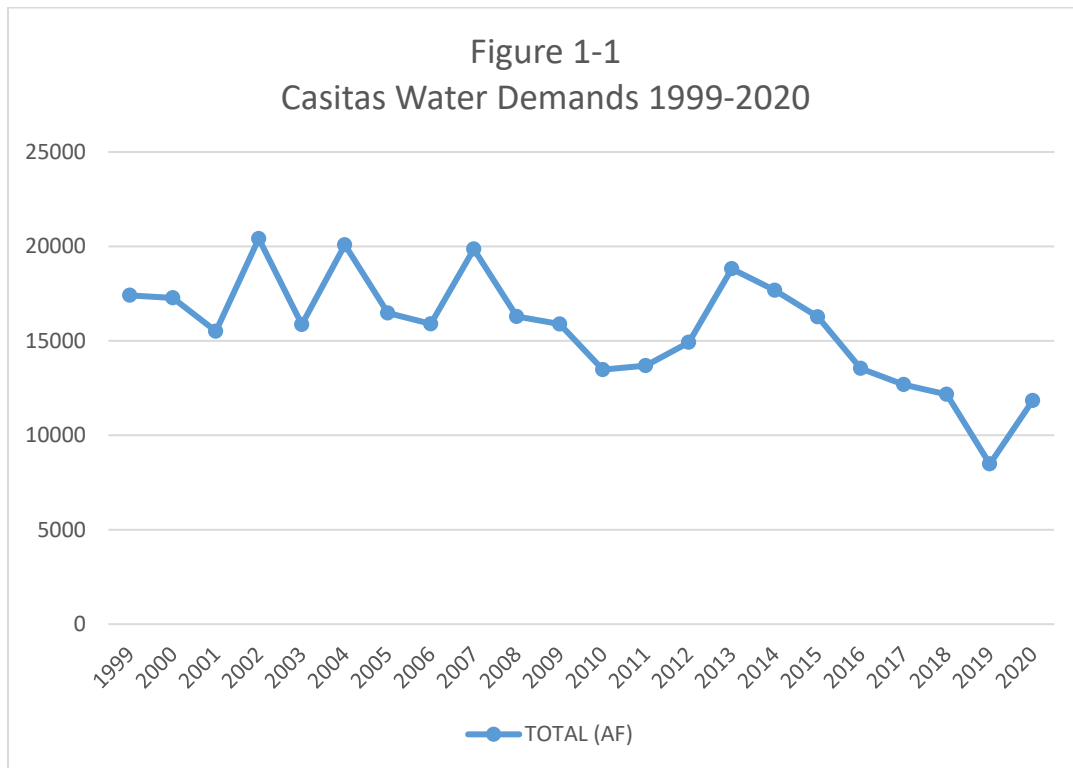
The Casitas System also includes one groundwater well, the Mira Monte Well, located in the Upper Ventura River Groundwater Basin. The combined planned operational yield from Lake Casitas and the Mira Monte Well is 15,010 AFY.

In 2017, Casitas acquired the OWS from GSWC. Prior to this, GSWC had been a wholesale customer of Casitas. Ojai Water System customers are now direct customers of Casitas. The Ojai Water System includes the Ojai Wellfield on the east end of Ojai with six groundwater wells. These wells are located in the Ojai Groundwater Basin and currently provide approximately 1,800 AFY of supply. The Ojai Groundwater Basin is unadjudicated and is not considered to be in an overdraft condition.

In 1963, the Ventura County Flood Control District (now the Ventura County Watershed Protection District) contracted with the State of California for up to 20,000 AFY of water from the State Water Project (SWP). In 1971, Ventura County Flood Control District assigned the administration of the contract to Casitas. Casitas' contractual share is 5,000 AFY of State Water Project (SWP), the City of Ventura has 10,000 AFY and United Water Conservation District has 5,000 AFY. To date the infrastructure is not in place to deliver the contractual share to Casitas. Design of a 1.5-mile intertie between Casitas and Carpinteria Valley Water District, referred to as the Ventura-Santa Barbara Counties Intertie, is expected to be complete in 2022, and funding is being pursued for construction. The

intertie will allow delivery of imported water to Casitas to augment local supplies and mitigate impacts of droughts and emergencies.

Water Demands. Demands on the Casitas system have ranged from a low of approximately 8,545 AF in 2019 to a high of approximately 24,000 AF in 1989. Figure 1-1 shows a snapshot of water demands from 1999-2020. In general, agricultural customers make up the majority of demand at 50 percent. Wholesale customers comprise approximately 30 percent and retail customers 20 percent¹.



Every Casitas customer has an assigned water allocation. Casitas manages customer demands through the Water Efficiency Allocation Program (WEAP), which includes conservation targets based on lake level. Currently, Casitas is currently in Stage 3 of the WEAP with mandated 30 percent conservation. Customers who exceed their allocation pay penalties for overuse.

Both the Casitas Retail and Ojai Retail systems met their '20 by 2020' goal to reduce water use 20 percent from the pre-2010 baseline period. Casitas retail users target was 295 gallons per capita per day (gpcd) and the actual 2020 use was 195 gpcd. Ojai users' goal was 257 gpcd and actual 2020 usage was 209 gpcd.

Challenges Ahead. The ongoing drought continues to affect Casitas as all water supplies are local groundwater and surface water diversions. As of December 31, 2020, Lake Casitas was at 39.3 percent capacity with 93,449 AF of water in storage.

The Robles Diversion Facility on the Ventura River may be impacted by the future removal of the Matilija Dam upstream. The release of large quantities of sediment may affect Casitas' ability to divert water to

¹ 2011-2020 average

Lake Casitas. Casitas continues to work with the County of Ventura to evaluate the best alternatives to maintain diversions, protect endangered species, and reduce flooding.

The City of Ventura initiated a water rights adjudication of four groundwater basins within the Ventura River watershed. The basins named in the lawsuit include: Upper Ventura River Groundwater Basin, Lower Ventura River Groundwater Basin, Ojai Valley Groundwater Basin, and Upper Ojai Valley Groundwater Basin. The outcome of the adjudication is currently unknown. Casitas is actively defending and protecting its water rights in the case of *Santa Barbara Channelkeeper v. State Water Resources Control Board; City of San Buenaventura; City of San Buenaventura v. Duncan Abbott, et al.*, Cross-Complaint, Superior Court of the State of California, County of Los Angeles, Case No. 19STCP01176. More information can be found at: <http://www.venturariverwatershedadjudication.com>

Strategies to Manage Reliability. During drought conditions, the WEAP is a cornerstone policy for Casitas' demand management. The WEAP describes the water demand reduction strategies and measures to address water shortage conditions, promote water conservation and the efficient use of water, and the application of a penalty to customers who waste water. The WEAP was originally developed in response to the 1987-1991 drought period, and is updated and modified as needed. The collective work in 1992 set the starting point for a system of water allocation assignments and demand response criteria based on the level of water storage in Lake Casitas.

Casitas prepares an annual Water Supply Assessment each April and provides a summary of the previous fiscal year's weather conditions, water resources, and water demands. The Board may take action to implement various stages of the WEAP in response to these factors.

Casitas is currently designing the Ventura-Santa Barbara Counties Intertie project to allow Casitas to access to its SWP allocation and supplemental water when there is excess delivery capacity in the Santa Barbara County facilities. This intertie would mitigate impacts of droughts and emergencies when local supplies become limited.

This page left intentionally blank.

2. Plan Preparation

Casitas is preparing this UWMP in compliance with California Water Code. Casitas is a wholesale and retail water provider and this UWMP incorporates these two elements. On the retail side, Casitas has two water systems, the Casitas System and the Ojai System, each with their own Public Water System Identification Number. Information presented will reflect these three entities: 1) Casitas Wholesale, 2) Casitas System Retail, and 3) Ojai System Retail.

2.1. Plan Preparation

This UWMP was prepared by Casitas staff from Engineering, Public Outreach and Conservation, Finance, and Operations and Maintenance departments.

2.2. Basis for Preparing a Plan

Casitas is both a wholesale and retail water supplier and will complete applicable sections and tables for both wholesale and retail information. Casitas is required to prepare an UWMP as a retail provider since it serves more than 3,000 AF per year and more than 3,000 connections to retail customers. The Ojai System served 2,953 customers as of December 31, 2020, which is under the threshold of 3,000 customers required to submit an UWMP. Casitas is including the Ojai System to provide a comprehensive picture of the systems Casitas operates.

Casitas completed a combined UWMP and Agricultural Water Management Plan (AWMP) in 2015 though it did not meet the criteria for an AWMP. An AWMP is required when at least 10,000 acres of land is irrigated (excluding recycled water deliveries). Casitas provides water to agricultural customers with reported irrigable lands of approximately 5,000 acres. For this 2020 UWMP, Casitas did not complete an AWMP as the criteria was not met.

2.2.1. Public Water Systems

The Casitas water system provides wholesale and retail water service. The OWS, acquired from GSWC in 2017, is a retail system only. The Casitas and OWS have separate Public Water System Numbers as shown in Table 2-1.

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (Acre-Feet)
5610024	Casitas Municipal Water District	3,187	7,122
5610014	Ojai Water System	2,943	1,625
TOTAL		6,130	8,747
NOTES: Does not include resale (wholesale); includes agricultural, and agricultural-domestic customers. Casitas acquired the Ojai Water System in June 2017.			

2.2.2. [Suppliers Serving Multiple Service Areas/Public Water Systems](#)

This section is not applicable since Casitas is reporting information for each system (rather than grouping the systems together).

2.3. [Regional Planning](#)

Casitas did not participate in a regional effort in the context of 2020 UWMP for establishing regional targets and compliance.

2.4. [Individual or Regional Planning and Compliance](#)

Casitas is preparing this 2020 UWMP as an individual water supplier as shown in Table 2-2.

Submittal Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance if applicable
<input checked="" type="checkbox"/>	Individual UWMP	
<input type="checkbox"/>	Water Supplier is also a member of a RUWMP	
<input type="checkbox"/>	Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	

2.4.1. [Regional UWMP](#)

This section is not applicable to Casitas.

2.4.2. [Regional Alliance](#)

This section is not applicable to Casitas.

2.5. [Fiscal or Calendar Year and Units of Measure](#)

Casitas is both a wholesaler and retailer as shown in Table 2-3. Table 2-3 also shows the year type and units of measure used throughout this UWMP.

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input checked="" type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years

Submittal Table 2-3: Supplier Identification	
<input type="checkbox"/>	UWMP Tables are in fiscal years
Units of measure used in UWMP	
Unit	Acre-Feet (AF)
<i>* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>	

2.5.1. [Fiscal or Calendar Year](#)

The data reported in this 2020 UWMP is on a calendar year basis.

2.5.2. [Reporting Complete 2020 Data](#)

All data for the complete calendar year 2020 is included herein.

2.5.3. [Units of Measure](#)

Casitas is reporting all water data in acre-feet.

2.6. Coordination and Outreach

Coordination and outreach regarding the preparation of this 2020 UWMP is discussed in the following subsections.

2.6.1. [Wholesale and Retail Coordination](#)

Casitas Wholesale System. Casitas supplies water on a wholesale basis to the agencies listed in Table 2-4.

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
<input checked="" type="checkbox"/>	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed. Provide page number for location of the list.
<input type="checkbox"/>	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. Complete the table below.
Water Supplier Name	
Casitas Mutual Water Company	
City of Ventura	
Del Vasco Mutual Water Company	
Hermitage Mutual Water Company	
Meiners Oaks Water District	
Old Creek Road Water Company	

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)
Rancho del Cielo Mutual Water Company
Rincon Road and Water Works
Senior Canyon Mutual Water Company
Siete Robles Mutual Water Company
Sisar Mutual Water Company
Sulphur Mountain Road Water Association
Tico Mutual Water Company
Ventura River Water District
NOTES:

Casitas Retail System. Casitas serves as the ‘wholesaler’ to Casitas retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

Submittal Table 2-4 Retail: Water Supplier Information Exchange – Casitas Retail
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Not applicable.
NOTES: Casitas serves as the ‘wholesaler’ to Casitas retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

Ojai Water System. Casitas serves as the ‘wholesaler’ to Ojai Water System retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

Submittal Table 2-4 Retail: Water Supplier Information Exchange – Ojai Retail
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Not applicable.
NOTES: Casitas serves as the ‘wholesaler’ to Ojai Water System retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

2.6.2. Coordination with Other Agencies and the Community

Notifications regarding the preparation of this 2020 UWMP were sent to the following agencies and community groups:

Calleguas Municipal Water District	Surfrider Foundation Ventura County
Carpinteria Valley Water District	United Water Conservation District
Farm Bureau of Ventura County	Upper Ventura River Groundwater Management Agency
Friends of the Ventura River	Ventura County Agriculture Commissioner
Ojai Basin Groundwater Management Agency	Ventura County Local Agencies Formation Commission
Ojai Chamber of Commerce	Ventura County Resource Conservation District
Ojai FLOW	Ventura County Supervisor Matt LaVere
Ojai Pixie Growers Association	Ventura County Watershed Protection District
Ojai Valley Land Conservancy	Ventura River Watershed Coordinator
Ojai Valley News	Watersheds Coalition of Ventura County
Ojai Valley Sanitary District	

A sample letter is provided in Appendix A. Additionally, Casitas posted a notice on their website and social media accounts including Facebook and Twitter regarding the availability of the Draft 2020 UWMP.

2.6.3. Notice to Cities and County

Notification letters at least 60-days in advance of the public hearing on the 2020 UWMP were sent to the following Cities and Counties:

- County of Ventura
- City of Ventura
- Ventura Water
- City of Ojai

The sample letter is provided in Appendix B.

This page left intentionally blank.

3. System Description

Descriptions of the Casitas and Ojai water systems are included in the following subsections.

3.1. General Description

Casitas is a Municipal Water District providing wholesale and retail potable water to western Ventura County including 6,130 agricultural, commercial, and residential customers. The District boundaries (Figure 3-1) encompass the City of Ojai, Upper Ojai, the Ventura River Valley area, the City of Ventura (west of Mills Road), and the beach communities of Solimar, La Conchita, and Rincon.

Casitas Wholesale System. Casitas supplies water to several water agencies on a wholesale basis; there is a total of 24 wholesale connections. The largest wholesale customer is the City of Ventura (City or Ventura). Ventura is supplied via the gravity-fed Cañada Larga (30-inch) and Ventura 1(M) (33-inch) Mains. There are two connection points to the City, one at the City's Avenue Treatment Plant, and one near Olive and Ramona Streets in west Ventura. The maximum demand from the City can periodically reach 20 cubic feet per second (cfs). Casitas' service area also includes smaller mutual water companies, and two water districts, Meiners Oaks Water District and Ventura River Water District.

Casitas Retail System. The Casitas retail system includes the services directly to end users such as residential, agricultural, commercial, and industrial customers.

The Casitas wholesale and retail customers share a potable water supply and distribution system.

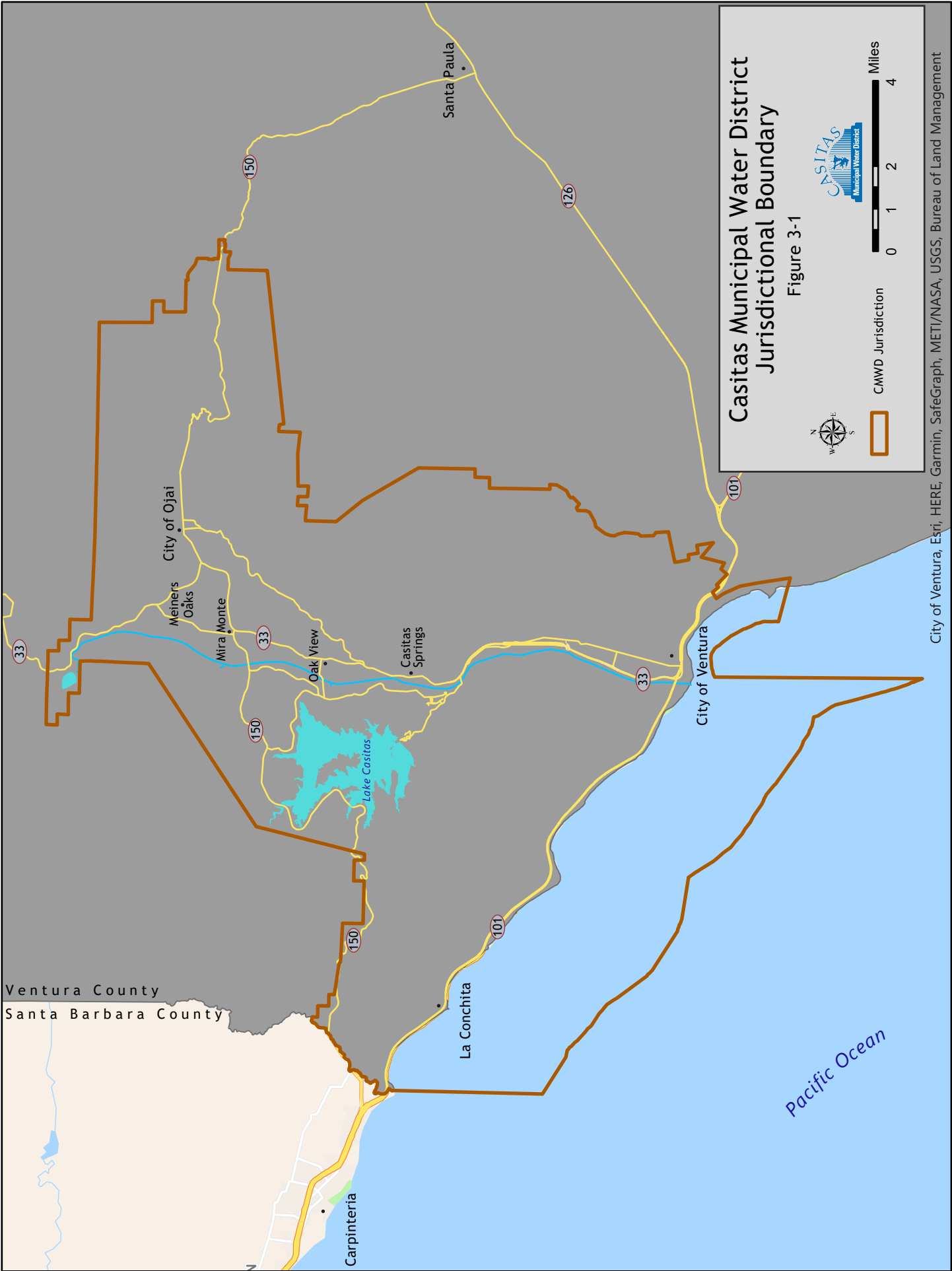
Casitas Municipal Water District was originally formed as Ventura River Municipal Water District in 1952. The main source of supply is Lake Casitas, which was formed by the construction of Casitas Dam. The Dam, the Robles Diversion Facility on the Ventura River, and a majority of the transmission system was constructed by the United States Bureau of Reclamation (USBR) in the late 1950s and 1960s. In addition to the facilities constructed by USBR, Casitas also constructed water infrastructure (pipelines, tanks, and pump plants) to further expand the system.

The original capacity of Lake Casitas was 254,000 acre-feet (AF); a 2017 bathymetric survey re-calculated the capacity to approximately 238,000 AF. As of December 2020, Lake Casitas was at approximately 39.3 percent of capacity (93,449 AF in storage) due to the ongoing drought.

Lake Casitas receives inflow from the surrounding watershed, Coyote Creek, Santa Ana Creek, and the Robles Diversion Facility. The Robles Fish Passage Facility was constructed at the Robles Diversion in 2004 as a result of the listing of steelhead trout in the Endangered Species Act (ESA). A 2003 non-jeopardy Biological Opinion (BO) prepared by the National Marine Fisheries Service (NMFS) determines the conditions under which water can be diverted from the Ventura River to the Robles Canal (which feeds into Lake Casitas).

The Marion Walker Water Treatment Plant (MWWTP) at the base of Casitas Dam was constructed in 1995 and is a 65 million-gallon per day (mgd) facility utilizing pressure filtration to treat water before distribution in compliance with the State of California Surface Water Treatment Rule.

The Casitas System also includes the Mira Monte Well with a planned operational supply of 145 to 180 AFY. The well water is blended with surface water from Lake Casitas at a high ratio to ensure nitrate concentrations are below the maximum contaminant level.



Casitas Municipal Water District
Jurisdictional Boundary

Figure 3-1

0 1 2 4 Miles

CMWD Jurisdiction

City of Ventura, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management

Ojai Water System. Casitas acquired the Ojai Water System in 2017 from Golden State Water Company and completed a Condition Assessment and Master Plan in 2018.

The Ojai System obtains water from Ojai Basin groundwater and two interconnections supplying water from the Casitas System. The Ojai System acquisition included several groundwater wells, with some wells over 45 years old and in need of rehabilitation and replacement. The wells acquired by GSWC were unable to produce their original design capacity of 4,404 AFY and Ojai wellfield production from 1994 to 2016 averaged about 1,800 AFY. Since 2017, Casitas has made progress in improving the condition of the wells, although work is not yet complete.

The Ojai Basin is managed by the Ojai Basin Groundwater Management Agency (OBGMA). In May 2020 the OBGMA Well at Carne Road and Grand Avenue showed groundwater levels at 78 percent full (62,400 AF of stored water remaining) in the Ojai Basin².

3.2. Service Area Boundary Map

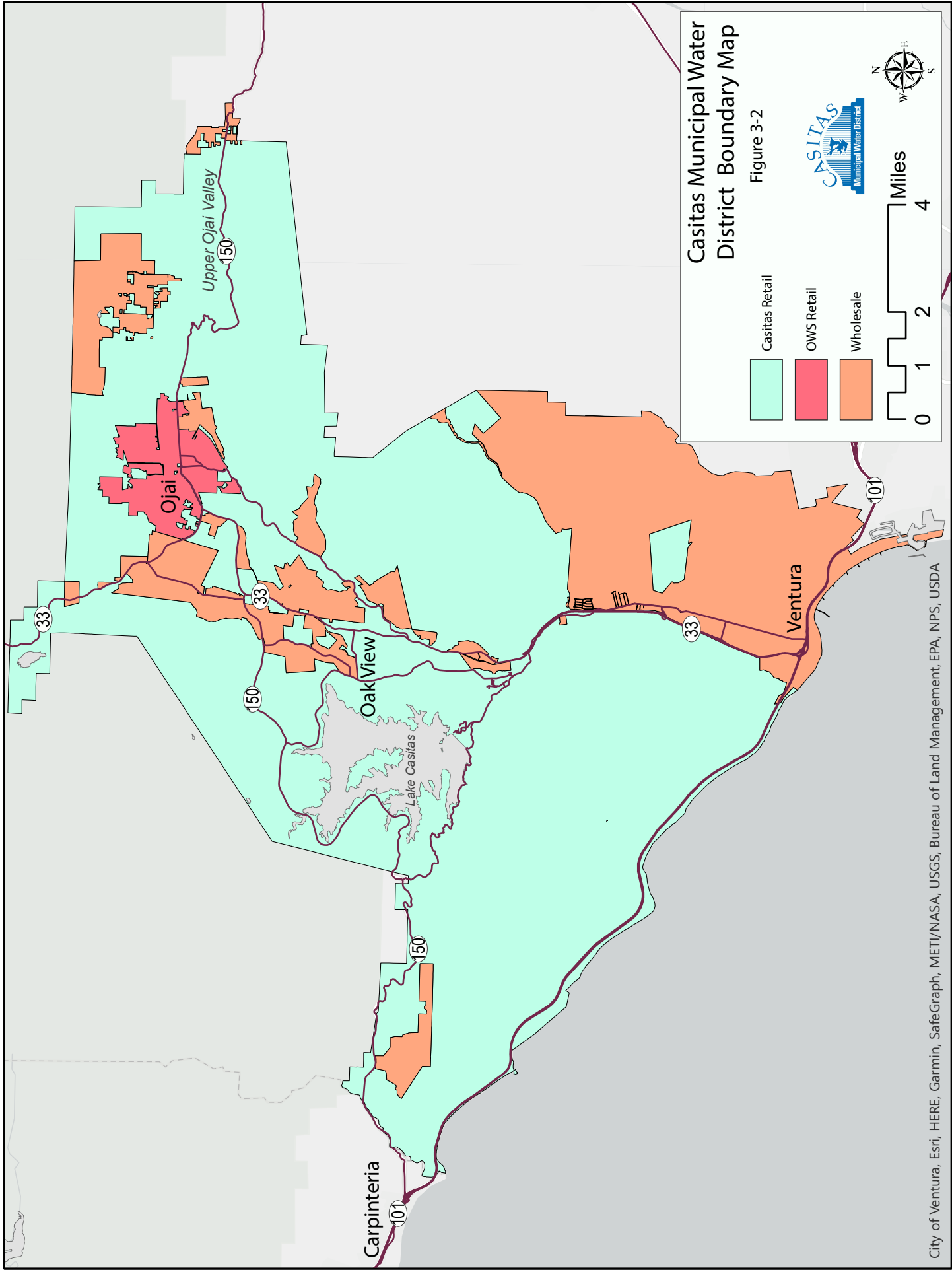
The following subsections show the specific boundaries of the Casitas wholesale system, Casitas retail system and Ojai Water System. Figure 3-2 shows each system's boundaries. Geographic Information System (GIS) files will be uploaded to the California Department of Water Resources (DWR) website when the 2020 UWMP is submitted.

Casitas Wholesale System. The wholesale system boundary was created using the service areas of Casitas' wholesale (resale) customers.

Casitas Retail System. The Casitas Retail System boundary was created by excluding the wholesale (resale) customers and the Ojai retail system.

Ojai Retail System. The Ojai retail system boundary map was created using the boundaries of the former Golden State Water Company.

² *Basin Conditions and Summer Planning*, Jordan Kear PG, CHG, 20 January 2021



3.3. Service Area Climate

The climate conditions for Casitas' entire service area are described in the following subsections. Casitas' service area includes micro-climates of coastal and inland areas. Casitas maintains a weather station at Soule Park Golf Course in Ojai. Precipitation and evaporation is also measured at Casitas Dam and the Lake Casitas Recreation Area. Data for the period 2010 to 2020 is evaluated herein.

Evapotranspiration. Average evapotranspiration by month was evaluated over the 2010-2020 period, and ranged from 1.69 inches in December to 7.48 inches in July, with an average monthly evapotranspiration of 4.26 inches. Total annual evapotranspiration over the period averaged 51.15 inches.

Temperature. Casitas service area experiences significant temperature variation over its terrain. Coastal areas are milder with less temperature fluctuation, while inland areas see a wider temperature swing. For the period of 2010 to 2020, the Soule Golf Course weather station in Ojai showed an average temperature of 37.5 degrees Fahrenheit (°F) in December and an average temperature of 92.0°F in July.

Precipitation. Similarly, annual precipitation varies throughout the service area. In Ojai for the previous ten years, the average monthly precipitation ranged from 0.0 inches in July to 3.89 inches in January. Total annual precipitation over the period averaged 14.91 inches.

At Casitas Dam, the minimum annual precipitation was 9.9 inches (2014) and maximum annual precipitation was 36.0 inches (2011). Total annual precipitation over the period averaged 19.0 inches.

Climate Change. A report titled *Projected Changes in Ventura County Climate* was prepared by the Desert Research Institute in 2019. The report was commissioned by Watersheds Coalition of Ventura County, of which Casitas is a member, and can be found on their website www.wcvc.ventura.org under Climate Resilience Resources. The projected climate change impacts for the Casitas service area include:

- Winters may get wetter with more short duration/high intensity precipitation due to atmospheric rivers, resulting in increased potential for flash flooding
- Shoulder seasons may have more dry days
- Potential increase in wildfire frequency due to spring/fall drying
- Increased drought susceptibility and increased water demand due to increasing temperatures and evapotranspiration rates
- Good agreement across models for increase in inland area temperatures between 3 – 5°F and coastal areas between 2 – 3°F
- More days exceeding extreme/impactful temperature thresholds

As with any climate modelling efforts, there is uncertainty. These potential impacts are the results of the best tools available at this time and are meaningful in their applicability to the service area and can support decision-making. Casitas will continue to participate in these modeling efforts going forward.

3.4. Service Area Population and Demographics

The service area populations of the Casitas wholesale, Casitas retail, and Ojai Water System are described in the following subsections. Demographics are discussed for the entire service area.

3.4.1. Service Area Population

The service area populations for the Casitas Wholesale System, Casitas Retail System and Ojai Water System are described in the following subsections. Census data for 2020 was not available at the time this 2020 UWMP was prepared. Population projections are described in more detail in each subsection. The total population served by Casitas in 2020 is estimated at 63,718 for the combined wholesale and retail systems.

Casitas Wholesale System. The wholesale system population shown in Table 3-1 Wholesale is based on 2010 Census data and estimates the 2020 population based on compound annual growth rates (CAGR) in the Ventura County 2040 General Plan, Chapter 2 – Demographics and Economics (adopted September 2020) for Unincorporated Ventura County, and City of Ventura General Plan (adopted 2005) CAGR for City of Ventura. The population projections from 2020 to 2040 are based on annual growth rates for Ventura County in the Southern California Association of Governments (SCAG) Demographics and Growth Forecast Technical Report adopted Sept 3, 2020.

Submittal Table 3-1 Wholesale: Population - Current and Projected, Casitas Wholesale					
Population Served	2020	2025	2030	2035	2040
	45,964	46,828	47,709	48,606	49,520

Casitas Retail System. The Casitas Retail System population is based on non-wholesale customers with a direct meter from Casitas and not located within the former Golden State Water Company (Ojai) water system. The 2020 population was estimated based on 2010 census data and customer connection ratios and extrapolated for 2020. The population projections from 2020 to 2040 are based on annual growth rates for unincorporated Ventura County in the SCAG Demographics and Growth Forecast Technical Report adopted Sept 3, 2020.

There are 14 customers who are served by both the Casitas and Ojai systems; they have two separate meters. The majority of their water use was from the Casitas system, so the population of these parcels was included in Table 3-1 Casitas Retail and calculations.

Submittal Table 3-1 Retail: Population – Current and Projected, Casitas Retail					
Population Served	2020	2025	2030	2035	2040
	11,042	11,101	11,161	11,221	11,281

Ojai Water System. The Ojai Water System is comprised of those customers formerly served by Golden State Water Company in Ojai. Population for 2020 was estimated based on 2010 census data and customer connection ratios and extrapolated for 2020. The population projections from 2020 to 2040 are based on annual growth rates for Ojai in the SCAG Demographics and Growth Forecast Technical Report adopted Sept 3, 2020. Table 3-1 Ojai Retail shows the population projections for this system.

Submittal Table 3-1 Retail: Population - Current and Projected, Ojai Retail					
Population Served	2020	2025	2030	2035	2040
		6,712	6,773	6,834	6,895

3.4.2. [Other Social, Economic and Demographic Factors](#)

Information on demographics throughout Casitas’ service areas is from *Ventura County 2040 General Plan, Chapter 2 Background Report – Demographics and Economics* (Background Report) (September 2020, County of Ventura). The Census-Designated Places (CDP) within the District’s service area are the communities of Oak View, Meiners Oaks, and Mira Monte.

Regarding employment, Oak View residents had the highest unemployment rate within the service area, at 9.5 percent in 2015. More recent data is not available.

Within Casitas’ overall service area there are several designated Disadvantaged Communities (DAC) and Severely Disadvantaged Communities per the State of California Department of Water Resources Disadvantaged Communities Mapping Tool. These are shown in Figure 3-3 and are based on tracts and census blocks from DWR’s 2018 data.

The economy of Casitas’ service area is generally based on oil and gas production, agriculture, and hospitality/tourism.

3.4.3. [Land Uses Within Service Area](#)

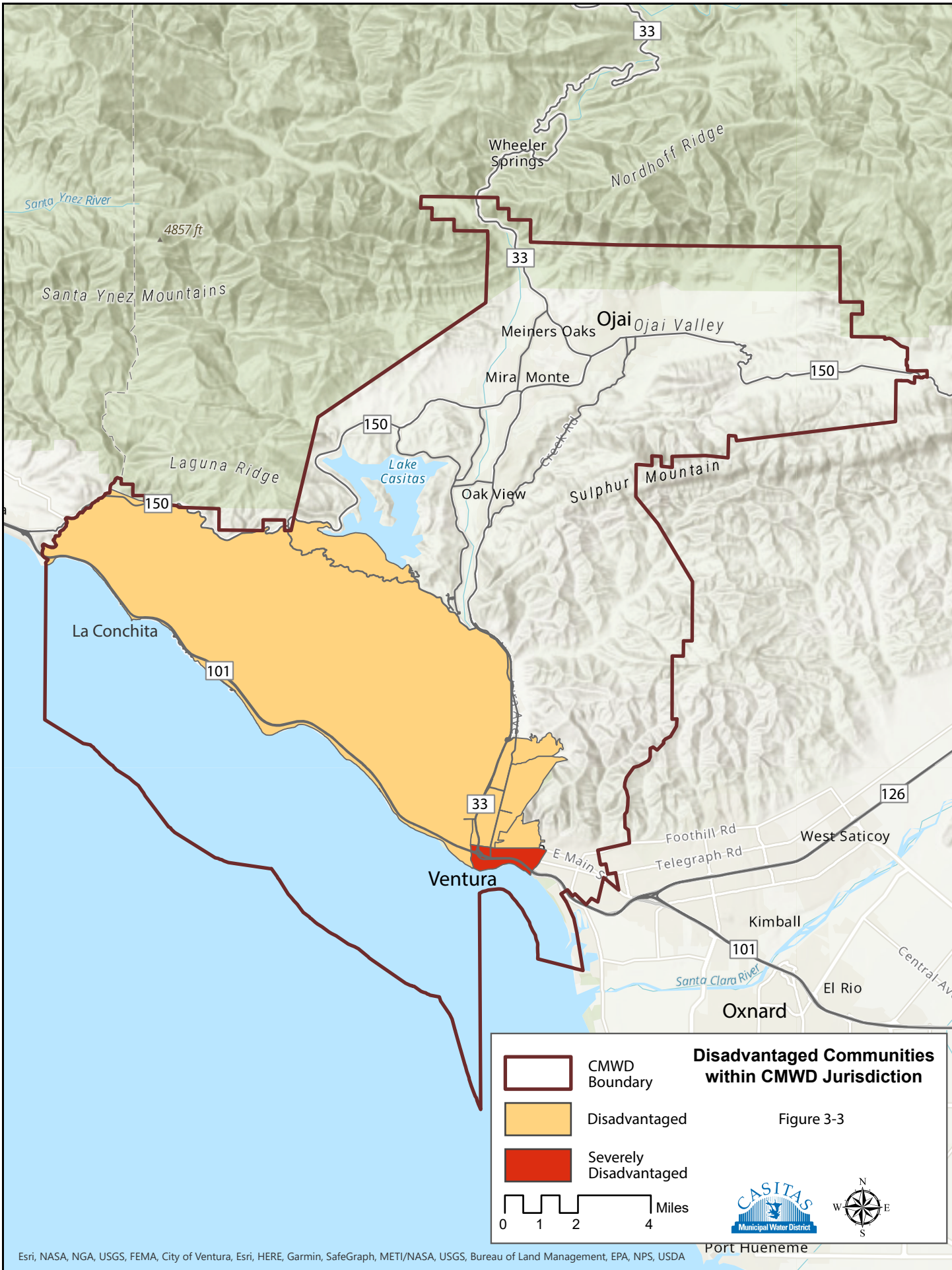
The County of Ventura adopted the 2040 General Plan in September 2020. Area Plans from the General Plan within Casitas’ area include the Coastal Area, North Ventura Avenue Area and Ojai Valley Area. The incorporated City of Ojai is entirely within Casitas boundaries. Portions of the City of Ventura on the west end are also in Casitas’ service area. Figure 3-4 shows land use designations overlain with District boundaries.

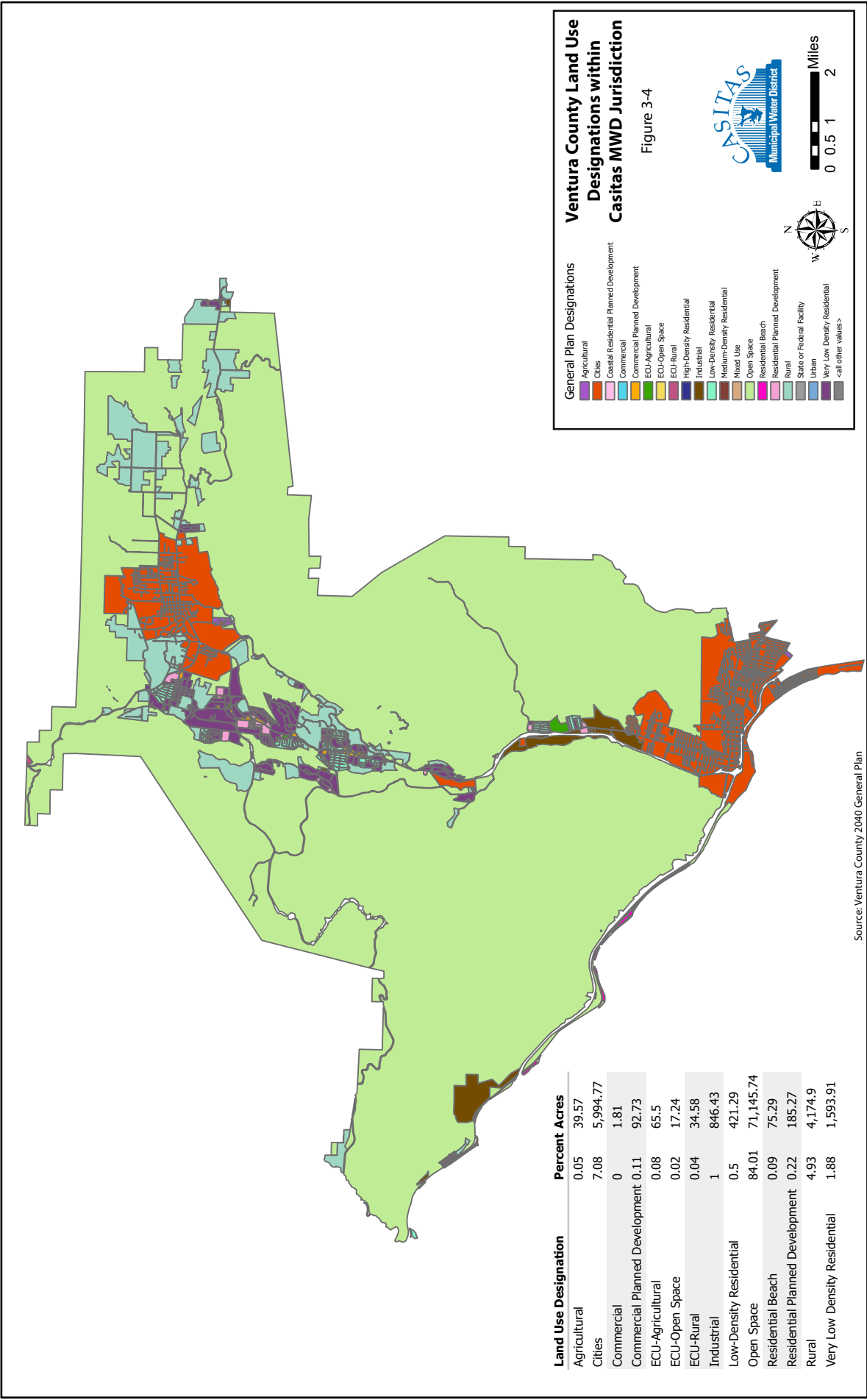
The following subsections provide more information on specific Areas.

Coastal Area (CA). The CA extends along the Pacific Coast from the Los Angeles County Line in the south to the Santa Barbara County Line in the north. Specifically, the North Coast is within Casitas’ service area and includes the communities of Rincon Point, La Conchita, Mussel Shoals, Seacliff, Faria, and Solimar.

There is also significant agriculture as well as oil wells and related facilities. Along the coast itself are recreational facilities including State and County campgrounds.

North Ventura Avenue Area (NVAA). The NVAA is located in the Ventura River Valley and is characterized by long-term oilfield and oil-related industries, as well as residential development. There are also numerous brownfield sites with potentially contaminated soils. Casitas serves a handful of retail customers in this area, but the NVAA is generally within the City of Ventura’s service area.





Ventura County Land Use Designations within Casitas MWD Jurisdiction

Figure 3-4

General Plan Designations

- Agricultural
- Cities
- Coastal Residential Planned Development
- Commercial
- Commercial Planned Development
- ECU-Agricultural
- ECU-Open Space
- ECU-Rural
- High-Density Residential
- Industrial
- Low-Density Residential
- Medium-Density Residential
- Mixed Use
- Open Space
- Residential Beach
- Residential Planned Development
- Rural
- State or Federal Facility
- Urban
- Very Low Density Residential
- <all other values>






Land Use Designation	Percent	Acres
Agricultural	0.05	39.57
Cities	7.08	5,994.77
Commercial	0	1.81
Commercial Planned Development	0.11	92.73
ECU-Agricultural	0.08	65.5
ECU-Open Space	0.02	17.24
ECU-Rural	0.04	34.58
Industrial	1	846.43
Low-Density Residential	0.5	421.29
Open Space	84.01	71,145.74
Residential Beach	0.09	75.29
Residential Planned Development	0.22	185.27
Rural	4.93	4,174.9
Very Low Density Residential	1.88	1,593.91

Source: Ventura County 2040 General Plan

Ojai Valley Area (OVA). The OVA is located in the northern section of the District’s service area and surrounds the City of Ojai. The area is considered very scenic and land uses are open space, agricultural, and rural. One of the goals of the OVA Plan is to preserve and protect the character of the area.

4. Water Use Characterization

Water usage for the wholesale and retail customers of Casitas is discussed in the following subsections.

4.1. Non-Potable Versus Potable Use

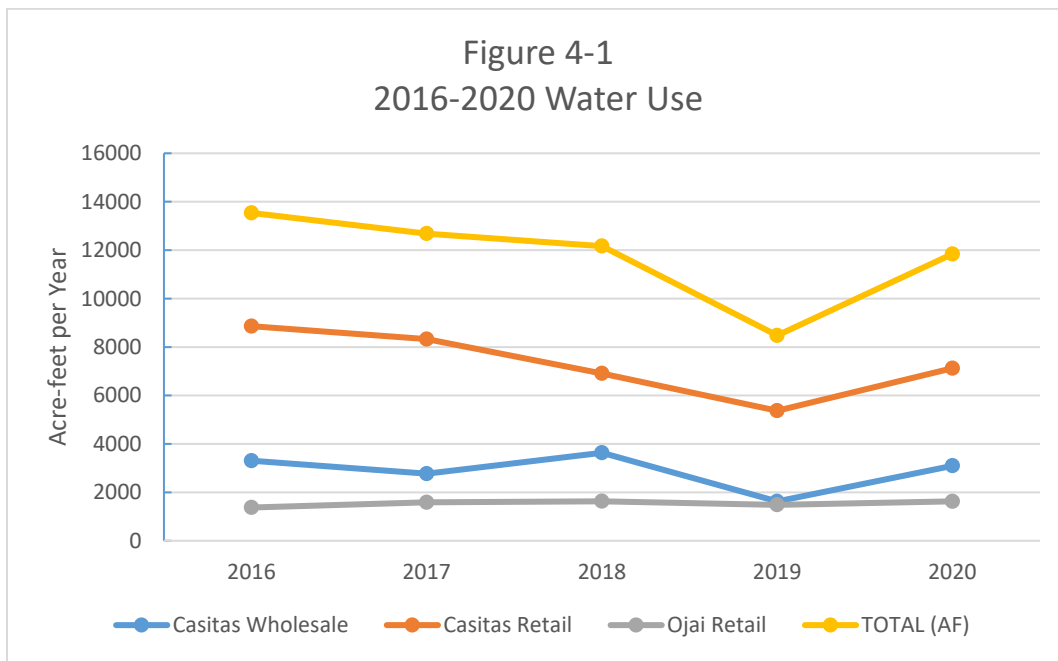
The District serves only potable water to its customers, both wholesale and retail.

4.2. Past, Current, and Projected Water Use By Sector

Past, current, and project water use by sector for Casitas wholesale, Casitas retail, and Ojai Water System retail are described in the following subsections.

4.2.1. Past Water Use

Since 2016, Casitas' service area for wholesale and retail customers, has generally decreased as shown in Figure 4-1, based on billed consumption data at customer meters. All Casitas customers have an assigned water allocation and they have responded to the ongoing drought in the service area by conserving water in a significant manner.



Casitas Wholesale System. Casitas supplies water to the resale customers listed in Section 2.6.1 and Table 2-4. Data is taken from the utility billing system.

Casitas Retail System. Demands for Casitas retail customers are obtained from the utility billing system.

Ojai Water System. Demands for Ojai Water System retail customers are obtained from the utility billing system.

4.2.2. Current Water Use

Current water use (2020) for Casitas wholesaler, Casitas retail and Ojai Water System is described in the following subsections.

Casitas Wholesale System. Table 4-1 Wholesale shows the Casitas wholesale demands. All water delivered is potable. Specific wholesale customers are listed in Table 2-4 Wholesale.

Submittal Table 4-1 Wholesale: Demands for Potable and Non-Potable Water - Actual			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Sales to other agencies	Resale customers	Drinking Water	3,095
TOTAL			3,095
NOTES: Losses for Casitas' system cannot be separated between wholesale and retail; they are reported in Table 4-1 Casitas Retail and Table 4-1 Ojai Retail.			

Casitas Retail System. Table 4-1 Retail Demands for the Casitas System is shown below.

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water – Actual, Casitas Retail			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	1,045
Multi-Family		Drinking Water	210
Commercial		Drinking Water	465
Industrial		Drinking Water	12
Institutional/Governmental		Drinking Water	134
Agricultural irrigation	Ag, Ag Domestic, Ag Domestic Multi	Drinking Water	5,116
Losses	See note below	Drinking Water	325
Other Potable	Other, Fire service, Temporary	Drinking Water	141
Other	Ojai Retail Demands	Drinking Water	369
TOTAL			7,817
NOTES: System losses are difficult to separate among the three systems (Casitas Wholesale, Casitas Retail, and Ojai Retail). Total losses are calculated using the AWWA Water Audit Software (v5) and apportioned to the Casitas Retail and Ojai Retail systems based on the proportional length of pipeline in each system (Casitas Retail 72% and Ojai Retail 28%).			

Ojai Water System. Table 4-1 Retail Demands for the Ojai Water System is shown below.

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water – Actual, Ojai Retail			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	1,095
Multi-Family		Drinking Water	88
Commercial		Drinking Water	274
Industrial		Drinking Water	3
Institutional/Governmental		Drinking Water	0
Agricultural irrigation	Ag, Ag Domestic	Drinking Water	100
Losses	See note below	Drinking Water	126
Other	Other, Fire Service, Temporary	Drinking Water	65
TOTAL			1,751
NOTES: System losses are difficult to separate among the three systems (Casitas Wholesale, Casitas Retail, and Ojai Retail). Total losses are calculated using the AWWA Water Audit Software (v5) and apportioned to the Casitas Retail and Ojai Retail systems based on the proportional length of pipeline in each system (Casitas Retail 72% and Ojai Retail 28%).			

4.2.3. Projected Water Use

Demands for the period 2011 to 2020 averaged 14,525 AFY (including losses), which includes periods before and after implementation of the WEAP. On April 21, 2021, the Board adopted 14,525 AFY as the projected demand for the Casitas system to be used for planning purposes. The service area is not expected to see significant development which would cause this projected demand to increase.

Demands for the period 2011-2020 were averaged for each customer type and these percentages were used to develop the projected demands by customer class.

Casitas Wholesale System. For the period 2016 to 2020 (since the last UWMP was prepared), the wholesale customer use ranged from a low of approximately 1,626 AFY (2019) to a high of approximately 3,969 AFY (2016), with an average of 3,018 AFY.

Table 4-2 Casitas Wholesale shows the total projected water use to other agencies. These projections are based on the average demand from resale customers for the period 2011 to 2020, which is approximately 30 percent of total demand on the Casitas System.

Submittal Table 4-2 Wholesale: Use for Potable and Raw Water - Projected				
Use Type	Projected Water Use			
	2025	2030	2035	2040
Sales to other agencies	4,356	4,356	4,356	4,356
Transfers to other agencies	0	0	0	0
Exchanges to other agencies	0	0	0	0
Groundwater recharge	0	0	0	0
Saline water intrusion barrier	0	0	0	0
Agricultural irrigation	0	0	0	0
Wetlands or wildlife habitat	0	0	0	0
Retail demand for use by suppliers that are primarily wholesalers with a small volume of retail sales	0	0	0	0
Losses (see note)	0	0	0	0
Other Potable	0	0	0	0
Other Non-Potable	0	0	0	0
Other	0	0	0	0
TOTAL	4,356	4,356	4,356	4,356

NOTES: Losses are included in Table 4-2 Casitas retail and Table 4-2 Ojai Retail.

Table 4-3 shows a summary of Table 4-1 Wholesale, Table 4-2 Wholesale, and Table 6-4 Wholesale. The 2020 water use reflects mandatory conservation observed under the current Stage 3 condition.

Submittal Table 4-3 Wholesale: Total Water Use (Potable and Non-Potable)					
	2020	2025	2030	2035	2040
Potable and Raw Water <i>From Tables 4-1W and 4-2W</i>	3,095	4,356	4,356	4,356	4,356
Recycled Water Demand <i>From Table 6-4W</i>	0	0	0	0	0
TOTAL WATER DEMAND	3,095	4,356	4,356	4,356	4,356

Casitas Retail System. The projected demands by customer type for the Casitas Retail system were derived from the average percentage of demand for the period 2011 to 2020. There is little growth expected in the Casitas service area, so demands for planning purposes are not expected to increase. Table 4-2 Casitas Retail shows the projected demands in five-year increments from 2025 to 2040.

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water – Projected, Casitas Retail					
Use Type	Additional Description	Projected Water Use			
		2025	2030	2035	2040
Single Family		1,157	1,157	1,157	1,157
Multi-Family		202	202	202	202
Commercial		574	574	574	574
Industrial		23	23	23	23
Institutional/Governmental		101	101	101	101
Landscape		0	0	0	0
Groundwater recharge		0	0	0	0
Saline water intrusion barrier		0	0	0	0
Agricultural irrigation	Ag + Ag domestic + Ag domestic multi	6,496	6,496	6,496	6,496
Wetlands or wildlife habitat		0	0	0	0
Sales/Transfers/Exchanges to other agencies		0	0	0	0
Losses	See note below	954	954	954	954
Other Potable	Other + Fire service + Temporary	201	201	201	201
Other Non-Potable		0	0	0	0
Other	Ojai Retail Demands	461	461	461	461
TOTAL		10,169	10,169	10,169	10,169
NOTES: Loss is based on average percentage from 2011-2020					

Table 4-3 Casitas Retail summarizes the actual and projected demands from Table 4-1 Casitas Retail, Table 4-2 Ojai Retail and Table 6-4 Ojai Retail. The 2020 water use reflects mandatory conservation observed under the current Stage 3 condition.

Submittal Table 4-3 Retail: Total Gross Water Use (Potable and Non-Potable), Casitas Retail					
	2020	2025	2030	2035	2040
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	7,705	10,169	10,169	10,169	10,169
Recycled Water Demand <i>From Table 6-4</i>	0	0	0	0	0
TOTAL WATER USE	7,705	10,169	10,169	10,169	10,169

Ojai Water System. The projected demands by customer type for the Ojai Retail system were derived from the average percentage of demand for the period 2011 to 2020, as this is the data Casitas has available. There is little growth expected in the OWS service area, so demands for planning purposes are not expected to increase. Table 4-2 Ojai Retail shows the projected demands in five-year increments from 2025 to 2040.

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water – Projected, Ojai Retail					
Use Type	Additional Description	Projected Water Use <i>Report To the Extent that Records are Available</i>			
		2025	2030	2035	2040
Single Family		1,089	1,089	1,089	1,089
Multi-Family		95	95	95	95
Commercial		425	425	425	425
Industrial		2	2	2	2
Institutional/Governmental		21	21	21	21
Landscape		0	0	0	0
Groundwater recharge		0	0	0	0
Saline water intrusion barrier		0	0	0	0
Agricultural irrigation	Ag + Ag domestic + Ag Multi	38	38	38	38
Wetlands or wildlife habitat		0	0	0	0
Sales/Transfers/Exchanges to other agencies		0	0	0	0
Losses	See note below	130	130	130	130
Other Potable	Other + Fire service + Temporary	52	52	52	52
Other Non-Potable		0	0	0	0
Other		0	0	0	0
TOTAL		1,850	1,850	1,850	1,850
NOTES: Loss is based on average percentage from 2011-2020					

Table 4-3 Ojai Retail summarizes the actual and projected demands from Table 4-1 Ojai Retail, Table 4-2 Ojai Retail and Table 6-4 Ojai Retail. The 2020 water use reflects mandatory conservation observed under the current Stage 3 condition.

Submittal Table 4-3 Retail: Total Gross Water Use (Potable and Non-Potable), Ojai Retail					
	2020	2025	2030	2035	2040
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	1,751	1,850	1,850	1,850	1,850
Recycled Water Demand <i>From Table 6-4</i>	0	0	0	0	0
TOTAL WATER USE	1,751	1,850	1,850	1,850	1,850

4.2.4. Distribution System Loss

Casitas has completed water loss audits following the procedures outlined by AWWA to identify and quantify system losses. The submitted water audits for 2016 to 2020 are included as Appendix C.

System losses are difficult to separate among the three systems (Casitas Wholesale, Casitas Retail, and Ojai Retail). Water loss audits were submitted for the combined Casitas and Ojai systems. Losses are reported in the Casitas Retail and Ojai Retail systems based on the proportion of pipeline in each system (Casitas Retail 72 percent and Ojai Retail 28 percent), with the exception of 2016 which is 100 percent Casitas Retail as the Ojai system was acquired in June 2017.

As of May 2021, the State Water Resources Control Board has not adopted standards for water loss targets.

Casitas Wholesale System. Losses are only reported for Casitas Retail and Ojai Retail as discussed in the previous section.

Casitas Retail System. Table 4-4 Casitas Retail shows the proportional system loss for the Casitas Retail system.

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting, Casitas Retail	
Reporting Period Start Date)	Volume of Water Loss ¹
01/2016	1,288
01/2017	891
01/2018	724
01/2019	609
01/2020	325
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES: Losses are shown proportional to pipeline length of Casitas Retail (72%) and Ojai Retail (28%). For 2016, 100% is Casitas Retail as the Ojai System was acquired in 2017.	

Ojai Water System. Table 4-4 Ojai Retail shows the proportional system loss for the Ojai Retail system.

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting , Ojai Retail

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ¹
01/2016	unknown
01/2017	347
01/2018	281
01/2019	237
01/2020	126

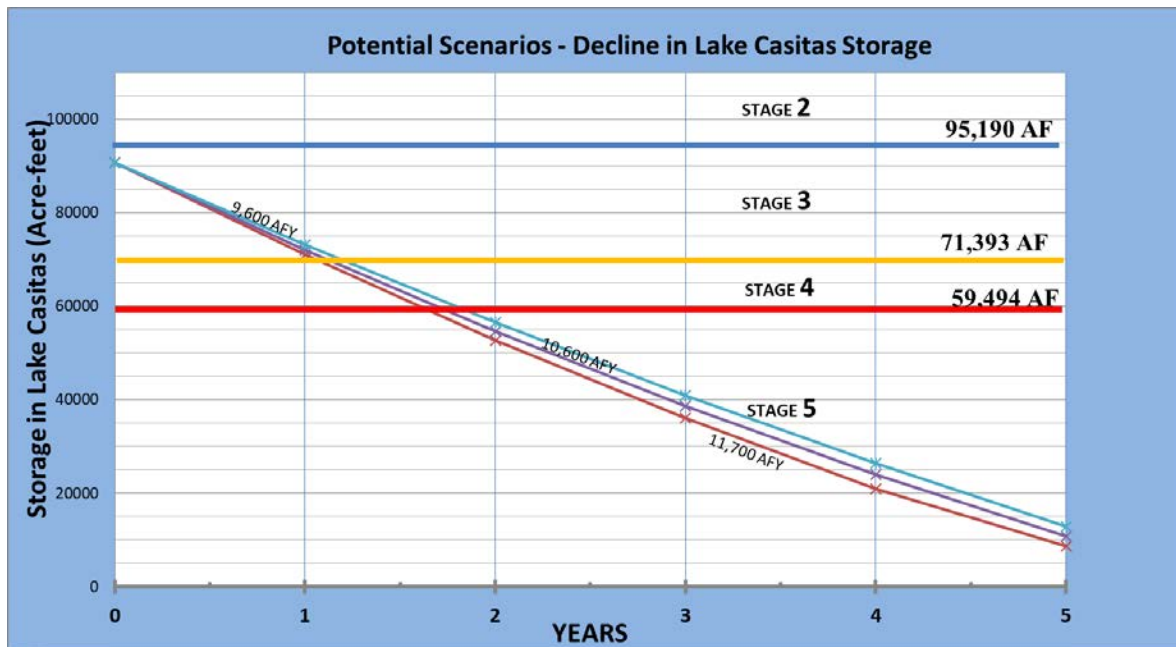
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

NOTES: Losses are shown proportional to pipeline length of Casitas Retail (72%) and Ojai Retail (28%). Casitas did not own the Ojai System in 2016 and does not have information available.

4.2.5. Characteristic Five-Year Water Use

Casitas declared Stage 3 of the Water Efficiency and Allocation Plan (WEAP) in June 2016 when Lake Casitas dropped below 100,000 AF in storage. Casitas remains in Stage 3. Annually, Casitas prepares a Water Supply Assessment which includes an evaluation of water supplies, demands, and effectiveness of water conservation measures over the previous fiscal year, and projects Lake Casitas levels under potential demand scenarios. Figure 4-2 shows the potential lake levels over the next five years with various demand projections. These scenarios assume no runoff additions to storage, and apply evaporation rate from 2013. Based on these projections, Casitas may enter Stage 4 of the WEAP in 12 to 14 months, and Stage 5 in 18 to 24 months. Casitas expects to revise its WEAP in the next year and will re-assess these projections in Spring 2022.

Figure 4-2



The FY 2021-2022 Casitas Water Supply and Demand Assessment is provided in Appendix D. Projected five-year supplies and demands are discussed further in Section 7.

4.3. Water Use for Lower Income Households

The projected water use demand for lower income households is included in the projections in Section 4.2.3 and Tables 4-3. This table applies to both the Casitas and Ojai Retail systems.

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections, Casitas and Ojai Retail Systems	
Are Future Water Savings Included in Projections?	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc. utilized in demand projections are found.	Section 4.2.3
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES: Casitas Retail and Ojai Retail Systems	

4.4. Climate Change Considerations

Since Casitas relies on local surface water and groundwater supplies, the impacts of climate change are magnified when rainfall is scarce or limited. The *Projected Changes in Ventura County Climate* report described in Section 3.3 highlights climatological factors which may lead to higher water demands than projected, including: more days exceeding extreme/impactful temperature thresholds; more dry days during shoulder months; and increased evapotranspiration rates. Declining lake storage level may trigger implementation of more severe water conservation stages as defined in the WEAP.

This page left intentionally blank.

5. SB X7-7 Baselines, Targets, and 2020 Compliance

With the adoption of the Water Conservation Act of 2009 (Act, also known as SB X7-7) the State of California is required to reduce urban per capita water use by 20 percent by the year 2020. In order to achieve this statewide objective, the Legislature required each retail supplier subject to the Act to develop an urban water use target to help the state collectively achieve a 20 percent reduction. The Legislature stated that the cumulative results of each retail supplier's reduction would meet the statewide legislative requirements.

Though wholesale agencies do not set per capita water use targets, wholesale agencies do play a role in water conservation and support retail agencies in achieving their demand targets. Wholesale agencies are guided by the California Water Code, CWC 10608.36, to document the programs and means by which they support retail agencies and the State in meeting water use reduction targets. These programs are described in Chapter 9.

Casitas has selected to report baselines, targets, and compliance separately for each of its retail systems. The methodology herein adheres to the California DWR "*Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (For the Consistent Implementation of the Water Conservation Act of 2009)*" dated February 2016. Casitas has completed the SB X7-7 Verification Form, attached as Appendix E, and summarized in this chapter.

5.1. Wholesale Suppliers

Casitas Wholesale System. For the wholesale system, Casitas is not required to calculate baselines, targets, or compliance levels. Casitas' programs and policies to assist their wholesale customers achieve their 2020 Targets are described in Section 9.

5.2. SB X7-7 Baselines, Targets, and 2020 Compliance

The following subsections describes SB X7-7 compliance for the Casitas Retail and Ojai Retail systems. SB X7-7 Compliance and Verification forms are included in Appendix E.

5.2.1. [SB X7-7 Verification Form \(Baselines and Targets\)](#)

The Water Conservation Act of 2009 requires two baseline periods be evaluated for the calculation of base daily per capita water use. The two baseline periods utilized are described as follows:

- 5-year baseline period, which is used to determine whether the 2020 per capita water use target meets the legislation's minimum 5 percent reduction
- 10 year baseline period

Casitas Retail System. Casitas first reported its Baseline Per Capita Water Use and Targets in the 2010 UWMP which was prepared prior to release of 2010 Census data. The baseline use and targets herein were updated based on the DWR population tool using 2000 and 2010 Census data. The updated baseline per capita water use is presented in Table 5-0 Casitas Retail System, which shows a water use of 369 gallons per capita per day (gpcd) for the baseline 10-year average, and 355 gpcd for the 5-year average.

Table 5-0. Baseline Average Daily Per Capita Water Use, Casitas Retail System

Base Year	Population	Water Produced ¹	Resale Water Use	Agricultural Water Use	Gross Urban Retail Water Use ²	Urban Retail Per Capita Water Use	10-Year Average ³	5-Year Average ⁴
		AFY	AFY	AFY	AFY	GPCD	GPCD	GPCD
1999	11,381	20,121	7,528	7,529	5,064	397		
2000	11,349	21,588	7,054	7,611	6,923	545		
2001	11,317	17,879	6,951	5,957	4,971	392		
2002	11,285	22,116	8,822	8,718	4,576	362		
2003	11,253	16,809	6,119	7,139	3,550	282		
2004	11,221	20,477	9,214	8,033	3,230	257		
2005	11,190	17,778	7,679	6,036	4,063	324		
2006	11,158	17,457	6,267	6,917	4,273	342		
2007	11,126	21,598	8,150	8,646	4,802	385		318
2008	11,094	18,471	6,307	7,144	5,020	404	369	342
2009	11,062	17,259	6,277	6,996	3,986	322	361	355
2010	11,030	14,767	6,276	4,800	3,690	299	337	350

NOTES: This table is not a DWR-required table for 2020 UWMPs.

¹ Based on Calendar Year production from Marion Walker Water Treatment Plant and Mira Monte well.

² Gross Urban Retail Use = Water Produced – Resale Use – Agricultural Use

³ 10-year base period must end no earlier than December 31, 2004 and no later than December 31, 2010

⁴ 5-year base period must end no earlier than December 31, 2007 and no later than December 31, 2010

Casitas selected Method 1 for establishing 2020 water use targets for the Casitas retail system, which is based on 80 percent of the 10-year baseline gpcd water use. In addition, systems with a 5-year baseline per capita water use of greater than 100 gpcd must calculate a minimum water use reduction target.

The Casitas Retail system baselines and targets are summarized in Table 5-1 Casitas Retail System. The 10-year baseline average daily per capita water use was 369 gpcd. Therefore, the 2020 target water use is 295 gpcd. The 5-year average baseline daily per capita water use was 355 gpcd, resulting in a minimum water use reduction target of 338 gpcd by 2020. The confirmed target is 295 gpcd.

Submittal Table 5-1 Baselines and Targets Summary, Casitas Retail System				
Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target*
10 year	1999	2008	369	295
5 Year	2005	2009	355	
*All values are in Gallons per Capita per Day (GPCD)				

Ojai Water System. The Ojai Retail system was acquired in 2017 from Golden State Water Company. Golden State Water Company did not prepare a 2015 UWMP. Similar to the Casitas Retail system, the baseline and targets have been updated based on the DWR population tool using 2000 and 2010 Census data. The updated baseline per capita water use for the Ojai system is shown in Table 5-0 Ojai Retail System, which presents water use of 322 gpcd for the baseline 10-year average, and 316 gpcd for the 5-year average.

Base Year	Population	Water Produced ¹ AFY	Urban Retail Per Capita Water Use GPCD	10-Year Average GPCD	5-Year Average GPCD
1999	7,053	2,552	323		
2000	7,023	2,631	334		
2001	6,993	2,462	314		
2002	6,962	2,760	354		
2003	6,932	2,442	314		
2004	6,902	2,488	322		
2005	6,872	2,239	291		
2006	6,841	2,314	302		
2007	6,811	2,649	347		315
2008	6,781	2,400	316	322	316
2009	6,750	2,328	308	320	313
2010	6,720	2,007	267	314	308

NOTES: This table is not a DWR-required table for 2020 UWMP.
¹ Based on Ojai Groundwater Wells production and deliveries from the Casitas System.

For the Ojai system, Casitas selected Method 1 for establishing 2020 water use targets, which is based on 80 percent of the 10-year baseline gpcd water use. In addition, systems with a 5-year baseline per capita water use of greater than 100 gpcd must calculate a minimum water use reduction target.

The Ojai Retail system baselines and targets are summarized in Table 5-1. The 10-year baseline average daily per capita water use was 322 gpcd. Therefore, the 2020 target water use is 257 gpcd. The 5-year average baseline daily per capita water use was 316 gpcd, resulting in a minimum water use reduction target of 300 gpcd by 2020. The confirmed target is 257 gpcd.

Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target*
10 year	1999	2008	322	257
5 Year	2004	2008	316	

*All values are in Gallons per Capita per Day (GPCD)

5.2.2. [SB X7-7 2020 Compliance Form](#)

Casitas Retail System. The Casitas Retail system is in compliance with the 2020 target, with an actual 2020 water use of 195 gpcd as shown in Table 5-2 Casitas Retail. DWR has allowed for optional adjustments to the 2020 GPCD, including extraordinary events, economic adjustments, and weather normalization. Casitas did not make any adjustments to the 2020 GPCD, since compliance was achieved without these factors.

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form, Casitas Retail System				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
195	0	195	295	Yes
*All cells in this table populated manually from the supplier's SB X7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)				

Ojai Water System. The Ojai Retail system is in compliance with the 2020 target, with an actual 2020 water use of 209 gpcd as shown in Table 5-2 Ojai Retail. DWR has allowed for optional adjustments to the 2020 GPCD, including extraordinary events, economic adjustments, and weather normalization. Casitas did not make any adjustments to the 2020 GPCD, since compliance was achieved without these factors.

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form, Ojai Retail				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
209	0	209	257	Yes
*All cells in this table populated manually from the supplier's SB X7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)				

5.2.3. [Regional UWMP/Regional Alliance](#)

This section is not applicable to Casitas.

5.3. Baseline and Target Calculations for 2020 UWMPs

The following subsections describe additional DWR requested information related to baseline and target calculations for 2020 UWMPs.

5.3.1. Supplier Submitted 2015 UWMP, No Change to Service Area

Casitas submitted a 2015 UWMP but did not submit the SB X7-7 Verification Forms for baselines and targets, likely because the Casitas retail system did not meet the criteria of more than 3,000 customers or 3,000 AFY for retail municipal use in 2015.³

In 2017, Casitas acquired the Ojai Water System which is a retail system. Previously the OWS was served by Golden State Water Company who was a wholesale customer of Casitas. Casitas' overall service area did not change, but the retail service area now incorporates the Ojai System. The GSWC did not prepare a 2015 UWMP and did not submit the SB X7-7 Verification Forms, also likely because the Ojai system does not meet the criteria of more than 3,000 customers or 3,000 AFY for municipal use.

Since Casitas' combined retail areas now meet the criteria, the SB X7-7 Verification Forms for baselines and targets were prepared for each system and submitted as part of the 2020 UWMP. Since the Casitas retail system and the Ojai system have separate PWS numbers, the baselines and targets are reported separately.

5.3.2. Supplier Did Not Submit 2015 UWMP

This section does not apply to Casitas.

5.3.3. Supplier Newly Subject to UWMP Requirements

The Casitas Retail and Ojai Retail systems did not become subject to the SB X7-7 requirements until 2017. The SB X7-7 Verification Forms for baselines and targets were prepared for each system and submitted as part of the 2020 UWMP.

5.3.4. Distribution Area Expansion

The Casitas distribution area expanded due to the acquisition of the Golden State Water Company's Ojai Water System. The Ojai Water System has a separate PWS number and is reported separately herein.

5.3.5. Distribution Area Contraction

This section is not applicable to Casitas Retail or Ojai Retail systems.

5.3.6. Large Partial Customers Become Whole Customers

This section is not applicable to Casitas Retail or Ojai Retail systems.

5.4. Methods for Calculating Population and Gross Water Use

Population and gross water use are described in the following subsections.

5.4.1. Service Area Population

To calculate the baseline per capita water use, population within the retail service area boundaries of the Casitas Retail and Ojai Retail systems was estimated using the DWR Population Tool, which uses 2000 and 2010 United States Census populations. The remaining years prior to 2000 were interpolated based on the linear trend between 2000 and 2010 population data.

The 2020 population was estimated using the "persons-per-connection" method and 2010 Census populations. The ratio of population to number of connections in 2010 was applied to the number of connections in 2020 to estimate the 2020 population.

³ Adopted Final Urban Water Management Plan and Agricultural Management Plan 2016 Update, dated June 2016.

5.4.2. Gross Water Use

Casitas Retail System. The calculations of 2020 per capita water use are presented in Table 5-3 Casitas Retail System 2020 Per Capita Water Use Compliance. The 2020 urban retail per capita use was 195 gpcd which achieves and exceeds the target reduction of 295 gpcd.

Table 5-3. Casitas Retail System 2020 Per Capita Water Use Compliance							
Compliance Year	Population	Water Produced ¹ AFY	Resale Water Use AFY	Agricultural Water Use AFY	Gross Urban Retail Water Use ² AFY	Actual 2020 Urban Retail Per Capita Water Use GPCD	2020 Target Reduction Achieved?
2020	11,042	10,626	3,095	5,115	2,416	195	Yes
NOTES: This table is <u>not</u> a DWR-required table for 2020 UWMPs. Table format based on DWR Guidebook Table 5-2. ¹ Based on Calendar Year production from Marion Walker Treatment Plant and Mira Monte well. ² Gross Urban Retail Use = Water Produced – Resale Use – Agricultural Use							

Ojai Water System. The calculations of 2020 per capita water use are presented in Table 5-3 Ojai Retail System 2020 Per Capita Water Use Compliance. The 2020 urban retail per capita use was 209 gpcd which achieves and exceeds the target reduction of 257 gpcd.

Table 5-3. Ojai Retail System 2020 Per Capita Water Use Compliance						
Compliance Year	Population	Water Produced ¹ , AFY	Agricultural Water Use AFY	Gross Urban Retail Water Use ² AFY	Actual 2020 Urban Retail Per Capita Water Use, GPCD	2020 Target Reduction Achieved?
2020	6,712	1,669	100	1,569	209	Yes
NOTES: This table is <u>not</u> a DWR-required table for 2020 UWMPs. Table format based on DWR Guidebook Table 5-2. ¹ Based on Ojai Groundwater Wells production and deliveries from the Casitas System. ² Gross Urban Retail Water Use = Water Produced – Agricultural Use						

5.5. 2020 Compliance Daily Per-Capita Water Use (GPCD)

This section describes special factors which may affect 2020 compliance. DWR has allowed for optional adjustments to the 2020 GPCD, including extraordinary events, economic adjustments, and weather normalization. Casitas did not make any adjustments to the 2020 GPCD, since compliance was achieved without these factors.

5.5.1. 2020 Adjustments for Factors Outside Supplier’s Control

Casitas Retail System. No adjustments were made.

Ojai Water System. No adjustments were made.

5.5.2. Special Situations

Casitas Retail System. No adjustments to Casitas Retail System are included.

Ojai Water System. No adjustments to Ojai Water System are included.

5.5.3. If Supplier Does Not Meet 2020 Target

This section does not apply as both the Casitas Retail and Ojai Retail systems met the 2020 Target.

5.6. Regional Alliance

This section is not applicable to Casitas.

This page left intentionally blank.

6. Water Supply Characterization

This section describes Casitas' water supply and its characteristics.

6.1. Water Supply Analysis Overview

Casitas' water supplies are 100 percent local, consisting of groundwater wells and surface water stored in Lake Casitas. The following subsections provide more information.

6.2. Narrative Sections for Supplier's UWMP Water Supply Characterization

Figure 6-1 shows a representation of Casitas' supply sources. Current water supply sources include:

- Surface water into Lake Casitas from the surrounding watershed including Coyote Creek and Santa Ana Creek
- Surface water from the Ventura River to Lake Casitas via Robles Diversion and Robles Canal; the diversion is subject to the requirements of the 2003 non-jeopardy Biological Opinion for steelhead trout issued by the National Marine Fisheries Service)
- Groundwater from the Mira Monte Well in the Upper Ventura River Groundwater Basin
- Groundwater from the Ojai Wellfield in the Ojai Groundwater Basin

The following subsections describe the water supplies for the Casitas System (wholesale and retail), as well as the Ojai Water System.

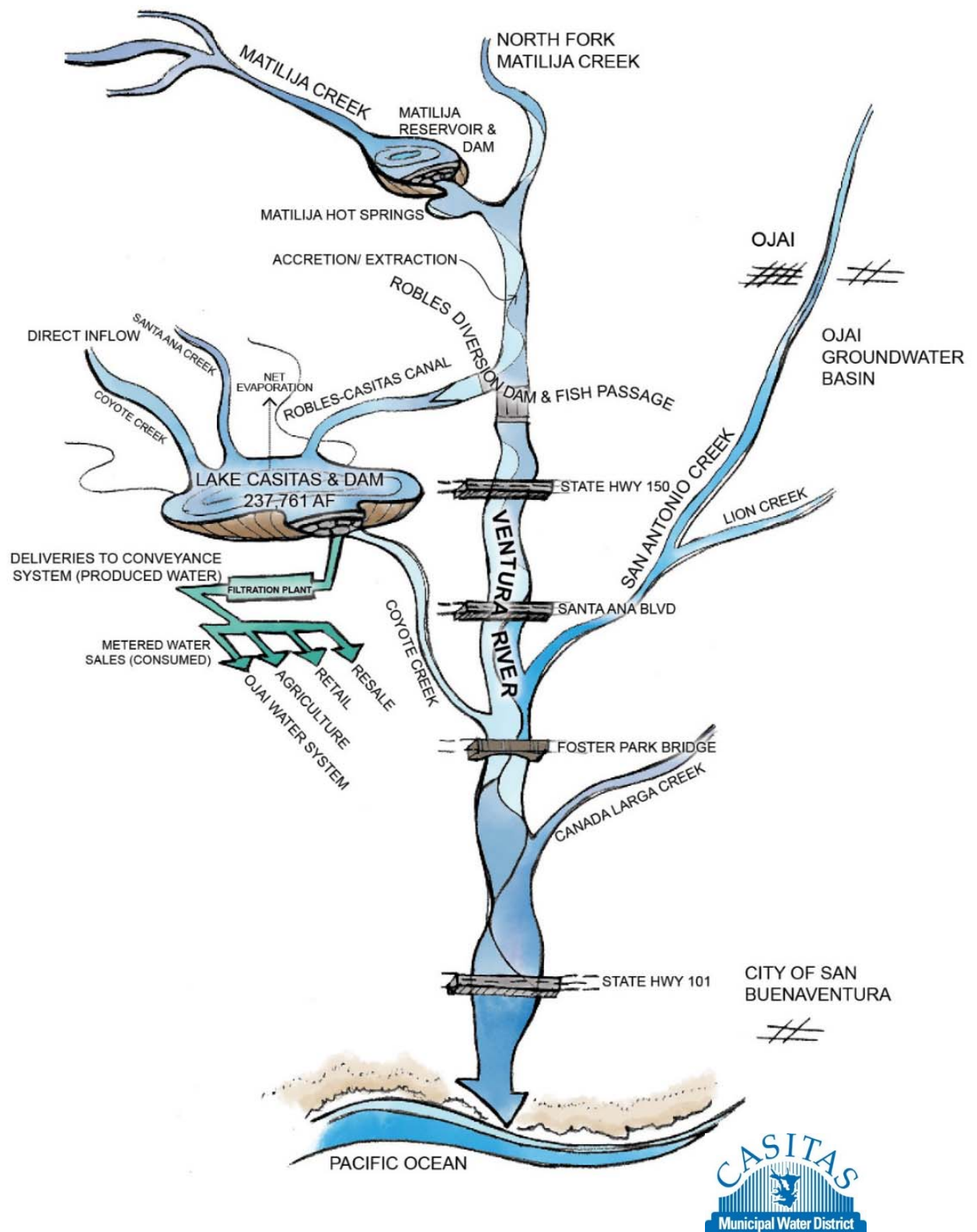


Figure 6-1
Supply Sources Illustration

6.2.1. Purchased or Imported Water

While Casitas' water has historically come from local supplies, Casitas has contracted and paid the fixed contractual costs for the full allocation of 5,000 AFY of imported water from the State Water Project. The contracted amount of up to 5,000 AFY is referred to as "Table A" water, which is a table in the contract referring to the maximum amount to be delivered. Imported water from the SWP has not been supplied to Casitas due to lack of local infrastructure to deliver the water.

Planned, constructed, and operated by DWR, the SWP is one of the world's largest water, power, and conveyance systems. The SWP relies on a delivery system of reservoirs, aqueducts, power plants, and pumping plants that allow the movement of water from northern to southern CA and the ability to exchange and transfer water with SWP contractors throughout the state. The SWP primary delivery facilities are shown in Figure 6-2. More information on the SWP and its facilities can be found at: <https://water.ca.gov/Programs/State-Water-Project>.

In 1963, the Ventura County Flood Control District (VCFCD, now the Ventura County Watershed Protection District), contracted with the State of California for 20,000 AFY of water from the SWP. In 1971, the VCFCD assigned the administration of the Water Supply Contract to Casitas. Casitas' contractual share is 5,000 AFY, the City of Ventura has 10,000 AFY, and United Water Conservation District (UWCD) has 5,000 AFY. UWCD can access SWP through Lake Piru (via Pyramid Lake and Piru Creek), although local infrastructure is not in place to deliver the contractual share to Casitas and the City of Ventura. Infrastructure options are currently under design as discussed in Section 6.2.8 Future Water Projects.

While Casitas' SWP Table A entitlement is 5,000 AFY, this level of reliability is not expected from the State Water Project. DWR prepares a biennial report to assist SWP contractors and local planners in assessing the availability of supplies from the SWP. In August 2020, DWR issued its most recent update, the *2019 DWR State Water Project Delivery Capability Report* (DCR). The 2019 DCR includes DWR's estimates of SWP water supply availability under both existing (2020) and future (2040) conditions. According to the DCP, the long-term average delivery under existing conditions is 58 percent of Table A, and long-term average delivery under future conditions is 52 percent of Table A (2019 CDR, Appendix A Table A-1 and Appendix B Table B-3). For Casitas, this would result in a long-term average yield of 2,900 AFY under existing conditions and 2,600 AFY under future conditions.

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. In the existing conditions model scenario, DWR applied the existing facilities; hydrologic inflows to the model based on 82 years of historical inflows (1922–2003); current regulatory and operational constraints, including 2018 Coordinated Operation Amendment, 2019 biological opinions, and 2020 Incidental Take Permit; and contractor demand at maximum Table A Amounts. The future condition study used all of the same model assumptions as the existing conditions study but reflected changes expected to occur from climate change — specifically, projected temperature and precipitation changes centered around 2035 (2020–2049) and a 45-centimeter sea-level rise.



Figure 6-2 SWP Delivery Facilities

(Source: DWR Bulletin 132, 2015)

Casitas Wholesale and Retail System. Casitas has maintained an entitlement of 5,000 AFY of SWP water; there is no infrastructure in place, however, to allow this water into Casitas’ service area.

Ojai System. Similar to the Casitas System, there is no local infrastructure currently in place to deliver imported water supply to the Ojai Water System.

6.2.2. Groundwater

Three groundwater basins are within the Casitas service area: 1) Upper Ventura River Groundwater Basin, 2) Lower Ventura River Groundwater Basin and 3) Ojai Basin. Figure 6-3 shows the boundaries of these basins. The following subsections describe each basin and current issues associated with each.

6.2.2.1. *Basin Description – Upper Ventura River Groundwater Basin*

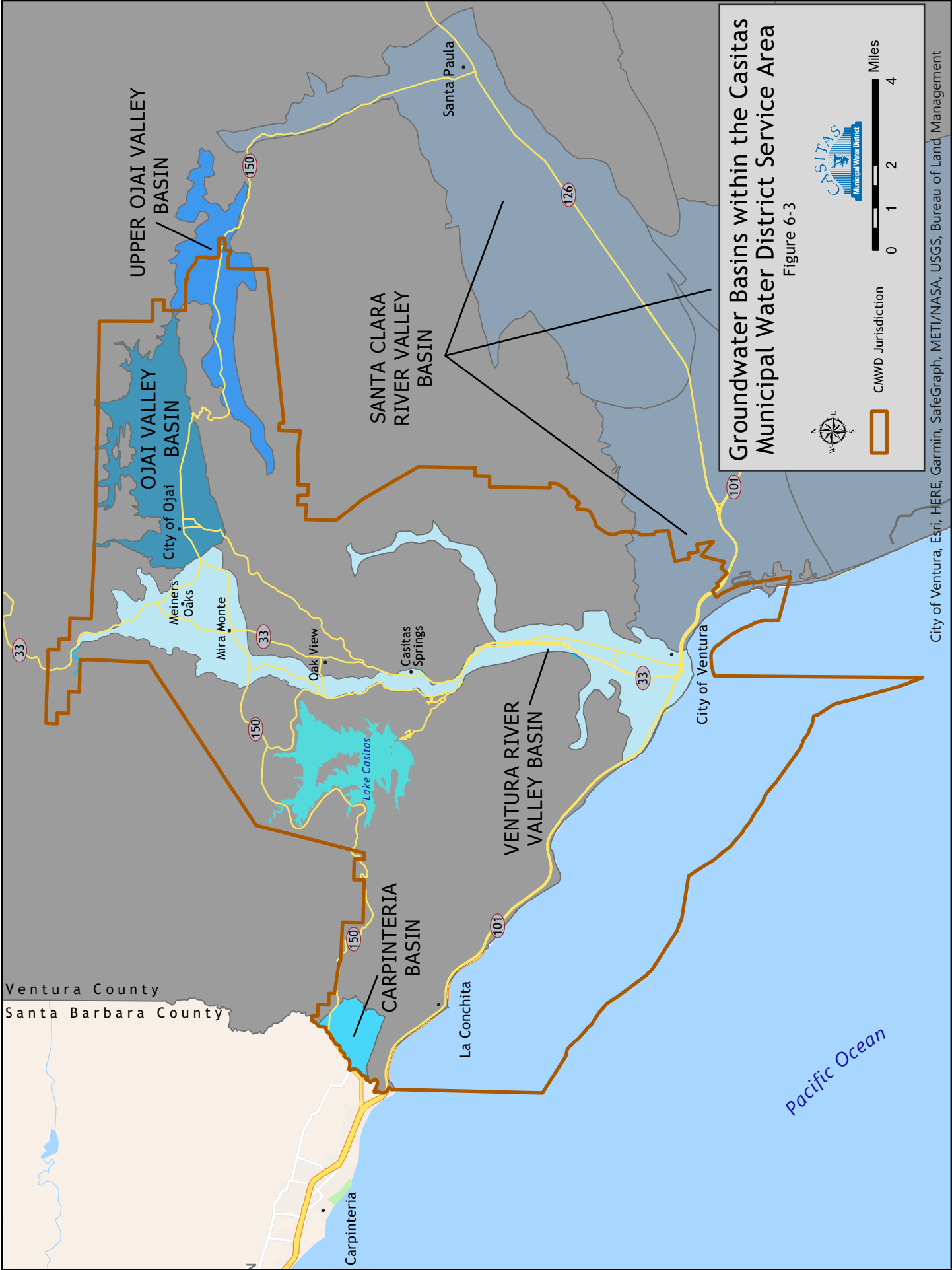
The Upper Ventura River Groundwater Basin (UVRGB) is managed by the Upper Ventura River Groundwater Agency (UVRGA). Casitas’ Robles Diversion Facility and Mira Monte Well are located within the boundaries of this watershed. The UVRGB is the largest of the groundwater basins in the Ventura River watershed. All water in the watershed is local precipitation; there are no outside or imported water sources. Similar to the overall Ventura River watershed, precipitation in the UVRGB is extremely variable.

In compliance with the Sustainable Groundwater Management Act (SGMA), the UVRGA is preparing their Groundwater Sustainability Plan (GSP) with a draft GSP scheduled for release in July 2021. Sections of the Draft GSP are available on the UVRGA website at www.uvrgroundwater.org.

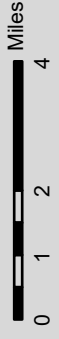
Casitas Wholesale and Retail System. Casitas’ Mira Monte Well has a capacity of 300 AFY although pumping is limited due to the groundwater having high nitrate levels. Casitas blends this water with Lake Casitas to achieve water quality that is well within regulatory standards for drinking water, and the planned operational yield is 145 to 180 AFY on average.

Groundwater pumped from the Mira Monte Well enters Casitas System (Wholesale and Retail). Based on average demands from 2011 to 2020, 30 percent of water use in the Casitas system is from wholesale customers and 70 percent is from retail customers. Mira Monte Well production has been portioned out to each system based on this average. Table 6-1 Casitas Wholesale and Table 6-1 Casitas Retail show the groundwater pumped from the Mira Monte Well for the period 2016 to 2020.

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped, Casitas Wholesale						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Upper Ventura River	11	48	45	37	54
TOTAL		11	48	45	37	54
NOTES: Mira Monte Well						



Groundwater Basins within the Casitas Municipal Water District Service Area
 Figure 6-3



Submittal Table 6-1 Retail: Groundwater Volume Pumped, Casitas Retail						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Upper Ventura River	24	111	106	87	125
TOTAL						
NOTES: Mira Monte Well						

6.2.2.2. Basin Description – Lower Ventura River Groundwater Basin

While Casitas’ service area includes the Lower Ventura River Groundwater Basin, Casitas does not have any groundwater wells in this basin.

6.2.2.3. Basin Description – Ojai Basin

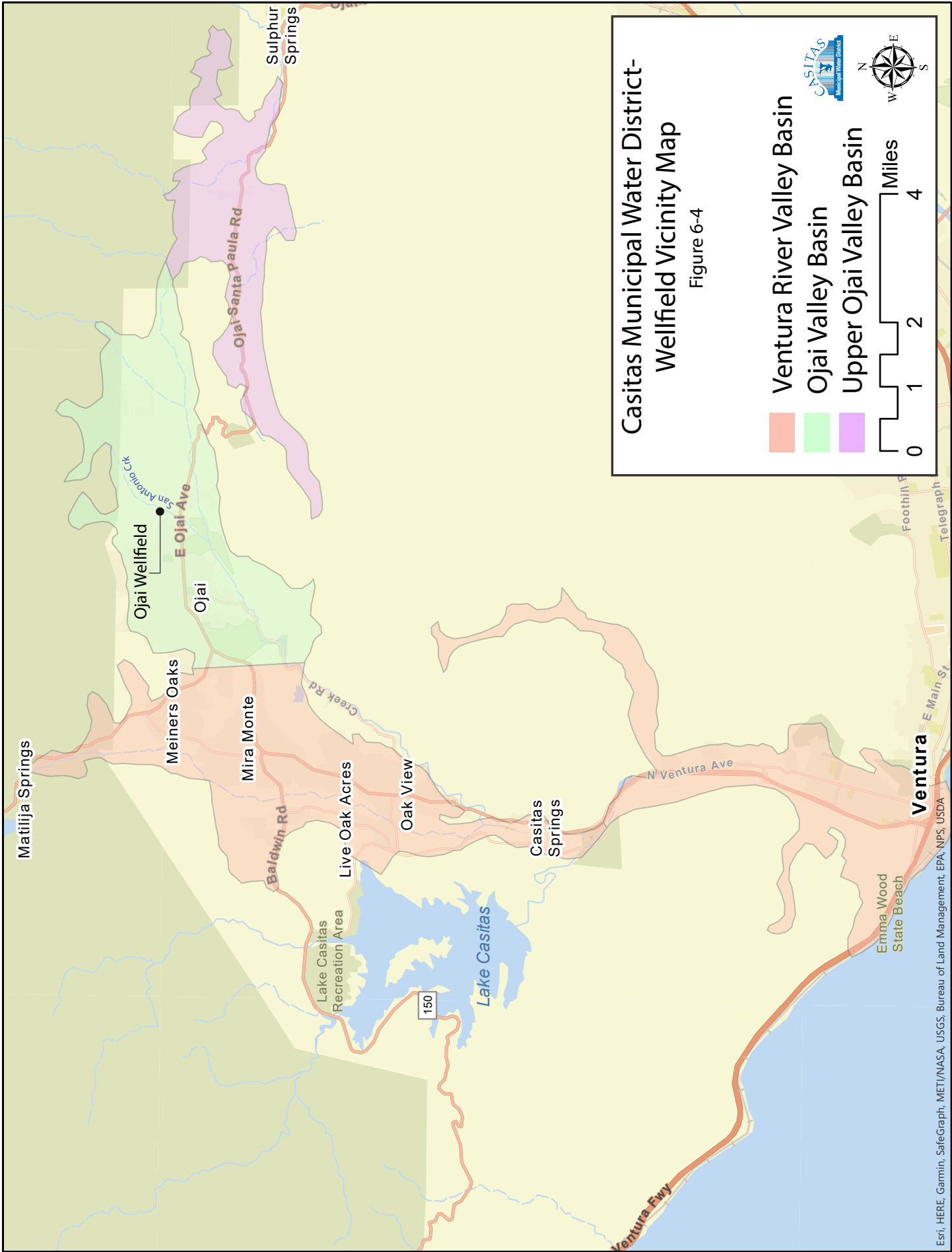
The Ojai Basin is a relatively deep, bowl-shaped basin bounded on the west and east by non-water-bearing Tertiary aged rocks, on the south by the Santa Ana fault and Black Mountain, and on the north by the Topa Topa Mountains⁴.

The Ojai Basin is managed by the OBGMA which was established in 1991 by State legislation. The OBGMA monitors, records, and reports groundwater conditions of the Ojai Valley Basin. According to the OBGMA website, approximately 60 percent of groundwater use within the basin is for agricultural demand and 40 percent is for ‘urban’ demand.

The OBGMA typically publishes an annual report each water year to describe the basin status. The most recent report was for the 2017/18 water year. OBGMA has not prepared a subsequent annual report as the agency is currently preparing a Sustainable Groundwater Management Plan in compliance with the SGMA enacted in 2014. The most recent Groundwater Management Plan is dated 2018 and can be found on the OBGMA website www.obgma.org.

Casitas’ groundwater wells for the OWS are located on the east and west sides of San Antonio Creek on the south side of Grand Avenue. Figure 6-4 shows the wellfield location. The east side is referred to as the San Antonio Wellfield and the west side is referred to as the Mutual Wellfield. The San Antonio Wellfield has three active wells. The Mutual Wellfield has two active wells. A new replacement well was drilled at the Mutual Wellfield in 2020 but has not yet been connected to the system. The well equipping is anticipated to occur in 2022. All pumped water is treated at the onsite iron and manganese treatment plant and meets state and federal drinking water requirements. Table 6-1 Ojai Retail shows the groundwater pumped from 2016 to 2020.

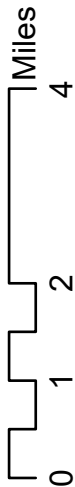
⁴ <http://obgma.com/the-ojai-valley-basin/>



Casitas Municipal Water District- Wellfield Vicinity Map

Figure 6-4

- Ventura River Valley Basin
- Ojai Valley Basin
- Upper Ojai Valley Basin



Submittal Table 6-1 Retail: Groundwater Volume Pumped, Ojai Retail						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Ojai Basin	944	1,381	1,378	1,548	1,300
TOTAL		944	1,381	1,378	1,548	1,300

6.2.3. Surface Water

The Ventura River Project is the primary surface water supply and consists of Casitas Dam and Reservoir (Lake Casitas), the Robles Diversion and Fish Passage Facility on the Ventura River, Robles Canal, and the water distribution system that consist of pipelines, pump plants, storage tanks and chlorination stations. Construction of the original facility was completed in 1959 and the Fish Passage Facility was constructed in 2004.

The Ventura River Project is a federal facility owned by the United States of America. Under a repayment Contract with the USBR, Casitas was assigned the responsibilities for the operation and maintenance of the Ventura River Project and the perpetual right to use all water that becomes available through the construction and operation of the Project, subject to the satisfaction of vested rights.

Casitas maintains Licenses 11834 and 10133 for Diversion and Use of Water permitted by the State Water Resources Control Board (Casitas Licenses). Under the Casitas License 11834, Casitas may divert up to 107,800 AFY from the Ventura River and other tributaries into Lake Casitas and may put up to 28,500 AFY to beneficial use; and under Casitas License 10133, Casitas may withdraw up to 4,570 AFY diverted at Matilija Dam and re-diverted at Robles Diversion and Fish Passage Facility.

The Robles Diversion is located to the northwest of the City of Ojai, and supplies water via the Robles Canal to Lake Casitas. In 2004, the Robles Fish Passage Facility was constructed to allow endangered steelhead trout the ability to bypass the diversion facility and continue their migration both upstream and downstream.

The Robles Diversion and Fish Passage Facility is operated according with a 2003 Biological Opinion for steelhead trout issued by NMFS (US Department of Commerce, National Oceanic and Atmospheric Administration) which requires minimum bypass flows of 30 cfs once a peak occurs and requires bypass flows of 50-170 cfs for 10-12 days within the fish passage season (January 1 – June 30). Operations outside this period conform to the 1959 Trial Operating Criteria in which the first 20 cfs of flow is generally released downstream.

6.2.3.1. Coyote Creek

Coyote Creek is located on the west side of Lake Casitas and its drainage area contributes directly to Lake Casitas storage. Casitas maintains a stream gaging station on Coyote Creek. Coyote Creek gaging

station was damaged during the 2017 Thomas Fire, and experienced heavy sediment transport following the fire rendering the gage unusable.

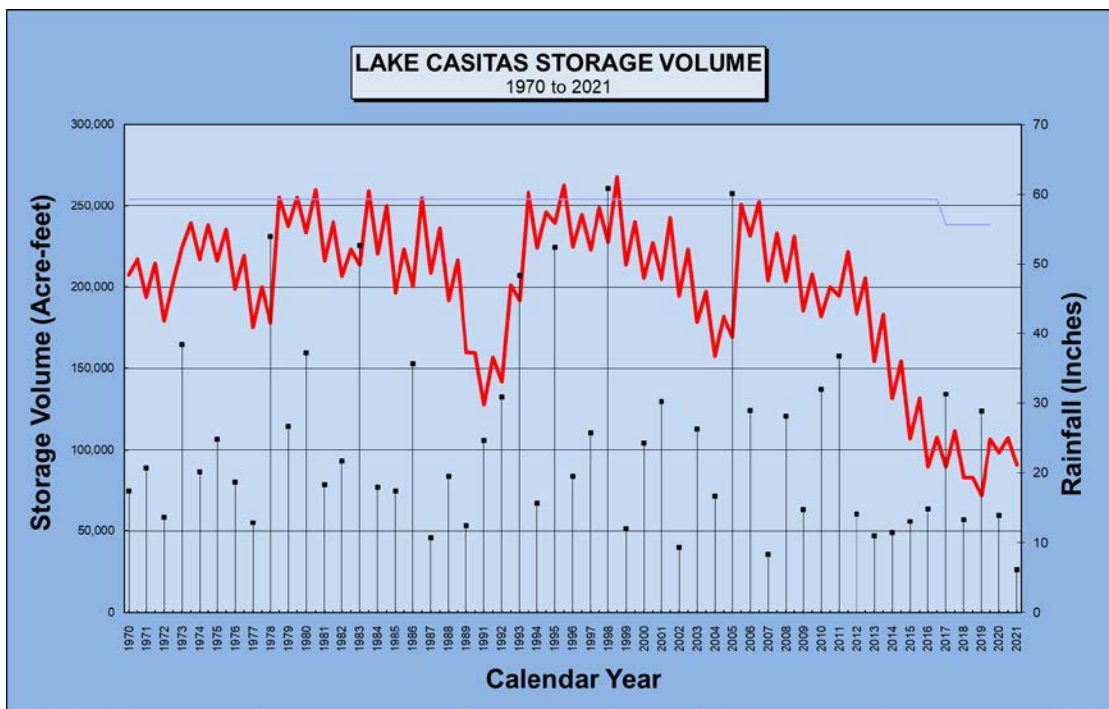
6.2.3.2. *Santa Ana Creek*

Santa Ana Creek is also a major tributary to Lake Casitas. Casitas also maintains a stream gage to monitor flow. This station was not damaged during the Thomas Fire but did experience heavy sediment transport and re-channelization following the fire, rendering poor quality flow data.

6.2.3.3. *Lake Casitas*

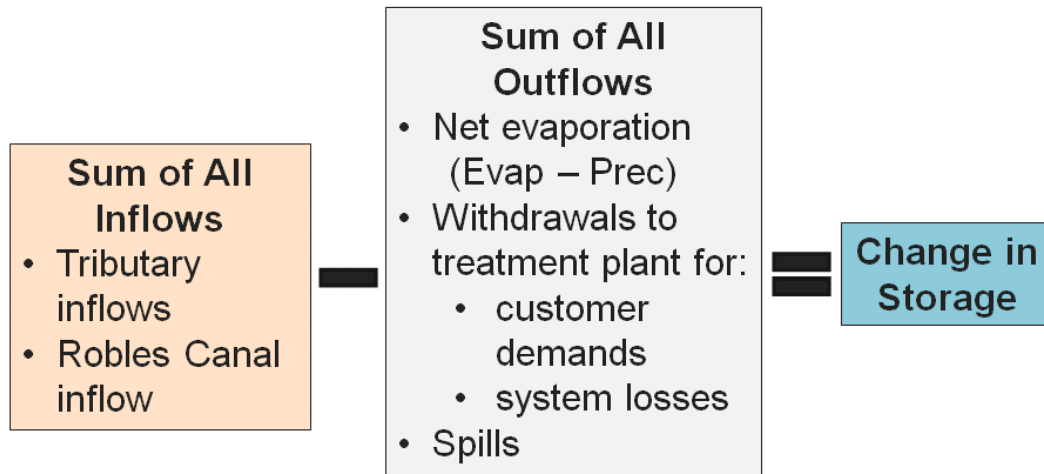
Figure 6-5 shows Lake Casitas storage for the period 1970 to 2021. When originally constructed, Lake Casitas had a design capacity of 254,000 AF. A bathymetric survey performed in 2017 shows the capacity reduced to 237,761 AF due to sedimentation. The recent drought resulted in record low storage levels in 2019 with Lake Casitas at 30 percent of storage capacity.

Figure 6-5. Historic Lake Casitas Storage Volume



The water supply availability from Lake Casitas was previously studied by the USBR in the 1954 evaluation of the Ventura River Project, and later by the District in the 1989 and 2004. In the “Water Supply and Use Status Report” (Casitas, 2004), the Safe Yield of Lake Casitas was determined to be 20,480 AFY based on a mass-balance model that tracks Lake Casitas inflows, outflows (including evaporation) and change in storage to simulate operations over a time series of assumed hydrology conditions, as illustrated in Figure 6-6.

Figure 6-6. Mass Balance Model for Estimating Lake Casitas Yield



Recently, the yield model was updated to include:

- Extended hydrologic period of record of 1945-2018 (from previous of 1945-1999)
- Incorporated results of recent Lake Casitas bathymetric survey – reduced maximum storage capacity from 254,000 AF to 237,761 AF
- Added function to compute reservoir spills
- Incorporated Robles Diversion operations based on 2003 Biological Opinion requirements and 2018 Critical Drought Protection Measures
- Reduced modeled Robles diversions based on a diversion efficiency of 70 percent, consistent with operational data since the Fish Passage Facility was constructed
- Improved method of calculating monthly net evaporation loss

On April 21, 2021, the Board of Director adopted a planned Casitas System operational yield of 15,010 AFY⁵. The new operational yield is based on the updated modeling results, a -4.3 percent climate change adjustment based on the anticipated changes to precipitation (Section 3.3), and a -15 percent supply safety factor to account for uncertainty in modeling assumptions.

Surface water from Lake Casitas is treated at the Marion Walker Water Treatment Plant using pressure filtration before it enters the transmission and distribution system.

Casitas Wholesale and Retail System. Lake Casitas serves as a primary supply for direct retail customers on the Casitas System, and as a supplemental, or backup supply, for groundwater users and wholesale users.

Ojai System. The OWS is connected to the Casitas System, and therefore receives Lake Casitas water, via two existing interconnections. The connections are used when demand in the OWS exceeds the groundwater well capacity or when well(s) are taken out of service for repair/rehabilitation.

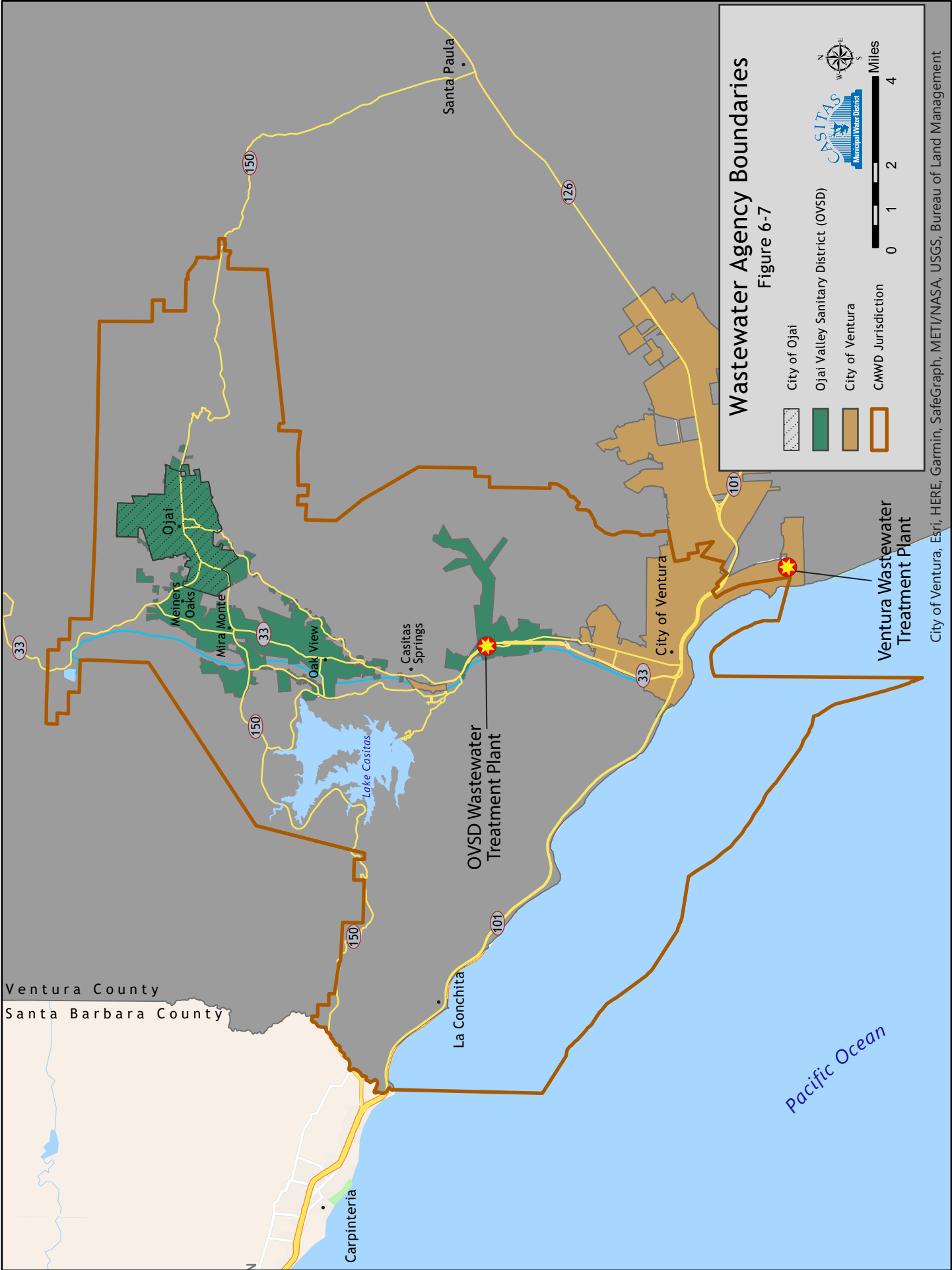
⁵ The planned operational yield is 14,865 AFY from Lake Casitas and 145 AFY from Mira Monte Well.

6.2.4. Stormwater

The District does not own, maintain, or operate any stormwater systems or facilities.

6.2.5. Wastewater and Recycled Water

Wastewater disposal and treatment within Casitas' service area is under the purview of Ojai Valley Sanitary District (OVSD) and the City of Ventura. Recycled water was evaluated by OVSD and determined infeasible due to regulatory constraints on discharges to the Ventura River. These are discussed in the following subsections. Figure 6-7 shows the boundaries of each of these agencies in relation to the Casitas service area boundaries.



Wastewater Agency Boundaries
Figure 6-7

City of Ojai
 Ojai Valley Sanitary District (OVSD)
 City of Ventura
 CMWD Jurisdiction

City of Ventura, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management

6.2.5.1. *Wastewater Collection, Treatment, and Disposal*

The boundaries for Ojai Valley Sanitary District (OVSD) and the City of Ventura do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. The City of Ventura provides wastewater collection and treatment mainly within Casitas' wholesale service area; however the City also serves an area outside the City (within Casitas' retail system service area) under contract with Ventura County, specifically the coastal area in unincorporated Ventura County. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020, Casitas Retail

<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of Ventura	Metered	66	City of Ventura	City of Ventura	No	No
Total Wastewater Collected from Service Area in 2020:		66				
<p>NOTES: There are two agencies who provide wastewater collection within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.</p>						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020, Ojai Retail



There is no wastewater collection system. The supplier will not complete the table below.

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
Ojai Valley Sanitary District	Metered	1,826	Ojai Valley Sanitary District	Ojai Valley Sanitary District	Yes	No
Total Wastewater Collected from Service Area in 2020:		1,826				

NOTES: There are two agencies who provide wastewater collection within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.

Casitas Wholesale System. Casitas does not distribute nor provide supplemental treatment to recycled water as shown in Table 6-3 Wholesale.

Submittal Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2020, Casitas Wholesale											
<input checked="" type="checkbox"/>	Wholesale Supplier neither distributes nor provides supplemental treatment to recycled water. The Supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Total							0	0	0	0	0

Casitas and Ojai Retail Systems. Similar to wastewater collection, to simplify reporting, the City of Ventura’s wastewater information is provided in Table 6-2 Casitas Retail and OVSD’s wastewater information is provided in Table 6-2 Ojai Retail. The City of Ventura’s total is for their entire service area, much of which is outside Casitas’ service area.

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020, Casitas Retail



No wastewater is treated or disposed of within the UWMP service area.
The Supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
City of Ventura	Santa Clara River Estuary	Mouth of Santa Clara River	CA0053651	River or creek	Yes	Tertiary	8,108	7,427	5	621	28
Total							8,108	7,427	5	621	28

NOTES: There are two agencies who provide wastewater treatment and discharge within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail. The City of Ventura's total is for their entire service area, much of which is outside Casitas' service area.

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020, Ojai Retail

<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The Supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Ojai Valley Sanitary District	Ventura River	12-inch pipe	CA0053961	River or creek	No	Tertiary	1,826	1,667	0	0	0
Total							1,826	1,667	0	0	0
NOTES: There are two agencies who provide wastewater treatment and discharge within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.											

Casitas Wholesale System. Casitas does not directly treat nor distribute recycled water as shown in Table 6-4 Wholesale.

Submittal Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area, Casitas Wholesale							
<input checked="" type="checkbox"/>	Recycled water is not directly treated or distributed by the Supplier. The Supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment	2020	2025	2030	2035	2040	2045 (opt)
		0	0	0	0	0	0
Total		0	0	0	0	0	0

Casitas Retail System. Casitas does not use nor plan to use recycled water within the Casitas or Ojai Retail systems as shown in Table 6-4 Casitas Retail and Table 6-4 Ojai Retail.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Casitas Retail										
<input checked="" type="checkbox"/>		Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Supplier Producing (Treating) the Recycled Water:										
Name of Supplier Operating the Recycled Water Distribution System:										
Supplemental Water Added in 2020 (volume) <i>Include units</i>										
Source of 2020 Supplemental Water										
Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045 (opt)
Agricultural irrigation		0			0	0	0	0	0	0
Landscape irrigation (excludes golf courses)		0			0	0	0	0	0	0
Golf course irrigation		0			0	0	0	0	0	0
Commercial use		0			0	0	0	0	0	0
Industrial use		0			0	0	0	0	0	0
Geothermal and other energy production		0			0	0	0	0	0	0
Seawater intrusion barrier		0			0	0	0	0	0	0
Recreational impoundment		0			0	0	0	0	0	0
Wetlands or wildlife habitat		0			0	0	0	0	0	0
Groundwater recharge (IPR)*		0			0	0	0	0	0	0
Surface water augmentation (IPR)*		0			0	0	0	0	0	0
Direct potable reuse		0			0	0	0	0	0	0
Other (Provide General Description)		0			0	0	0	0	0	0

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Casitas Retail

				Total:	0	0	0	0	0	0
Internal Reuse (not counted towards Statewide Recycled Water volume).										

*IPR - Indirect Potable Reuse

Casitas Retail System. Casitas does not use nor plan to use recycled water within the Ojai Retail systems as shown in Table 6-4 Ojai Retail.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Ojai Retail

<input checked="" type="checkbox"/>	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.
-------------------------------------	--

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) <i>Include units</i>	
Source of 2020 Supplemental Water	

Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045 (opt)
Agricultural irrigation		0			0	0	0	0	0	0
Landscape irrigation (excludes golf courses)		0			0	0	0	0	0	0
Golf course irrigation		0			0	0	0	0	0	0
Commercial use		0			0	0	0	0	0	0
Industrial use		0			0	0	0	0	0	0
Geothermal and other energy production		0			0	0	0	0	0	0
Seawater intrusion barrier		0			0	0	0	0	0	0

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area, Ojai Retail

Recreational impoundment		0			0	0	0	0	0	0
Wetlands or wildlife habitat		0			0	0	0	0	0	0
Groundwater recharge (IPR)*		0			0	0	0	0	0	0
Surface water augmentation (IPR)*		0			0	0	0	0	0	0
Direct potable reuse		0			0	0	0	0	0	0
Other (Provide General Description)		0			0	0	0	0	0	0
					Total:	0	0	0	0	0

Internal Reuse (not counted towards Statewide Recycled Water volume).

*IPR - Indirect Potable Reuse

Casitas Wholesale System. Casitas did not plan to use recycled water within the Casitas Wholesale system as shown in Table 6-5 Casitas Wholesale.

Submittal Table 6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Casitas Wholesale		
<input checked="" type="checkbox"/>	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020	2020 Actual Use
	0	0
Total	0	0

Casitas Retail System. In its 2015 UWMP, Casitas did not plan to use recycled water within the Casitas retail system, nor was any used in 2020, as shown in Table 6-5 Casitas Retail.

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Casitas Retail		
<input checked="" type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The Supplier will not complete the table below.	
Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural irrigation	0	0
Landscape irrigation (excludes golf courses)	0	0
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	0	0
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Surface water augmentation (IPR)	0	0
Direct potable reuse	0	0
Total	0	0

Ojai Retail System. A 2015 UWMP was not prepared for the Ojai System under its former ownership. Casitas did not use recycled water within the Ojai retail system in 2020 as shown in Table 6-5 Ojai Retail.

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual, Ojai Retail

<input checked="" type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The Supplier will not complete the table below.	
Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural irrigation	0	0
Landscape irrigation (excludes golf courses)	0	0
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	0	0
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Surface water augmentation (IPR)	0	0
Direct potable reuse	0	0
Total	0	0

6.2.5.2. Actions to Encourage and Optimize Future Recycled Water Use

Casitas Wholesale System. This section is not applicable to wholesale agencies.

Casitas Retail System. OVSD and the City of Ventura provide wastewater collection and treatment within the service area of Casitas. The potential use of recycled water in Casitas’ service area was evaluated in numerous studies over the years. Wastewater from OVSD’s treatment plant is discharged to the Ventura River. OVSD’s treatment plant is located on land owned by the City of Ventura, a condition of which is the City has the first right of OVSD’s treated effluent.

The City of Ventura is separately pursuing an Indirect Potable Reuse (IPR) Project as a result of their settlement agreement regarding discharge to the Santa Clara River Estuary.

Casitas does not plan to implement recycled water use as shown in Table 6-6 Casitas Retail.

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use, Casitas Retail			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
			0
Total			0

Ojai Retail System. The potential for recycled water use in the Ojai area has been studied in the past, particularly the use of packaged satellite treatment systems^{6,7} and use of OVSD’s treatment plant to produce recycled water for irrigation⁸. The analyses of these alternatives determined they are not cost-effective and not feasible to implement. Table 6-6 Ojai Retail indicates there are no plans to expand recycled water use in the future.

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use, Ojai Retail			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
			0
Total			0

⁶ Draft Preliminary Water Security Project Analysis, WREA and Kear Groundwater, November 2016

⁷ Treatment Plant Effluent Considerations, Ojai Valley Sanitary District, July 19, 2018

⁸ Reclaimed Water Feasibility/Marketing Study, Boyle Engineering Corporation, March 1992

6.2.6. Desalinated Water Opportunities

Desalinated water opportunities were most recently studied in the Casitas MWD Draft Comprehensive Water Resources Plan (Stantec, 2020) and were determined to not be cost-effective without regional participation. Casitas is not pursuing any desalinated water opportunities at this time.

6.2.7. Water Exchanges and Transfers

Water exchanges and transfers are discussed in the following subsections.

6.2.7.1. *SWP Exchanges*

In 2018, 2019, and 2020, Casitas did “bonafide exchanges” with the San Geronio Pass Water Agency (SGPWA), which was an exchange of a portion of Casitas’ SWP allocation in return for compensation. Casitas does not have a physical means of receiving SWP water so these exchanges were not actually delivered from the Casitas system to the SGPWA system, but rather were contractual exchanges. The total compensation to Casitas from 2018 to 2020 was approximately \$1.47 million, and the amount of water exchanged varied from year to year, as follows:

- 1,750 AF was delivered to SGPWA 2018, with a return of 700 AF to Casitas by 2028
- 650 AF was delivered to SGPWA 2019, with a return of 325 AF to Casitas by 2029
- 1000 AF was delivered to SGPWA 2020, with a return of 250 AF to Casitas by 2030

SGPWA serves the cities of Calimesa, Beaumont, and Banning, all located in Riverside County. "Bonafide Exchanges" involve a one-year transfer of Casitas MWD's State Water Project 'Table A' water allocation with an agreement that SGPWA will return 25 to 50 percent of the amount transferred to Casitas in a future year upon mutual agreement of the parties. The bonafide exchange agreements have an initial ten-year term with the option for an additional ten years upon mutual agreement of the parties.

6.2.7.2. *Carpinteria Valley Water District Exchanges*

A small portion of the Casitas service area overlaps an area in which Carpinteria Valley Water District (CVWD) has distribution facilities. In 1973, Casitas and CVWD entered into an exchange agreement (later amended in 1976) in which CVWD supplies water to Casitas customers and Casitas returns the water to CVWD at another location. From 2016 to 2020, the annual average amount of water delivered by CVWD to Casitas customers was 35 AFY. As of December 2020, the balance of water owed to CVWD was approximately 160 AF.

6.2.7.3. *Transfers*

Casitas did not transfer SWP water to other agencies from 2016 to 2020 (since the last UWMP). However, with recently approved State Water Project Contract Amendments for Water Management Tools, Casitas is now implementing a planned transfer of 250 AF in 2021 to the Central Coast Water Authority located in Santa Barbara County in return for compensation in the amount of \$175,000.

6.2.7.4. *Emergency Interties*

Casitas does not currently have any permanent emergency interties with neighboring agencies. However, Casitas has multiple one-way interties supplying water to wholesale agencies; in the event of an emergency these interties can be modified to accommodate flow into the Casitas water system. Casitas is working on design of a permanent emergency intertie, known as the Ventura-Santa Barbara County Intertie, which would supply imported water to Casitas (Section 6.2.8).

6.2.8. Future Water Projects

Casitas Wholesale System and Retail System. Casitas is pursuing future water projects as described herein and summarized in Table 6-7 Casitas Wholesale and Table 6-7 Casitas Retail. Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai Retail customers. To simplify reporting, future water supply projects are allocated 30 percent to Casitas Wholesale and 70 percent to Casitas Retail based on the 2011 to 2020 average demands for these systems.

Ventura-Casitas SWP Interconnection. Casitas is participating in design of a 7-mile pipeline between Calleguas Municipal Water District and the City of Ventura. The City of Ventura is the lead agency. This project enables the City of Ventura to access its State Water Project allocation and offset their demands from Lake Casitas, resulting in a potential 'in-lieu' benefit to Casitas. The City has a 10,000 AFY SWP allocation and their Final Draft 2020 UWMP anticipates 1,300 AFY from this supply source. This project would not provide direct delivery of water to Casitas' system during emergencies.

Ventura-Santa Barbara Counties Intertie. This project includes the construction of a 6,100-foot pipeline and two booster pump stations to connect Casitas' transmission system with that of Carpinteria Valley Water District. The project would allow Casitas to access its SWP allocation and other supplemental water through a wheeling arrangement with Santa Barbara County agencies. This project provides physical delivery of water to Casitas' system to mitigate droughts and emergencies.

Matilija Formation Deep Bore. Based on preliminary analysis, the Matilija Formation could yield approximately 5,000 gallons per minute of groundwater (potentially 8,000 acre-feet per year) in the Eastern Santa Ynez Mountains via vertical boring extending 15,000 feet. Preliminary estimates indicate 29,000 to 280,000 AF of water in storage in this formation. Additional study is required regarding feasibility of this project including pilot tests to confirm well yields. This water supply may be used as an emergency supply in drought conditions. Water can be treated at the site and fed into Casitas' transmission system and/or discharged to the Robles Canal and sent to Lake Casitas.

Robles Fish Screen Improvements. This project includes a fixed backspray system to clean fish screens due to sediment deposition. The system requires filtered water supply, pumps, and piping. Implementation allows more efficient water diversions to Lake Casitas from the Ventura River at the Robles facility.

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs, Casitas Wholesale

<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
<input checked="" type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

67 Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Yes or No	If Yes, Agency Name				
Ventura-Casitas SWP Interconnection ¹	Yes	City of Ventura	7-mile pipeline	2025	Multi-Dry Year	Unknown
Ventura-Santa Barbara Counties Intertie ²	Yes	Carpinteria Valley Water District	Pipeline and two booster pump stations	2025	Multi-Dry Year	600
Matilija Formation Deep Bore	No		15,000 foot vertical bore in Matilija Formation	2030	Single-Dry and Multi-Dry Year	2,400
Robles Fish Screen Improvements ³	No		Fixed backspray cleaning system	2025	All Year Types	Unknown

NOTES: Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai Retail customers. Thirty percent of the projected supply is applied to the Wholesale system.
 1) Ventura's SWP allocation is 10,000 AFY; this is a possible 'in-lieu' benefit to Casitas
 2) Supply is based on available capacity in pipelines on Santa Barbara County side
 3) Difficult to quantify the supply impact to improved fish screen operation as it is dependent on storm flows

Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai retail customers. Table 6-7 Casitas Retail includes 70 percent of the projected supplies for new projects based on the 2011 to 2020 average demands.

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs, Casitas Retail

<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
<input checked="" type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

67 Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Yes or No	If Yes, Agency Name				
Ventura-Casitas SWP Interconnection ¹	Yes	City of Ventura	7-mile pipeline	2025	Multi-Dry Year	Unknown
Ventura-Santa Barbara Counties Intertie ²	Yes	Carpinteria Valley Water District	Pipeline and two booster pump stations	2025	Multi-Dry Year	1,400
Matilija Formation Deep Bore	No		15,000 foot vertical bore in Matilija Formation	2030	Single-Dry and Multi-Dry Year	5,600
Robles Fish Screen Improvements ³	No		Fixed backspray cleaning system	2025	All Year Types	Unknown

NOTES: Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai Retail customers. Thirty percent of the projected supply is applied to the Wholesale system.

- 1) Ventura's SWP allocation is 10,000 AFY; this is a possible 'in-lieu' benefit to Casitas
- 2) Supply is based on available capacity in pipelines on Santa Barbara County side
- 3) Difficult to quantify the supply impact to improved fish screen operation as it is dependent on storm flows

Ojai Water System. Casitas drilled a new replacement well in 2020 at the Ojai wellfield and intends to construct piping and electrical systems for its use within the next five years. Under OBGMA policies, groundwater in the Ojai Groundwater Basin cannot be exported out of the basin, so this supply is only available to Ojai Retail customers. While Casitas is working to improve the condition of the Ojai wells, the improved well yields are assumed to only be available when the basin is relatively full. Therefore, the increased water supply is not included in supply projections for later years of multi-year dry periods.

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs, Ojai Retail						
<input type="checkbox"/> No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.						
<input checked="" type="checkbox"/> Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.						
59 Provide page location of narrative in the UWMP						
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Yes or No	If Yes, Agency Name				
Groundwater Well	No			2025	Average and Single-Dry Year	500
NOTES: Supplies from the Ojai Groundwater Basin are only available to Ojai Retail customers. Normal, Single-Year Dry, and first 3 years of a multi-year drought period.						

6.2.9. Summary of Existing and Planned Sources of Water

The supplies available to the Casitas and Ojai systems are described in the following subsections. It is difficult to separate supplies from Lake Casitas supplies for the Casitas Wholesale and Casitas Retail systems. To simplify reporting, 30 percent was attributed to Wholesale and 70 percent to Retail based on average ratios from 2011 to 2020.

Casitas Wholesale System. Table 6-8 Wholesale shows the actual volume of supplies in 2020.

Submittal Table 6-8 Wholesale: Water Supplies — Actual, Casitas Wholesale			
Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Surface water (not desalinated)	Lake Casitas	3,245	Drinking Water
Groundwater (not desalinated)	Mira Monte Well	50	Drinking Water
Total		3,295	

Casitas Retail System. Table 6-8 Casitas Retail shows the actual volume of supplies for 2020.

Submittal Table 6-8 Retail: Water Supplies — Actual, Casitas Retail			
Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Surface Water (not desalinated)	Lake Casitas	7,571	Drinking Water
Groundwater (not desalinated)	Mira Monte Well	129	Drinking Water
Total		7,700	

Ojai Water System. Casitas’ wells in the Ojai Groundwater Basin supply the majority of water to the Ojai Retail System. Two connections to the Casitas system are used to supplement groundwater supplies during high demand or when well(s) are non-operational.

Submittal Table 6-8 Retail: Water Supplies — Actual, Ojai Retail			
Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Surface water (not desalinated)	Lake Casitas	369	Drinking Water
Groundwater (not desalinated)	Ojai Wellfield	1,300	Drinking Water
Total		1,669	

Casitas Wholesale System. Projected supplies for the Casitas Wholesale system are shown in Table 6-9 Casitas Wholesale.

Submittal Table 6-9 Wholesale: Water Supplies — Projected, Casitas Wholesale					
Water Supply	Additional Detail on Water Supply	Projected Water Supply			
		2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Surface Water (not desalinated)	Lake Casitas	4,460	4,460	4,460	4,460
Groundwater (not desalinated)	Mira Monte Well	43	43	43	43
Purchased or Imported Water	Ventura-Santa Barbara Counties Intertie	600	600	600	600
Total		5,103	5,103	5,103	5,103

Casitas Retail System. Projected supplies for the Casitas Retail system are shown in Table 6-9 Casitas Retail.

Submittal Table 6-9 Retail: Water Supplies — Projected, Casitas Retail					
Water Supply	Additional Detail on Water Supply	Projected Water Supply			
		2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Surface Water (not desalinated)	Lake Casitas	10,405	10,405	10,405	10,405
Groundwater (not desalinated)	Mira Monte well	102	102	102	102
Purchased or Imported Water	Ventura-Santa Barbara Counties Intertie	1,400	1,400	1,400	1,400
Total		11,907	11,907	11,907	11,907

Ojai Water System. Table 6-9 Ojai Retail shows the project water supplies for the Ojai Retail system.

Submittal Table 6-9 Retail: Water Supplies — Projected, Ojai Retail					
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>			
		2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Surface Water (not desalinated)	Lake Casitas Supplement	461	461	461	461
Groundwater (not desalinated)	Ojai Wellfield	2,300	2,300	2,300	2,300
Total		2,761	2,761	2,761	2,761

6.2.10. Special Conditions

Special conditions which may affect Casitas' water supplies are described in the following subsections.

6.2.10.1. *Climate Change Effects*

Climate change may affect Casitas' water supplies as described in Sections 3.3 and 4.4.

6.2.10.2. *Regulatory Conditions and Project Development*

The following regulatory conditions and project development may have an impact on Casitas' water supplies in the future.

In-Stream Flow Studies. As directed by Governor Brown, the California Water Action Plan (WAP) was released in 2014 to move California toward more sustainable water management. The WAP was developed by the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture, and includes three objectives: 1) more reliable water supplies; 2) restoration of important species and habitat, and 3) a more resilient sustainable managed water resources system.

As part of the implementation activities for the WAP, the California Department of Fish and Wildlife (CDFW) is developing instream flow criteria in the Ventura River watershed that would support the endangered steelhead trout. These flow criteria will be submitted to the State Water Resources Control Board (SWRCB) to identify potential actions that may be taken to establish or enhance instream flow for steelhead. The SWRCB is developing a groundwater-surface water model of the Ventura River watershed to evaluate potential actions to achieve instream flows. These potential actions could have a significant impact on available water supplies for Casitas and its wholesale agencies. The SWRCB study is anticipated to be complete by 2022. More information can be found at:

https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing

Sustainable Groundwater Management Act. In 2014 the California Legislature passed the Sustainable Groundwater Management Act (SGMA) to provide a framework for sustainable management of groundwater supplies by local agencies. The California Department of Water Resources is the jurisdictional agency for SGMA compliance. Depending on the ‘priority’ of the specific groundwater basin, preparation of a Groundwater Sustainability Plan (GSP) has a specific target date with critically-overdrafted high priority basins having the earliest deadline. More information can be found on the DWR website at <https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management>

The Ojai Groundwater Basin is considered a high priority basin. The OBGMA manages the quality and quantity of groundwater within the Ojai Groundwater Basin since 1991. OBGMA is in the process of preparing its GSP. A release date is unknown.

The Ventura River Valley is considered a medium priority basin. The Upper Ventura River Groundwater Management Agency expects to release a draft of the GSP in July 2021 followed by a public workshop in August 2021. Adoption of the GSP is anticipated in December 2021.

Matilija Dam Ecosystem Restoration Project. The County of Ventura owns the Matilija Dam, located upstream of Casitas’ Robles Diversion and Fish Passage Facility. The County plans to remove Matilija Dam as it has been rendered obsolete. Casitas participates in several committees to coordinate and evaluate the “Matilija Dam Ecosystem Restoration Project”, along with numerous stakeholders. Removal of the dam will likely impact the Robles Facility due to increased sediment load. The County is currently seeking funding for the dam removal and associated downstream projects, including improvements and/or modifications to the Robles Facility. More information can be found at: <https://matilijadam.org/>

6.2.10.3. Other Local Applicable Criteria

Ventura River Watershed Groundwater Basins Adjudication. The City of Ventura initiated a water rights adjudication of four groundwater basins within the Ventura River watershed through an amended cross complaint filed with the Superior Court of California in September 2018. The basins named in the lawsuit include: Upper Ventura River Groundwater Basin, Lower Ventura River Groundwater Basin, Ojai Valley

Groundwater Basin, and Upper Ojai Valley Groundwater Basin. This action was filed by the City of Ventura and included not only Casitas but many public and private water users. The outcome of the adjudication is currently unknown. Casitas is actively defending and protecting its water rights in the case of *Santa Barbara Channelkeeper v. State Water Resources Control Board; City of San Buenaventura; City of San Buenaventura v. Duncan Abbott, et al.*, Cross-Complaint, Superior Court of the State of California, County of Los Angeles, Case No. 19STCP01176. More information can be found at: <http://www.venturariverwatershedadjudication.com>

6.3. Submittal Tables Completion Using Optional Planning Tool

Casitas has opted not to complete these tables.

6.4. Energy Use

A new requirement for 2020 UWMPs is Energy Intensity Reporting. The following subsections include required tables and discussion.

Casitas Wholesale and Retail Systems. Table O-1C shows the required energy reporting table for the “Multiple Water Delivery Products” approach, which is appropriate for the Casitas system (Wholesale and Retail). Data provided by Casitas is shown in the unshaded cells; the shaded cells are auto-calculated. Casitas’ wholesale and retail systems have an ‘energy intensity’ of 436.6 kilowatt-hours (kWh) per acre-foot.

Table O-1C: Recommended Energy Reporting - Multiple Water Delivery Products, Casitas Wholesale and Retail

Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control							
End Date	12/31/2020								
Water Volume Units	AF	Water Management Process						Non-Consequential Hydropower (if applicable)	
Is upstream embedded in the values reported?	N/A	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility	Hydropower	Net Utility
Total Volume of Water Entering Process		179.3	5,478	0	10,447.23	10,447.23	N/A	0	N/A
Retail Potable Deliveries (%)		20%			20%	20%			
Retail Non-Potable Deliveries (%)									
Wholesale Potable Deliveries (%)		30%			30%	30%			
Wholesale Non-Potable Deliveries (%)									
Agricultural Deliveries (%)		50%			50%	50%			
Environmental Deliveries (%)									
Other (%)									
Total Percentage [must equal 100%]		100%	0%	0%	100%	100%	N/A	0%	N/A

Table O-1C: Recommended Energy Reporting - Multiple Water Delivery Products, Casitas Wholesale and Retail								
Energy Consumed (kWh)	99,765	15,661	0	797,688	8,303,241	9,216,355		9,216,355
Energy Intensity (kWh/vol. converted to MG)	1,707.6	8.8	N/A	234.3	2439.1	N/A	N/A	N/A
Water Delivery Type	Production Volume (volume units defined above)	Total Utility (kWh/volume)	Net Utility (kWh/volume)					
Retail Potable Deliveries	4214.7	436.6	436.6					
Retail Non-Potable Deliveries	0	0.0	0.0					
Wholesale Potable Deliveries	6322.1	436.6	436.6					
Wholesale Non-Potable Deliveries	0	0.0	0.0					
Agricultural Deliveries	10536.9	436.6	436.6					
Environmental Deliveries	0	0.0	0.0					
Other	0	0.0	0.0					
All Water Delivery Types	21,073.8	436.6	436.6					
Quantity of Self-Generated Renewable Energy:	0 kWh	Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data):					Metered Data	
Data Quality Narrative:	Data was gathered from SCE meters at District facilities. Water volumes are metered. Extract/divert is from Mira Monte Well groundwater production. Placed into Storage is the Robles facility to Lake Casitas. Conveyance is not							

Table O-1C: Recommended Energy Reporting - Multiple Water Delivery Products, Casitas Wholesale and Retail

	<p>considered. Treatment is Marion Walker Water Treatment Plant (MWWTP). Distribution is all pump plants, reservoirs, and pressure regulating stations.</p>
<p>Narrative:</p>	<p>Mira Monte Well has chlorine wellhead treatment facilities. The Robles facility diverts water from the Ventura River to the Robles Canal and then to Lake Casitas; the Fish Passage Facility at Robles has motorized brushes to clean the fish screens. The MWWTP is a pressure filtration system at the base of Casitas Dam. The District operates 11 pump plants, 15 storage tanks, and 27 pressure regulating station.</p>

Ojai Retail System. Table O-1B shows the recommended energy reporting table for the Ojai Retail system using the “Total Utility Approach”. Data provided by Casitas is shown in the unshaded cells; the shaded cells are auto-calculated. The Ojai Retail Systems has an ‘energy intensity’ of 3,790.7 kWh per million gallons.

Table O-1B: Recommended Energy Reporting – Total Utility Approach, Ojai Retail				
Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/31/2020			
Is upstream embedded in the values reported?	No	Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		1,300	0	1,300
Energy Consumed (kWh)		1,605,752	0	1,605,752
Energy Intensity (kWh/vol. converted to MG)		3,790.7	n/a	3,790.7
Quantity of Self-Generated Renewable Energy:				
0		kWh		
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data):				
Metered Data				
Data Quality Narrative:				
Water volume entering system metered at Ojai Wellfield. Energy consumed data from SCE billing system.				
Narrative:				
Ojai Wellfield consists of Mutual Wells and San Antonio Wells. Pumped water is treated at the on-site iron and manganese treatment plant.				

7. Water System Reliability and Drought Risk Assessment

Section 7 describes Casitas' evaluation of water supply reliability and drought risk assessment in compliance with Water Code Section 10635.

7.1. Introduction

Water supply reliability is Casitas' mission as a water purveyor. This section describes Casitas' evaluation of potential supply constraints, demands, and drought impacts.

7.2. Water Service Reliability Assessment

The following subsections describe service reliability including constraints on water supply sources and reliability under normal year, single dry year, and multiple dry years for five consecutive years.

7.2.1. Service Reliability – Constraints on Water Sources

Casitas Wholesale and Retail Systems. As described in Section 6.2.3, the planned operational yield of Lake Casitas was recently evaluated using a model that simulates Lake Casitas inflows, outflows (including evaporation) and change in storage over a time series of assumed hydrology conditions. On April 21, 2021, the Board of Directors adopted a planned operational for the Casitas System of 15,010 AFY⁹. The operational yield for the Casitas system is sufficient to provide supplies through an extended drought period lasting 10-20 years depending on reservoir levels at the start of the dry period.

SWP water, via the future Ventura-Santa Barbara County Intertie, is limited by interconnect delivery capacity and SWP allocations from year to year. Casitas would only have access to excess delivery capacity when Santa Barbara County agencies are not fully using their facilities. For planning purposes, it is assumed that only 2,000 AFY could be delivered on average given that capacity would be limited in summer months and during times when Santa Barbara agencies have limited local supplies due to drought.

SWP allocations from DWR vary significantly from year to year due to hydrologic conditions and complex operations to meet environmental requirements. While DWR has estimated that the average SWP yield under existing conditions is about 58 percent of Table A, the most recent drought resulted in the lowest allocation in SWP history at 5 percent of Table A. For the multiple dry-year analysis, Casitas has selected 2011 to 2015, which incorporates record low rainfall in the local watershed as well as the record low SWP allocations. SWP allocations from DWR during the period 2011 to 2015 were:

- 2011 – 80%
- 2012 – 65%
- 2013 – 35%
- 2014 – 5%
- 2015 – 20%

Casitas' existing allocation of 5,000 AFY would not be affected by the allocation in 2011 or 2012 as these amounts are more than 2,000 AFY (i.e. the pipeline capacity of 2,000 AFY is the limiting factor).

However, the available SWP supply is reduced in 2013-2015. Table 7-0 shows the SWP allocation for Casitas wholesale (30 percent) and Casitas retail (70 percent) applied to a five consecutive year drought.

⁹ The planned operational yield is 14,865 AFY for Lake Casitas and 145 AFY for Mira Monte Well.

Table 7-0 State Water Project Allocation for Casitas Wholesale and Casitas Retail					
	Year 1	Year 2	Year 3	Year 4	Year 5
Casitas Wholesale	600	600	525	75	300
Casitas Retail	1,400	1,400	1,225	175	700
Notes: This is <u>not</u> a DWR-required table.					

The amounts show in Table 7-0 are used for the multiple dry year discussion in Sections 7.2.2.1 and 7.2.2.3.

Ojai Water System. The primary source for the Ojai System is groundwater from the Ojai Basin, and supplemental water is supply by the Casitas System through two interconnects. The Ojai System acquisition included several groundwater wells, with some wells over 45 years old and in need of rehabilitation and replacement. The wells acquired by GSWC were unable to produce their original design capacity of 4,404 AFY and Ojai wellfield production from 1994-2016 averaged about 1,800 AFY. Since 2017, Casitas has made progress in improving the condition of the wells, although work is still underway and not yet complete. Once complete, the anticipated yield is expected to increase by 500 AFY to 2,300 AFY. While Casitas is working to improve the condition of the Ojai wells, the improved well yields are assumed to only be available when the basin is relatively full. Therefore, the increased water supply is not included in supply projections for later years of multi-year dry periods.

7.2.2. Service Reliability – Year Type Characterization

The following subsections describe service reliability for Casitas under average year, single dry year and multiple dry year conditions. For the 2020 UWMP, the multiple dry year analysis includes five consecutive dry years; the 2015 UWMP was required to evaluate only three consecutive dry years.

7.2.2.1. Types of Years

Casitas Wholesale System. The average year (2003) was selected based on precipitation records from 1960 to 2020 as it was the year closest to the overall average during that period. Single-Dry Year represents the lowest water supply available to Casitas. Based on lake levels, 2019 is the lowest (driest) year. Five-Consecutive-Year Drought represents the driest five-year historical sequence, which for Casitas is the period from 2011 to 2015 based on precipitation records. Table 7-1 shows the analysis for the Casitas Wholesale system.

Quantification of available supply is based on the operational yield as described in Section 6.2.3. For the wholesale system, 4,460 AFY is assumed to be provided from Lake Casitas, 43 AFY from the Mira Monte Well, and 600 AFY from a future SWP connection between Casitas and Carpinteria Valley Water District, also known as the Ventura-Santa Barbara Counties Intertie project, for a total of 5,103 AFY during average year, single-dry year and the first two years of a five-year multiple dry year period. The lower availability of SWP water is factored into the last three year period.

Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment), Casitas Wholesale			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2003	5,103	100%
Single-Dry Year	2019	5,103	100%
Multiple-Dry Years 1st Year	2011	5,103	100%
Multiple-Dry Years 2nd Year	2012	5,103	100%
Multiple-Dry Years 3rd Year	2013	5,028	99%
Multiple-Dry Years 4th Year	2014	4,578	90%
Multiple-Dry Years 5th Year	2015	4,803	94%
NOTES: Base volume available: Lake Casitas (4,460), Mira Monte Well (43) and Purchased/Imported (SWP) Water. SWP availability from 2013 to 2015 was factored into multiple dry years as shown in Table 7-0.			

Casitas Retail System. For the Casitas Retail system, supplies include 10,405 AFY from Lake Casitas, 102 AFY from the Mira Monte Well, and 1,400 AFY from the Ventura-Santa Barbara Counties Intertie for a total of 11,907 AFY.

The average year (2003) was selected based on precipitation records from 1960 to 2020 as it was the year closest to the overall average during that period. The year 2019 was selected as the single-dry year as this was the year in which Lake Casitas was at its lowest storage level.

The multiple dry-year period of 2011 to 2015 was selected based on the driest five-year period from 1960 to 2020 based on precipitation records at Casitas Dam. Similar to Casitas wholesale system, SWP availability was factored into the consecutive dry year volume available as shown in Table 7-0.

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment), Casitas Retail			
		Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2003	11,907	100%
Single-Dry Year	2019	11,907	100%
Consecutive Dry Years 1st Year	2011	11,907	100%
Consecutive Dry Years 2nd Year	2012	11,907	100%
Consecutive Dry Years 3rd Year	2013	11,732	99%
Consecutive Dry Years 4th Year	2014	10,682	90%
Consecutive Dry Years 5th Year	2015	11,207	94%
NOTES: Lake Casitas (10,405), Mira Monte Well (102) and Purchased/Imported Water (1,400). SWP availability from 2013 to 2015 was factored into multiple dry years.			

Ojai Water System. Ojai Water supplies are based on Ojai Wellfield capacity of 2,300 AFY plus Lake Casitas supplement of 461 AFY.

The average year (2003) was selected based on precipitation records from 1960 to 2020 as it was the year closest to the overall average during that period. The year 2019 was selected as the single-dry year as this was the year in which Lake Casitas was at its lowest storage level. The multiple dry-year period of 2011 to 2015 was selected based on the driest five-year period from 1960 to 2020 based on precipitation records at Casitas Dam. It was assumed in years 4 and 5 of a consecutive five-year dry period, the wellfield production is reduced from 2,300 AF to 1,800 AF and Lake Casitas supply is reduced by 20 percent.

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment), Ojai Retail			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2003	2,761	100%
Single-Dry Year	2019	2,761	100%
Consecutive Dry Years 1st Year	2011	2,761	100%
Consecutive Dry Years 2nd Year	2012	2,761	100%
Consecutive Dry Years 3rd Year	2013	2,761	100%
Consecutive Dry Years 4th Year	2014	2,169	79%
Consecutive Dry Years 5th Year	2015	2,169	79%

NOTES: Ojai Wellfield Capacity (2,300 AF) plus Lake Casitas Supplement (461 AF) in 1st three years; 1,800 AF and 369 AF, respectively, in years 4 and 5.

7.2.3. Service Reliability – Supply and Demand Comparison

The following subsections describe water supply and demand comparison under multiple scenarios including average year, single dry year and multiple dry year period of five years.

7.2.3.1. Water Service Reliability – Normal Year

Casitas Wholesale System. Table 7-2 Casitas Wholesale summarizes the normal year supply and demand for the Casitas Wholesale system.

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison, Casitas				
	2025	2030	2035	2040
Supply totals (autofill from Table 6-9)	5,103	5,103	5,103	5,103
Demand totals (autofill fm Table 4-3)	4,356	4,356	4,356	4,356
Difference	747	747	747	747

Casitas Retail System. Table 7-2 Casitas Retail summarizes the normal year supply and demand for the Casitas Retail system.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison, Casitas Retail				
	2025	2030	2035	2040
Supply totals <i>(autofill from Table 6-9)</i>	11,907	11,907	11,907	11,907
Demand totals <i>(autofill from Table 4-3)</i>	10,169	10,169	10,169	10,169
Difference	1,738	1,738	1,738	1,738

Ojai Water System. Table 7-2 Ojai Retail summarizes the normal year supply and demand for the Ojai Retail system.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison, Ojai Retail				
	2025	2030	2035	2040
Supply totals <i>(autofill from Table 6-9)</i>	2,761	2,761	2,761	2,761
Demand totals <i>(autofill from Table 4-3)</i>	1,850	1,850	1,850	1,850
Difference	911	911	911	911

7.2.3.2. Water Service Reliability – Single Dry Year

Given that Lake Casitas and groundwater basin storage can sustain extended drought periods, a single dry year has little effect on Casitas’ supply availability. However, annual demands typically vary significantly from year to year. Unconstrained demands for water typically increase during dry period and decrease during wet periods. The demands herein reflect planned average demands and were not adjusted based on weather variations.

Casitas Wholesale System. Table 7-3 Casitas Wholesale shows the single dry year supply and demand for the Casitas wholesale system.

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison, Casitas				
	2025	2030	2035	2040
Supply totals	5,103	5,103	5,103	5,103
Demand totals	4,356	4,356	4,356	4,356
Difference	747	747	747	747

Casitas Retail System. Table 7-3 Casitas Retail shows the single dry year supply and demand for the Casitas retail system.

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison, Casitas Retail				
	2025	2030	2035	2040
Supply totals	11,907	11,907	11,907	11,907
Demand totals	10,169	10,169	10,169	10,169
Difference	1,738	1,738	1,738	1,738

Ojai Retail System. Table 7-3 Ojai Retail shows the single dry year supply and demand for the Ojai retail system.

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison, Ojai Retail				
	2025	2030	2035	2040
Supply totals	2,761	2,761	2,761	2,761
Demand totals	1,850	1,850	1,850	1,850
Difference	911	911	911	911

7.2.3.3. Water Service Reliability – Five Consecutive Dry Years

Given that Lake Casitas and groundwater basin storage can sustain extended drought periods, a few dry years have little effect on Casitas’ supply availability. However, supplies can become limited during extended drought periods and Casitas implements its WEAP as a demand management tool as Lake Casitas storage declines.

Annual demands typically vary significantly from year to year. Unconstrained demands for water typically increase during dry period and decrease during wet periods. The demands herein have not been adjusted based on weather variations. However, the demands have been adjusted to reflect mandatory demand reductions with WEAP implementation in later years of a drought.

Casitas Wholesale System. Table 7-4 Casitas Wholesale shows the multiple dry year supply and demand for the Casitas wholesale system. Based on Casitas’ practices Stage 2 of the WEAP would take effect in year 5, resulting in a 20 percent decrease in demand. The surplus in Year 5 resulting from demand management helps to stretch remaining supplies for a drought lasting longer than five years.

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison					
		2025	2030	2035	2040
First year	Supply totals	5,103	5,103	5,103	5,103
	Demand totals	4,356	4,356	4,356	4,356

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison					
	Difference	747	747	747	747
Second year	Supply totals	5,103	5,103	5,103	5,103
	Demand totals	4,356	4,356	4,356	4,356
	Difference	747	747	747	747
Third year	Supply totals	5,028	5,028	5,028	5,028
	Demand totals	4,356	4,356	4,356	4,356
	Difference	672	672	672	672
Fourth year	Supply totals	4,578	4,578	4,578	4,578
	Demand totals	4,356	4,356	4,356	4,356
	Difference	222	222	222	222
Fifth year	Supply totals	4,803	4,803	4,803	4,803
	Demand totals	3,485	3,485	3,485	3,485
	Difference	1,318	1,318	1,318	1,318

Casitas Retail System. Table 7-4 Casitas Retail shows the multiple dry year supply and demand for the Casitas retail system. Based on Casitas’ practices Stage 2 of the WEAP would take effect in year 5, resulting in a 20 percent decrease in demand. The surplus in Year 5 resulting from demand management helps to stretch remaining supplies for a drought lasting longer than five years.

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Casitas Retail					
		2025	2030	2035	2040
First year	Supply totals	11,907	11,907	11,907	11,907
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,738	1,738	1,738	1,738
Second year	Supply totals	11,907	11,907	11,907	11,907
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,738	1,738	1,738	1,738
Third year	Supply totals	11,732	11,732	11,732	11,732
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,563	1,563	1,563	1,563
Fourth year	Supply totals	10,682	10,682	10,682	10,682
	Demand totals	10,169	10,169	10,169	10,169
	Difference	513	513	513	513

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Casitas Retail					
Fifth year	Supply totals	11,207	11,207	11,207	11,207
	Demand totals	10,169	10,169	10,169	10,169
	Difference	3,072	3,072	3,072	3,072

Ojai Retail System. Table 7-4 Ojai Retail shows the multiple dry year supply and demand for the Ojai Retail system. It was assumed in years 4 and 5, the wellfield production would be reduced from 2,300 AF to 1,800 AF. Based on Casitas’ practices Stage 2 of the WEAP would take effect in year 5, resulting in a 20 percent decrease in demand. The surplus in Year 5 resulting from demand management helps to stretch remaining supplies for a drought lasting longer than 5 years.

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Ojai Retail					
		2025	2030	2035	2040
First year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Second year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Third year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Fourth year	Supply totals	2,169	2,169	2,169	2,169
	Demand totals	1,850	1,850	1,850	1,850
	Difference	319	319	319	319
Fifth year	Supply totals	2,169	2,169	2,169	2,169
	Demand totals	1,480	1,480	1,480	1,480
	Difference	689	689	689	689

7.2.4. Description of Management Tools and Options

Casitas manages its local water supply with a great deal of cooperation from its customers. During drought conditions, the WEAP is a cornerstone policy for Casitas’ demand management. The WEAP describes the water demand reduction strategies and measures to address water shortage conditions, promote water conservation and the efficient use of water, and the application of a penalty to customers who waste water. The WEAP was originally developed in response to the 1987 to -1991 drought period, and is updated and modified as needed. The most recently adopted WEAP is included in Appendix F.

Future supplemental supply options are described in Section 6.

7.3. Drought Risk Assessment

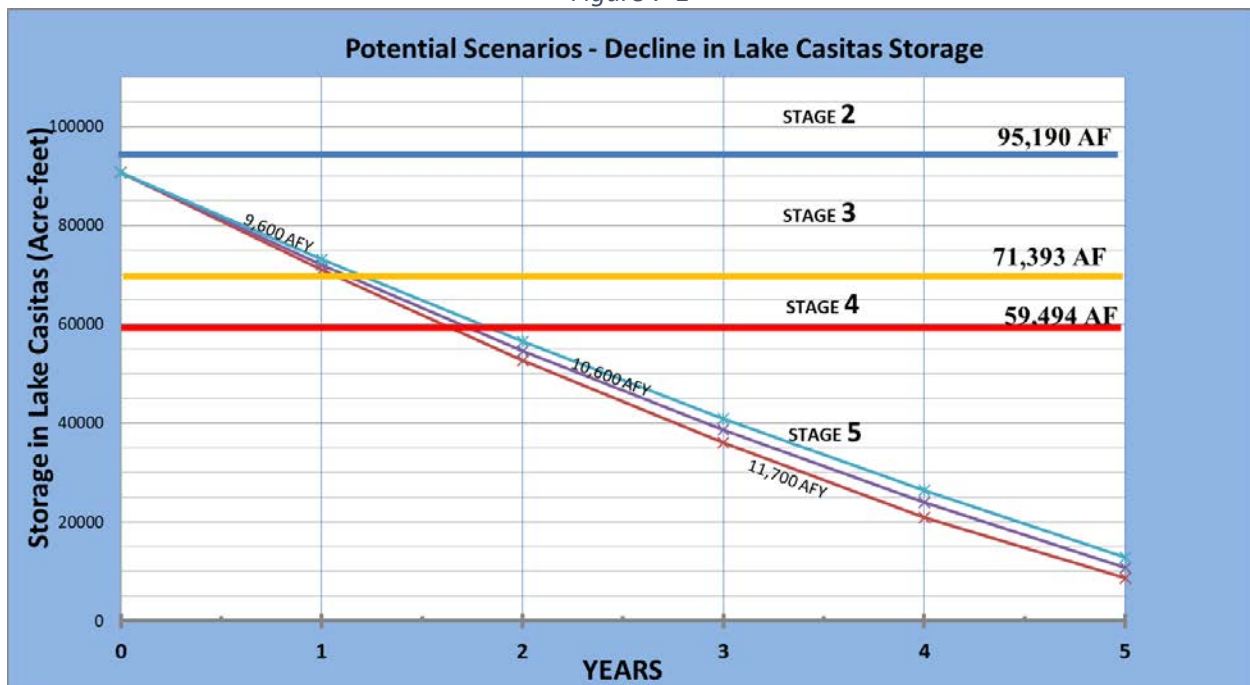
The Drought Risk Assessment (DRA) is a new requirement in the 2020 UWMP. The DRA is intended to address the next five-year cycle of water supplies and demands; for the UWMP, this is the period from 2021 to 2025.

7.3.1. DRA Data, Methods, and Basis for Water Shortage Condition

Casitas declared Stage 3 of the WEAP in June 2016 when Lake Casitas dropped below 100,000 AF in storage and continues to remain in Stage 3. Annually, Casitas prepares a Water Supply Assessment which includes an evaluation of water supplies, demands, and effectiveness of water conservation measures over the previous fiscal year, and projects Lake Casitas levels assuming that dry conditions will continue. The most recent Water Supply Assessment is provided in Appendix D.

The analysis is conservative and assumes no inflows to Lake Casitas occur in the next five years. Figure 7-1 shows the potential lake levels with various demand scenarios that reflect recent usage patterns. Based on these projections, Casitas may enter Stage 4 of the WEAP in 12 to 14 months. Casitas is working to revise its WEAP and will re-assess the Stage level in Spring 2022. Projected five-year supplies and demands are discussed further in Section 7.

Figure 7-1



7.3.2. DRA Water Source Reliability

Lake Casitas. As of December 2020, Lake Casitas was at approximately 39.3 percent of capacity (93,449 AF in storage) due to the ongoing drought. Lake Casitas is wholly dependent on precipitation into the watershed and Casitas’ ability to divert water from the Ventura River. For drought planning purposes, a conservative assumption of no additional inflows is used.

Groundwater. The DRA assumes that historic pumping levels can be maintained in the next five years. Current groundwater basin conditions are described further in the most recent Water Supply Assessment (Appendix D).

State Water Project. Casitas is the design phase of the Ventura-Santa Barbara Counties Intertie project. Funding for construction is necessary and Casitas is pursuing grants and loans to implement this project by 2025, which would provide and estimated 2,000 AFY on average.

7.3.3. DRA Total Water Supply and Use Comparison

Casitas Wholesale and Retail Systems. Table 7-5 Casitas summarizes the Five-Year DRA for the Casitas System and shows the impact of conservation when the WEAP is implemented, particularly for years 2021 to 2024. Total supplies are based on recent production trends and water demands (‘gross water use’) are the unconstrained planned demands.

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b), Casitas	
2021	Total
Gross Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%
2022	Total
Gross Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%
2023	Total
Gross Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,899

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b), Casitas	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%
2024	Total
Gross Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%
2025	Total
Gross Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	2,000
WSCP - use reduction savings benefit	1,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	13%

Ojai Water System. Table 7-5 Ojai summarizes the Five-Year DRA for the Ojai System and shows the impact of conservation when the WEAP is implemented, particularly for years 2021 to 2024. Total supplies are based on recent production trends and water demands ('gross water use') are the unconstrained Stage 1 demands.

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b), Ojai	
2021	Total
Gross Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b), Ojai

2022	Total
Gross Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%
2023	Total
Gross Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%
2024	Total
Gross Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%
2025	Total
Gross Water Use	1,850
Total Supplies	1663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	500
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	313
Resulting % Use Reduction from WSCP action	0%

7.3.4. Optional Planning Tool Workbook

Casitas has opted not to use the optional planning tool workbook.

This page left intentionally blank.

8. Water Shortage Contingency Plan

Water shortages can be triggered by hydrologic limitations in supply (e.g. prolonged period of below-normal precipitation and runoff) or failure of supply, treatment, and/or conveyance infrastructure due to a catastrophic event, such as earthquake, power outage, or a toxic spill that affects water quality. Water supply limitations resulting from drought tend to develop and abate more slowly, whereas infrastructure failure tends to happen quickly and relatively unpredictably.

Casitas' Water Shortage Contingency Plan (WSCP) was developed in accordance with California Water Code Section 10632 and the California DWR UWMP Guidebook and includes:

- **Water Supply Reliability Analysis:** Summarizes Casitas' water supply analysis, and identifies any key issues that may trigger a shortage condition;
- **Annual Water Supply and Demand Assessment Procedures:** Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year, and the steps to formally declare any water shortage levels and response actions;
- **Standard Shortage Stages:** Establishes water shortage levels to clearly identify and prepare for shortages;
- **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand and to minimize social and economic impacts to the community;
- **Communication Protocols:** Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements;
- **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions;
- **Legal Authority:** Lists the legal documents granting Casitas the authority to declare a water shortage; and to implement and enforce response actions;
- **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impacts of implementing water shortage stages and identifies mitigation strategies to offset financial burdens;
- **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation, and whether response actions should be increased or reduced;
- **WSCP Refinement Procedures:** Outlines procedures for updating the WSCP;
- **Special Water Features Distinctions:** Defines ponds, lakes, fountains, pools, and spas, etc.;
- **Plan Adoption, Submittal, and Availability:** Describes the process for WSCP adoption, submittal and availability.

The WSCP is prepared as part of Casitas' 2020 UWMP, but is a stand-alone document that may be modified as needed. The WSCP is intended to provide guidance, rather than absolute direction, for Casitas' action in response to water shortages.

The WSCP is based on Casitas' currently adopted WEAP, which is included as Appendix F. The WEAP is the primary demand management tool to reduce water demands as Lake Casitas levels decline during extended drought periods, and may be modified or updated more frequently than the UWMP five-year

cycle. In addition, Casitas has an Emergency Response Plan and Casitas Dam Emergency Action Plan to provide guidance for a coordinated response to emergency conditions or catastrophic events.

8.1. Water Supply Reliability Analysis

The reliability of Casitas' water supply is described in Section 7 by comparing supply demand projections through 2040 for normal, single dry, and multiple dry years. The following is a concise narrative of the available water supplies and key issues that may create a water shortage condition.

8.1.1. Lake Casitas

Because Lake Casitas is a multi-year reservoir designed to supply water through an extended drought period, a single dry year has little effect on availability of Casitas supplies. However, when average or less rainfall continues for many years in succession, Lake Casitas storage will decline and careful management is needed in the event that dry conditions continue. Figures 8-1 and 8-2 show historical lake levels and the corresponding reduction in demands, respectively, when lake levels start to decline. The demand reductions in the post-1989 and post-2016 periods reflect implementation of the WEAP and its effectiveness as a demand management tool.

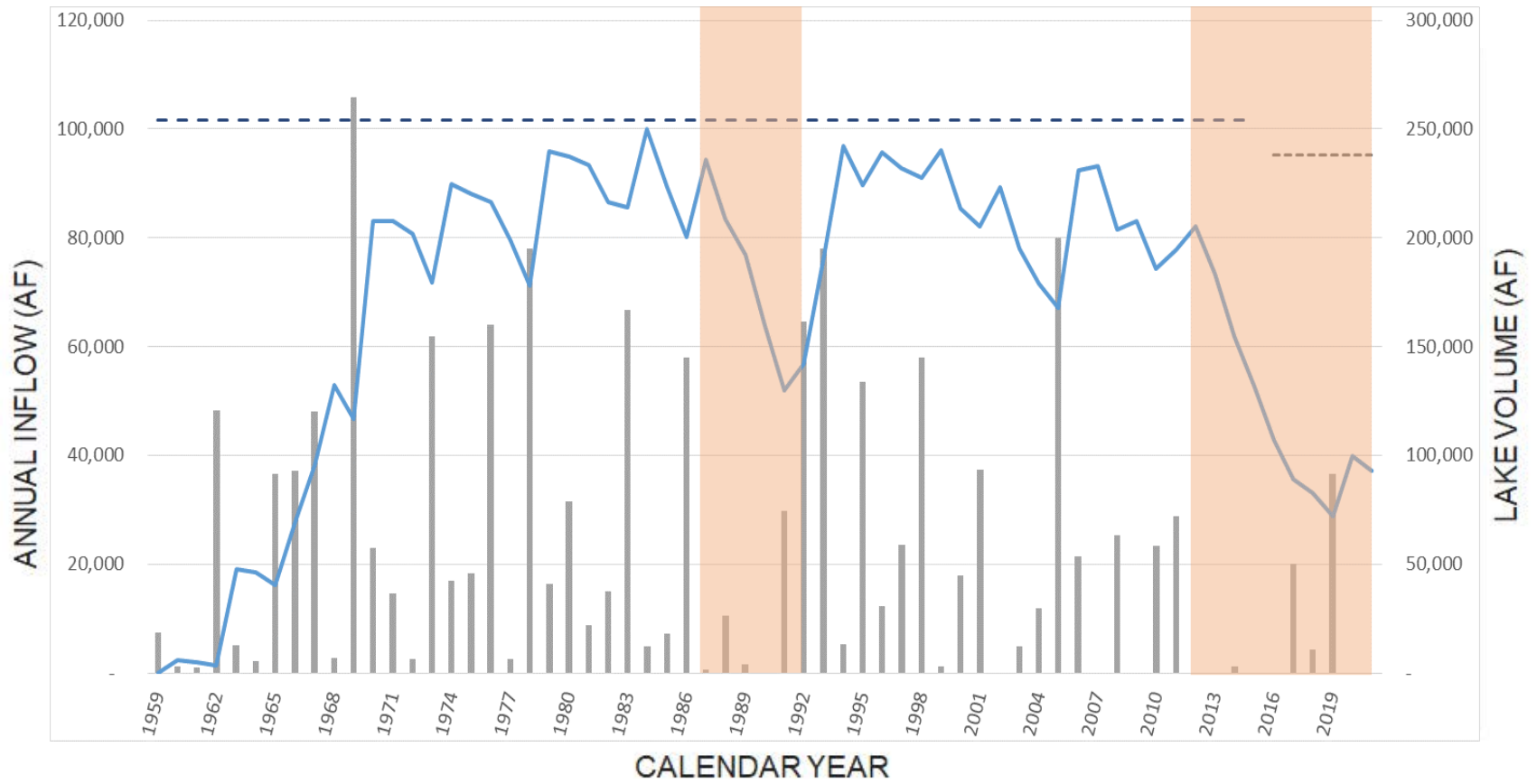
The water supply availability from Lake Casitas was previously studied by the United States Bureau of Reclamation in the 1954 evaluation of the Ventura River Project, and later by the District in the 1989 and 2004. The District recently updated its evaluation of the reliability of the Lake Casitas water supply using its Lake Casitas safe yield model, which is a mass-balance model that tracks Lake Casitas inflows, outflows (including evaporation), and change in storage to simulate operations over a time series of assumed hydrology conditions. The model evaluates the water supply vulnerability to climatic and seasonal variations in weather, changes in water demands, and changes to water supply operations. The safe yield model was recently updated to include the following improvements:

- Extended hydrologic period of record of 1945-2018 (from previous of 1945-1999)
- Incorporated results of recent Lake Casitas bathymetric survey – reduced maximum storage capacity from 254,000 AF to 237,761 AF
- Added function to compute reservoir spills
- Incorporated Robles Diversion Facility operations based on 2003 Biological Opinion requirements and 2018 Critical Drought Protection Measures
- Reduced modeled Robles diversions based on a diversion efficiency of 70 percent, consistent with operational data since the Fish Passage Facility was constructed
- Improved method of calculating monthly net evaporation loss

Upon review of updated modeling analyses on April 21, 2021, the Casitas Board adopted a revised Casitas System operational yield of 15,010 AFY¹⁰, which accounts for future climate change and hydrologic uncertainty.

¹⁰ Based on a planned yield of 14,965 AFY from Lake Casitas and 145 AFY from Mira Monte Well.

FIGURE 8-1. HISTORICAL LAKE LEVELS, INFLOW, AND DROUGHT PERIODS

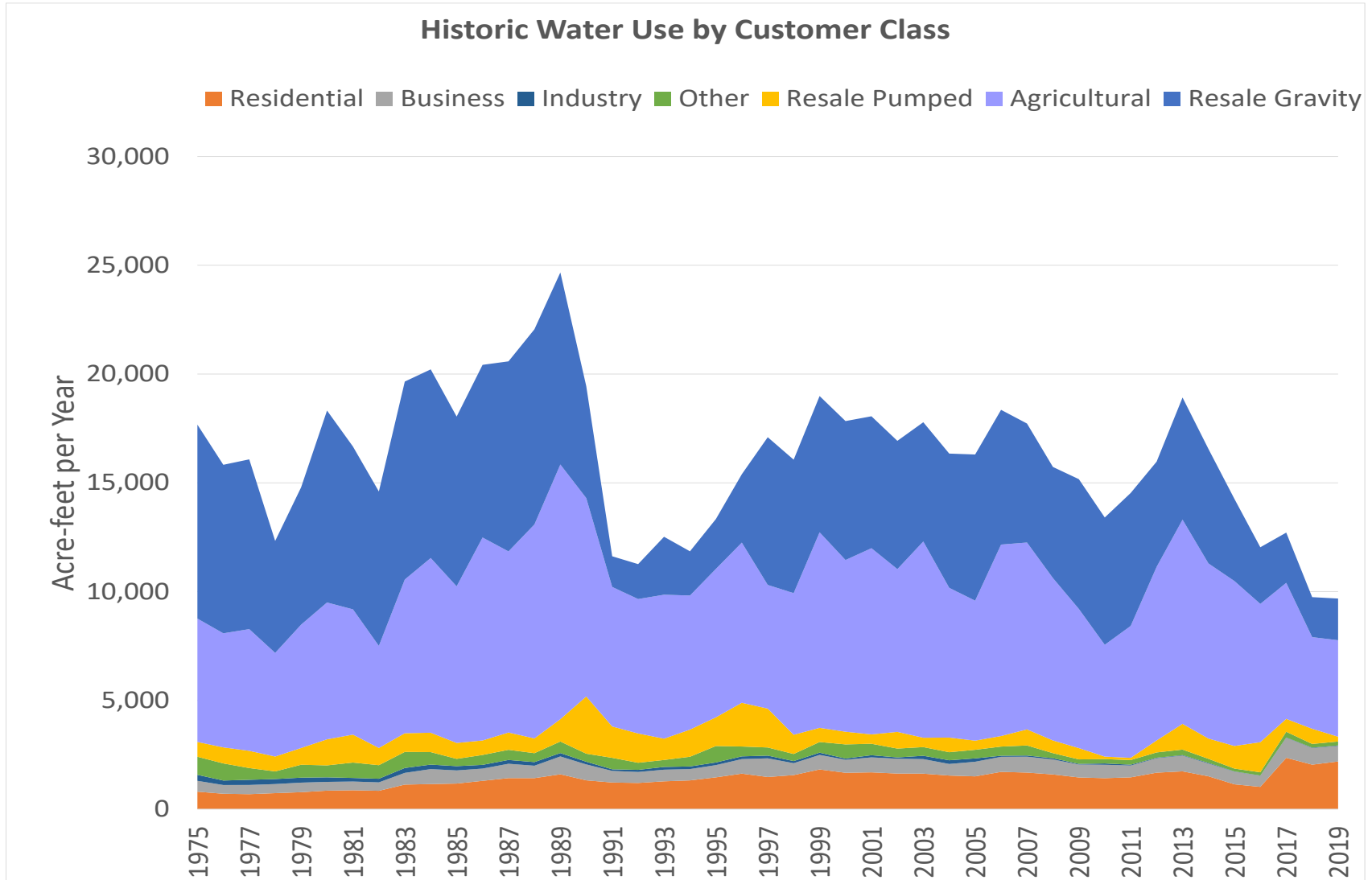


LEGEND

- Lake Casitas Storage Volume
- Drought Period
- Inflow
- - - Lake Casitas Full Capacity

FIGURE 8-2. HISTORIC WATER USE BY CUSTOMER CLASS

All data is by Fiscal Year.



8.1.2. [Water Quality Impacts on Reliability](#)

The water quality of Lake Casitas may vary significantly as the lake storage transitions from full capacity to minimum pool. Surface water supply from Lake Casitas is treated at the Marion Walker Water Treatment Plant using pressure filtration and chloramination prior to the delivery to the distribution system. The treatment process ensures the water meets all state and federal regulations. At lower levels of Lake Casitas storage there are specific and challenging water quality issues affecting Casitas' ability to treat and deliver potable water from Lake Casitas. During the condition of low lake level the water quality can unfavorably change due to the concentrating of nutrients resulting in eutrophication, increased algae blooms, reduction in dissolved oxygen, and increased turbidity during storm events that could significantly impact filtration treatment process and the rate of water production for the distribution system. Additionally, increased loading of natural organic matter results in elevated precursors that can contribute to trihalomethanes (THMs), haloacetic acids (HAAs), and other disinfection byproducts.

Casitas is also concerned about the release of organic-laden silts from Matilija Dam that, if not properly mitigated during the Matilija Dam removal, can add to the mass balance of nitrogen and phosphorous compounds and increased turbidity of water flowing into Lake Casitas.

Specific actions Casitas has considered and implemented are lake management strategies such as watershed management, intake selection (hypolimnetic withdrawal), algae control, and lake aeration. The level of the lake management implementation may increase as the problem intensifies during low storage conditions.

8.1.3. [Groundwater](#)

The Casitas System is supplied by one groundwater well located in the Upper Ventura River Groundwater Basin, with a planned average supply of 145 to 180 AFY. The well water is blended with surface water from Lake Casitas at a high ratio to ensure the maximum contaminant level (MCL) for nitrate is not exceeded. The resulting blended water is well below the MCL for nitrate. On-site treatment to eliminate the need for blending and increase well production could be a consideration in the future.

The Ojai System is supplied by six groundwater wells in the Ojai Groundwater Basin, with a planned average supply of 1,800 to 2,300 AFY. Groundwater from all six wells receives treatment at the San Antonio Groundwater Treatment Plant prior to distribution to the Ojai System, and meets all state and federal water quality requirements without blending.

Estimated yield of groundwater supply is based on historical groundwater production records. The groundwater basins are managed by the Upper Ventura River Groundwater Management Agency and the Ojai Basin Groundwater Management Agency. Both agencies are currently preparing Sustainable Groundwater Management Plans which will determine management actions to support sustainable groundwater yields.

8.1.4. [Existing Emergency Supplies](#)

In the event Lake Casitas supplies are not available, available groundwater supplies could serve the Ojai System. Groundwater supplies for the Casitas System are limited in their ability to deliver water, and interagency agreements are sought for specific and limited emergency conditions.

In addition, the Casitas System (Retail and Wholesale) and Ojai Retail System have approximately 26.3 million gallons and 2.0 million gallons, respectively, of water storage in the distribution system to provide two to three days of reserve water supply. In the event of isolated water outages, Casitas has five portable water tanks (water buffalos), 400 gallons each, for placing in residential areas. Casitas has also employed contract water trucks to provide water to residential areas during major water outages. Casitas will respond to water outages with a pipeline repair crew, contract pipeline crews, engineers, water quality and customer service personnel, and may request assistance from local, state, and federal agencies, as warranted.

8.1.5. [Potential Future Emergency Supplies](#)

Casitas is currently designing a regional emergency interconnection, known as the Ventura-Santa Barbara Counties Interconnection, which is described in Section 6.2.8. This interconnection would allow direct delivery of imported water to Casitas’ system to mitigate periods when local supplies are limited.

8.2. Annual Water Supply and Demand Assessment Procedures

New provisions in Water Code Section 10632.1 require an urban water supplier to conduct an annual water supply and demand assessment (“Annual Assessment”), on or before July 1 of each year, to be submitted to DWR. The requirement to perform the Annual Assessment begins in July 2022.

Under the adopted WEAP, Casitas has an existing annual assessment process in place that goes beyond the annual assessment requirements. Casitas prepares an Annual Supply and Demand summary, which summarizes significant or unusual events over the last year, weather conditions, status of water resources, past and current demands, current water management programs and policies in place, and recommended demand management measures.

8.2.1. [Decision-Making Process](#)

According to the most current WEAP, the General Manager shall report to the Board of Directors each year (April) with an assessment of the current water storage in Lake Casitas and local groundwater basins, current water use trends, predicted weather conditions, and an evaluation of current water use reduction goals. The time of the reporting can be each April, as the rainfall season is ending and water resources can be evaluated at the maximum for the year, or as Lake Casitas storage reaches a change in Stage action level. The Board of Directors may, at their sole discretion, declare a Stage condition of water supply in Lake Casitas exists and implement the appropriate demand reduction goals and measures in response to current and/or predicted water availability conditions. Casitas shall make such determinations public and follow with appropriate and timely notification of all customers. An action to declare and implement a Stage may occur by either an action of the Casitas Board of Directors based on unanticipated changing lake supply conditions or in accordance with the following schedule:

Target Dates	Action
June – April	Monitor water demands, rainfall, reservoir level trend, groundwater trends, and diversion and runoff amounts.
Early April	Staff presents water status report and a recommendation to the Casitas Board of Directors. Publish a notice of a public hearing if changes are recommended.
Late April	Casitas Board of Directors formally declares a Stage, and/or water shortage emergency, adopts recommendations for demand reduction actions.
May	Customer Notification of change in Stage, allocation, and overuse penalties.
June	Finalize Annual Water Assessment and submit to DWR.

Target Dates	Action
July	Stage demand reduction actions are effective and are implemented.

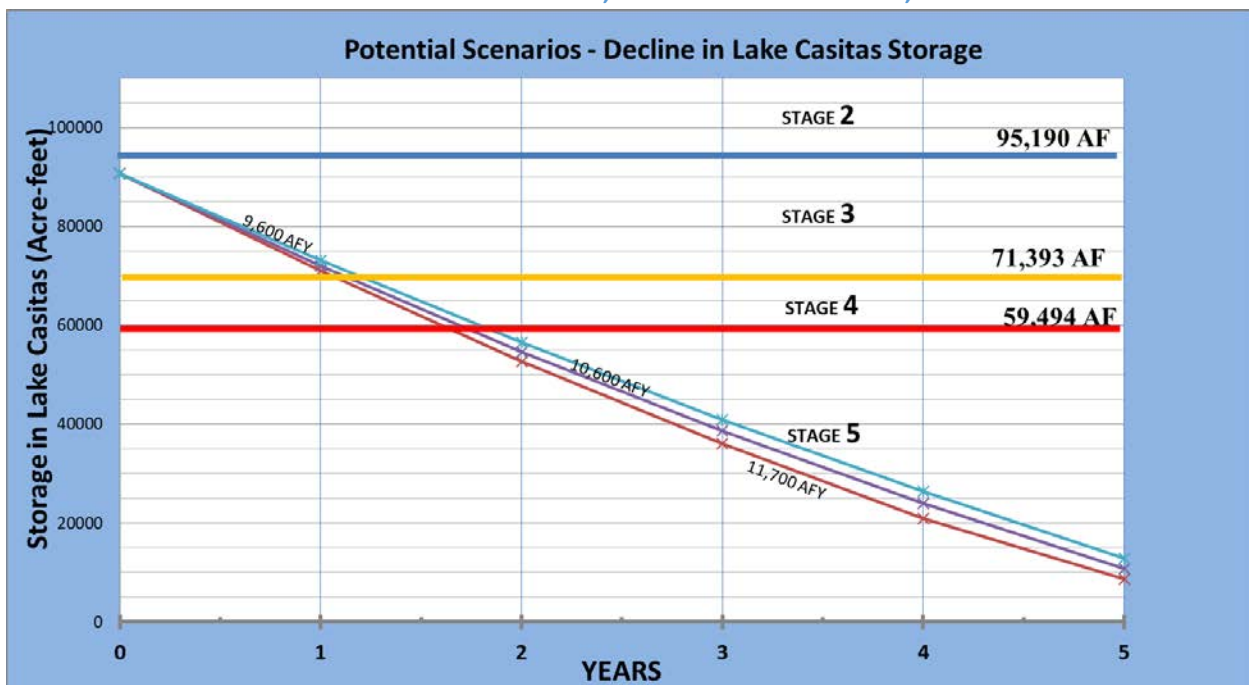
8.2.2. Data and Methodologies

This section provides a description of key data inputs and methodologies to evaluate the water system reliability for the coming year, assuming that subsequent years are dry with low precipitation. To evaluate reliability, the inputs described in the following subsections are considered.

8.2.2.1. Water Supply

Casitas staff estimates projected Lake Casitas storage levels over the next five years or more based on projected near-term demands, current Lake Casitas storage levels, dry year evaporation rates, and a conservative assumption of no additional rainfall or runoff. This conservative planning approach allows an evaluation of how long current available supplies will last and whether the next drought stage will be triggered within the next year. Figure 8-3 presents an example projection based on conditions and adopted management policies in Spring 2021. The estimated current releases from Lake Casitas to the treatment plant are 10,600 AFY, and two additional scenarios were evaluated based on a 10 percent variation in demands.

FIGURE 8-3. HYPOTHETICAL DECLINE IN LAKE CASITAS STORAGE WITH NO RAINFALL OR RUNOFF; 2013 EVAPORATION RATE EVERY YEAR; STARTING STORAGE AT 90,600 ACRE-FEET



Casitas staff also include groundwater basin status as a consideration in its water supply assessment. The Ojai Basin groundwater levels and storage are tracked by the OBGMA, and the Upper Ventura River groundwater levels are tracked by the Ventura River Water District and UVGMA.

Based on current conditions, projected demands and supplies are compared for both the Casitas (Retail and Wholesale) System and Ojai Retail System assuming dry conditions over the next five years.

8.2.2.2. *Infrastructure Considerations*

As part of its supply availability analysis, Casitas will evaluate how infrastructure capabilities and constraints (e.g. condition of groundwater wells) may affect the ability to access or deliver supplies to meet projected customer water demand in the coming year, as well as any capital projects anticipated to improve the capacity or ability to meet demands.

8.2.2.3. *Unconstrained Customer Demand*

The unconstrained demand reflects periods when Casitas is not in a declared water shortage stage. For purposes of the Annual Assessment to be submitted to DWR, Casitas estimates near-term demand based on recent trends, with consideration of water supplied over the last twelve months, trends from previous years, and potential increases in demands due to weather or other influencing factors.

8.2.2.4. *Planned Water Use for Current Year Considering Dry Subsequent Year.*

Casitas uses a conservative approach and assume dry conditions throughout a 5-year period for the Annual Assessment. If recent water demand trends reflect wet conditions and reduced irrigation needs, and Casitas is not in a declared water shortage stage, the planned demands used in the annual assessment are adjusted to account for increases in demand that occur during dry conditions. If previous years reflect extended dry conditions and Casitas is already in a declared water shortage stage, the effects of current restrictions on water demands are considered.

8.2.3. Evaluation Criteria

Casitas has established the implementation of various stages of action based on the amount of water in storage in Lake Casitas, as shown in Table 8-0 which reflects the most recently adopted WEAP (Appendix F). These stages apply to both the Casitas system and the Ojai system. The recommended stage will be based on whether the projected lake levels over the next year fall within the action levels.

Stage	Stage Title	Lake Casitas Storage, %	Lake Casitas Storage Action Level
1	Water Conservation	100%-50%	237,761 to 118,880
2	Water Shortage Warning	50%-40%	118,880 to 95,104
3	Water Shortage Eminent	40%-30%	95,104 to 71,328
4	Severe Water Shortage	30%-25%	71,328 to 59,440
5	Critical Water Shortage	25%-0%	59,440 to 3,000

Note: This is not a DWR-Required table

In addition, recent demand trends are evaluated to determine if they are within planned levels and whether additional demand reduction actions are recommended. During periods when Casitas is not in a declared water shortage stage, the recent demand trends are compared with the planned normal demands, which are reflected in Tables 4-2 and 4-3. During periods when Casitas is in a declared water stage, the recent demand trends are compared with the demand reduction goals outlined in Section 8.3 and the most current WEAP.

8.3. Six Standard Water Shortage Stages

Casitas water shortage planning is intended to address supply shortages ranging from a slowly developing drought to sudden and potentially catastrophic interruptions, such as earthquakes and/or failure of major system components. Stages 1 through 5 reflect the most recently adopted WEAP which primarily addresses drought conditions, and Stage 6 reflects a catastrophic emergency in which the Emergency Response Plan would be implemented. Table 8-1 reflects the DWR-required Water Shortage Contingency Plan levels and applies to both the Casitas and Ojai systems.

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Complete Both	
	Percent Shortage Range ¹	Shortage Response Action
1	Up to 10%	Water Conservation: <u>Voluntary</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
2	Up to 20%	Water Shortage Warning: <u>Mandatory</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
3	Up to 30%	Water Shortage Eminent: <u>Mandatory</u> conservation measures to reduce water usage by up to 30%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
4	Up to 40%	Severe Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 40%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
5	Up to 50%	Critical Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 50%. Follow recommended response actions in most recently adopted WEAP. (Appendix F).
6	>50%	Catastrophic Water System Emergency: Limited to no water can be supplied due to infrastructure damage or failure. Follow recommended response actions in most recently adopted Emergency Response Plan.

¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

8.4. Shortage Response Actions

This WSCP identifies various actions to be considered by the Casitas Board of Directors during the various water shortage stages, including public information, water conservation assistance, supply augmentation, water use regulations, issuance of new water meters, and demand tracking. In the event of a water shortage emergency, Casitas evaluates the cause of the emergency to help inform which response actions should be implemented. Depending on the nature of the water shortage, the Casitas can elect to implement one or several response actions to mitigate the shortage and reduce gaps

between supply and demand. Casitas acknowledges the importance of flexibility when responding to emergency conditions, and may adopt additional actions not listed here if necessary.

8.4.1. Demand Reduction

At all times, including normal and shortage conditions, Casitas implements a comprehensive water conservation program (Section 9). Public information, workshops, rebates, and tiered rates are ongoing during normal supply conditions and adjusted to meet target demand reductions during water shortage conditions.

8.4.1.1. *Stage 1-5 Demand Reduction Actions*

During drought conditions, the WEAP is a cornerstone policy for Casitas' demand management. The WEAP describes the water demand reduction strategies and measures to address water shortage conditions, promote water conservation and the efficient use of water, and the application of a penalty to customers who waste water. The WEAP was originally developed in response to the 1987-1991 drought period, and is updated and modified as needed. The collective work in 1992 set the starting point for a system of water allocation assignments and demand response criteria based on the level of water storage in Lake Casitas.

Under the WEAP, each customer is assigned an individual allocation based on reasonable use for their water use classification and property characteristics. The allocation is comprised of both essential and non-essential uses. As Lake Casitas levels decline, the non-essential portion of the allocations are reduced according to mandatory water use reductions associated with each declared water shortage stage. Casitas' customer billing system contains a database to compare actual water use against allocations on a monthly and annual basis, and the District may issue penalties for any excess water used over the allocated amount. In addition to water allocations, the District may consider additional specific water use prohibitions to augment its ongoing Water Waste Prevention Ordinance (Section 9.2.1). Implementation of the WEAP during the most recent drought has resulted in consistent overall demand reduction of approximately 50 percent (Figure 8-2).

The demand reduction actions for Stages 1-5, which pertain to declining lake levels during extended drought conditions, are summarized in the currently adopted WEAP (Appendix F, Table 6).

8.4.1.2. *Stage 6 Demand Reduction Actions*

Stage 6 reflects a catastrophic event in which limited to no water supply is available due to damaged or failed infrastructure; in which case, the District's Emergency Response Plan (ERP) is followed. The ERP includes emergency communication procedures for notifying the public about emergency water use restrictions, potential need to boil tap water before drinking, and locations where drinking water is available in the event of distribution system failure.

8.4.1.3. *Summary Table*

Table 8-2 is based on table formats required by DWR. Because the standard "drop down" lists did not include all of measures considered by Casitas, the table refers to the appropriate policy document to find more information on demand reduction actions. Table 8-2 applies to both Casitas and Ojai water systems.

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Other	20% Voluntary	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	No
2	Other	20% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
3	Other	30% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
4	Other	40% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
5	Other	50% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
6	Other	>50% Mandatory	Catastrophic Emergency in which limited to no water is available. Response actions are outlined in Casitas' Emergency Response Plan.	Yes

8.4.2. Supply Augmentation

Historically, Casitas' water portfolio has been comprised only of local water sources, with as much as 99 percent coming from Lake Casitas, and the remaining supplies coming from a local groundwater well. In June 2017, Casitas acquired the Ojai Water System from the Golden State Water Company. The Ojai Water System is primarily fed by local groundwater wells, which are augmented by supply from Lake Casitas as needed.

While Casitas' water has historically come from local supplies, Casitas has contracted for up to 5,000 AFY of imported water from the State Water Project. Imported water has not been supplied to Casitas due to lack of local conveyance infrastructure to deliver the water. However, Casitas is planning regional interconnection projects (e.g. Ventura-Santa Barbara Counties Interconnection) to allow for delivery of supplemental water to mitigate drought and emergencies. The planned regional interconnection projects are described in UWMP Section 6.2.8. Table 8-3 summarizes Supply Augmentation and applies to both Casitas and Ojai water systems.

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
1 through 6	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.

8.4.3. Operational Changes

To ensure a coordinated and consistent response across the entire organization, a Water Shortage Response Team is formed as soon as a potential shortage is identified and remains in operation until the water shortage declaration is lifted. The Water Shortage Response Team includes:

- General Manager
- Assistant General Manager
- Public Outreach and Conservation Manager
- Operations and Maintenance Manager
- Chief Financial Officer/Administrative Manager
- Engineering Manager
- Parks Services Manager
- Safety Officer
- Legal Counsel

The Water Shortage Response team may consider operational changes such as:

- Display messaging highlighting water-saving actions in key Casitas facilities, including public and communal areas such as restrooms, kitchens, and break rooms
- Limit vehicle washing
- Evaluate frequency of items laundered by laundering contractor
- Equip field staff with public information material about the drought and water use regulations, and educate staff on how to report water waste to enforcement staff
- Reduced reservoir cleaning
- Reuse plant processing water at water treatment plant
- Evaluate suspending capital improvement projects that are water intensive;
- Evaluate no-discharge flushing technologies.

8.4.4. Additional Mandatory Restrictions

This section is not applicable since mandatory water use restrictions during a declared water shortage condition are addressed in Section 8.1.1 Demand Reduction and further described in the most recently adopted WEAP (Appendix F).

8.4.5. Emergency Response Plan

Casitas has an adopted Emergency Response Plan and Casitas Dam Emergency Action Plan. In accordance with the American Water Infrastructure Act (AWIA), Casitas completed the AWIA Risk and Resilience Assessment at the end of 2020 and is on track to complete an updated Emergency Response Plan in 2021. Areas of improvement discovered during the assessment are being incorporated into the updated plan. The framework of the 2021 Emergency Response Plan is based on the AWIA Community Water Systems Emergency Response Plan and incorporates facets of the Incident Command Systems and National Incident Management Systems.

The Casitas Dam is owned by the USBR, which requires a specific Emergency Action Plan for the facility based on federal protocols and formats. USBR reviews the Casitas Dam Emergency Action Plan on annual basis with Casitas operations and engineering staff.

8.4.6. Seismic Risk Assessment and Mitigation Plan

As part of the 2015 Ventura County Multi-Hazard Mitigation Plan, Casitas evaluated seismic risk to water facilities and identified mitigation measures to reduce the risk. This plan, available at: www.vcfloodinfo.com/resources/ventura-county-hazards-mitigation-plan, meets the requirements of the federal Disaster Mitigation Act of 2000 (Public Law 106-390) as well as the requirements of Water Code Section 10644.

8.4.7. Shortage Response Action Effectiveness

Monthly monitoring of water use is part of regular procedures, during normal and water shortage conditions. Water is produced and distributed in response to customer demand and is tracked monthly as an indicator of overall demand. For demand analysis by customer class, geographic area, and usage level, Casitas' billing system provides standardized reports on monthly metered sales by bill code, as well as customized reports for specific areas of analysis.

During water shortage conditions, savings are measured in comparison to what is considered to be a normal-year demand (i.e., current customer base with approximately average rainfall) or in reference to a specific base year as may be dictated by statewide requirements.

8.5. Communication Protocols

A summary of public outreach and communication actions Casitas could potentially take during a specific shortage stage is outlined herein, although this serves as a guide rather than required actions.

8.5.1. Stage 1

To maximize the level of voluntary customer conservation the Stage 1 declaration is coupled with an enhanced public outreach campaign. Public outreach efforts focus on educating Casitas customers and the general public about current supply and demand conditions, encouraging customers to understand and commit to further reducing their water use, and providing tools and resources to customers to successfully reduce use. Information is provided on the plans for water shortage response and the importance of stretching local supplies.

Outreach activities may include:

- Press Release following Board Stage 1 Declaration
- Media interviews and inquiries
- District Newsletter – Water Supply Story, General Manager’s Message, and Water Conservation Tips
- District website – Updates to the home page, conservation, and water supply sections to provide conservation tools and tips for customers
- Ongoing social media posts with water conservation messages
- Ongoing conservation related billing statement messages
- Coordination with regional and statewide partners on messaging and outreach
- Outreach at community events (e.g., school fairs and programs, workshop with landscaping professionals, etc.)
- Outreach to hotels and restaurants to improve opportunities for customers to request daily washing of linens and water for the table, respectively
- Casitas employee outreach and education to promote consistent organizational messages related to water supply and conservation.

8.5.2. [Stage 2](#)

Public outreach efforts associated with Stage 2 focus on further educating and informing Casitas customers and the general public about current supply and demand conditions; notifying customers of new demand reduction targets and allocations, prohibited activities, and associated penalties for violations; and directing customers to tools and resources that will help them conserve water.

Outreach activities may include:

- Press Release following Board declaration of a Stage 2 Declaration
- Consider increased paid advertising — print, online, radio, TV, streaming, social media, movie theaters, buses, etc.
- Targeted outreach to customers with large landscapes regarding irrigation restrictions (i.e., schools, parks, property managers, agricultural customers, etc.)
- Postcard or letter to all District customers notifying of allocations, demand reduction programs and requirements, and penalties.
- Publish information on how to preserve most valuable landscaping (trees, edible plants, etc.), including appropriate watering systems and use of gray water
- Enlist support of business groups, such as the Chamber of Commerce, to help encourage conservation among commercial customers
- Educate customers on how to perform regular household meter reading and leak detection
- Publish “conservation stories” featuring individuals and businesses demonstrating leadership in water conservation
- Signage at Casitas public facilities to reduce water usage
- Signage or flyers posted in public places such as libraries and neighborhood centers
- Continued implementation of all other public outreach actions of Stage 1 (newsletters, website updates, social media posts, media interviews, billing statement messages, etc.).

8.5.3. [Stage 3](#)

Public outreach efforts associated with Stage 3 focus on large reductions in outdoor water use; notifying customers of heightened demand reduction targets and changes to allocations and penalties (if applicable); and directing customers to tools and resources to help them conserve water.

Outreach activities may include:

- Press Release following Board Stage 3 declaration
- Consider hiring a third party to assist with the launch of a major public outreach and education campaign
- Postcard/mailed to all customers regarding changes in allocations and penalties (if applicable)
- Expand and intensify all other public outreach actions of Stages 1 and 2 (newsletters, website updates, social media posts, media interviews, billing statement messages, etc.).

8.5.4. [Stage 4](#)

Public outreach efforts associated with Stage 4 focus on large reductions in outdoor water use, educating customers on the severity of the water supply situation, and notifying customers of heightened demand reduction targets and changes to allocations and penalties (if applicable).

Outreach activities may include:

- Press Release following Board Stage 4 declaration
- Implement major public outreach and education campaign
- Postcard/mailed to all customers regarding changes in allocations and penalties (if applicable)
- Provide regular media briefings and updates on supply situation
- Expand and intensify all other public outreach actions of Stages 1-3 (newsletters, website updates, social media posts, media interviews, billing statement messages, etc.).

8.5.5. [Stage 5](#)

Public outreach efforts associated with Stages 5 build on prior efforts and may incorporate elements of the communication plan included in the District's ERP.

Outreach activities may include:

- Press release following Board Stage 5 Declaration
- Press event at the District Headquarters
- Postcard/mailed to all customers regarding changes in allocations and penalties (if applicable)
- Continue to implement major public education campaign launched during Stage 3-4
- Contact large and critical customers notifying them of the water supply situation (hospital, medical clinics, agricultural customers, and others).

8.5.6. [Stage 6](#)

Public outreach efforts associated with Stages 6 should follow the crisis communication plan in the District's Emergency Response Plan.

Outreach activities may include:

- Press release following Board declaration of a catastrophic emergency

- Press events at the District Headquarters or other location
- Implementation of the District ERP, which includes communication procedures that would be used for notifying the public about emergency water use restrictions, potential need to boil tap water before drinking, locations where drinking water is available in the event of distribution system failure.

8.6. Compliance and Enforcement

At all times, during normal and shortage conditions, Casitas enforces a Water Waste Prohibition Ordinance (Section 9.2.1), which is part of normal Water Conservation Program activities. Customers found to be in violation are issued a written warning, and may be subject to a fine as authorized by the Ordinance 15-02 (Appendix G). During a declared water shortage condition, additional water use restrictions may be adopted, and Casitas may expand its enforcement of water waste prohibitions, including hiring additional staff as necessary.

In accordance with the WEAP, the Casitas Board of the Directors annually considers penalties applied to customers who use water in excess of their assigned water allocations. In the most recent drought, the Board adopted a penalty of \$5 per unit for any usage over the assigned allocation. District customers may appeal any decision made or fine imposed by filing a written appeal with the District.

8.7. Legal Authorities

Casitas has the legal authority to implement and enforce its WSCP. Relevant sections of the California Water Code (Water Code) include:

- **Water Code Section 100** provides that water must be put to beneficial use, the waste or unreasonable use or unreasonable method of use of water shall be prevented, and the conservation of water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and public welfare.
- **Water Code Sections 350-359** provide that the governing body of a distributor of a public water supply shall declare a water shortage emergency condition to prevail within the service area whenever it finds and determines that the ordinary demands cannot be satisfied without depleting water supplies to the extent that there would be insufficient water for human consumption, sanitation, and fire protection. When deemed as a water shortage emergency in accordance with Water Code 350, Casitas shall follow the procedures provided by the Water Code in the implementation of the water shortage declaration and actions.
- **Water Code Section 71640** provides Casitas the authority to restrict the use of District water during any emergency caused by drought, or other threatened or existing water shortage, and the District may prohibit the wastage of District water or the use of District water during such periods for any purpose other than household uses or such other restricted uses as Casitas determines to be necessary. Casitas may also prohibit use of District water during such periods for specific uses which it finds to be nonessential.

Pursuant to these authorities, Casitas adopted Ordinance 15-02 (Appendix G), which prohibits the waste of water and imposes water conservation requirements on customers. In addition, Casitas developed policies within its WEAP and ERP for responding to water shortage conditions and emergencies. Casitas shall declare an emergency upon its determination that such condition exists. Emergencies may exist

due to long-term diminishment of the Lake Casitas water supply; or a catastrophic interruption due to earthquake, extended regional power outage, or landslides; or other major events that impact Casitas' water supply or infrastructure. Upon declaration of an emergency, Casitas shall coordinate with any City and County within which it provides water supply service for possible proclamation of an emergency. Casitas provides water service within Ventura County, the City of Ojai, and the City of Ventura.

The State of California, through its authority under the Water Code and Government Code, may declare a water shortage emergency and require curtailment of water use above and beyond the policies outlined in the Casitas WEAP. Customers of Casitas must respond and comply with the orders of the State in a timely manner. A failure to comply may cause the State to impose fines and penalties that will be redistributed to the customers of Casitas in a manner determined by the Casitas Board of Directors.

8.8. Financial Consequences of WSCP

In the event of additional water shortage measures being implemented, revenue from water sales (volumetric charges) is expected to decline as customers comply with the declared shortage. At the same time, the majority of operating costs are fixed in nature and do not increase or decrease as water use increases or decreases.

Operating costs such as water quality testing, routine maintenance and repairs, meter reading, and customer billing continue to rise every year. Additionally, as infrastructure ages, the pipelines and facilities needed to deliver water safely and reliably require regular preventative maintenance and upgrades to avoid emergency repairs, the costs of which also rise over time.

Penalties for excess water use beyond a customer's allocation are implemented to encourage conservation. The revenue incurred from these penalties can be used to cover the shortfall created by reduced water usage; in fiscal year 2019-20 the penalties only made up 5 percent of operating revenue and does not offset the overall decline in revenue from increased conservation.

As additional water shortage measures are implemented, staff costs including enforcement of conservation measures, monitoring and evaluation of water usage, drought planning, and dealing with customer questions and complaints are expected to increase.

Lower revenue resulting from decreased water use, combined with increasing operating costs, ultimately leads to a substantial shortfall. In an effort to mitigate the shortfall of reduced revenues Casitas implements a two-rate component bill among customers. The two-rate components include: (1) fixed charge based on the size of the water meter serving a property and (2) volumetric charge based on the amount of water served to a property. The percentage of revenue from fixed and volumetric charges is shown in Table 8-4 for the period from 2016 to 2020.

Table 8-4 Percentage of Fixed and Volumetric Revenue					
	2016	2017	2018	2019	2020
Fixed Charges	25%	25%	37%	46%	37%
Volumetric Charges	75%	75%	63%	54%	63%
NOTES: This is <u>not</u> a DWR-required table.					

Other actions include the utilization of reserve funds to offset the impact of reduced revenue. However, the reserves will eventually need to be restored. Capital infrastructure projects may also have to be delayed. Possible rate increases may be needed in order to mitigate the financial impact of demand and supply management actions during water shortages.

8.9. Monitoring and Reporting

Casitas performs water use monitoring procedures throughout its service area through the Supervisory Control and Data Acquisition (SCADA) system at the Casitas Dam source, all pump plants, and reservoirs. In addition, all service connections to the Casitas distribution system are metered and monitored on a month or bi-monthly basis. Casitas can detect irregularly high water use within a pressure zone, and inquire and identify the location of the irregular water use. Significant customer increases in water use are investigated by Casitas staff. In general the monitoring of water use is performed during each stage as follows, but may be intensified if conditions warrant:

- Stages 1 through 4: Water supply conditions, production data and reservoir elevations are recorded daily. Daily and monthly totals are supplied through the Engineering Department and incorporated into the Water Supply Report. Monthly reports include usage and total allocations for each customer category. A list of individual customers whose usage exceeds their allocation is submitted to the Water Conservation Supervisor for monitoring and outreach to assist the customer in attaining the water use reduction goals.
- Stages 5 and 6: Water use monitoring will occur as in Stages 1 through 4 and water production data from the MWWTP is reported to the General Manager on a daily basis.

8.10. WSCP Refinement Procedures

Casitas will convene the following departmental staff as needed to refine the WSCP:

- General Manager
- Assistant General Manager
- Engineering Manager
- Chief Financial Officer
- Public Outreach and Conservation Manager
- Operations and Maintenance Manager

The WSCP is updated and refined as appropriate following significant changes to Casitas' supply portfolio, and no less than every five years consistent with Urban Water Management Plan Updates. Any updates to the WSCP are adopted by the Casitas Board of Directors.

8.11. Special Water Feature Distinction

The Water Code requires an urban water supplier to analyze water features that are not pools or spas separately from pools and spas. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations.

Casitas does not provide services to treat and distribute recycled water sourced by the wastewater system. Therefore, all water use restrictions imposed by Casitas pertain to potable water end use. Casitas Ordinance 15-02 prohibits the operation of any ornamental fountains and decorative water features unless water for such use is re-circulated. Under the current WEAP, the filling of swimming

pools, ornamental fountains, and decorative water features may be prohibited during heightened water shortage levels (Stage 4 or higher).

8.12. Plan Adoption, Submittal, and Availability

The public hearing for the Water Shortage Contingency Plan was noticed in two local newspapers (the Ventura County Star and Ojai Valley News), as prescribed in Government Code 6066, which included the time and place of the hearing (hearing held through electronic meeting platform on June 23, 2021). Interested parties, including other local agencies, were notified of the public hearing. The 2020 WSCP was made available from the Casitas website for public inspection prior to the public hearing, so comments could be received and discussed by the Board of Directors ahead of adoption.

The final draft of the WSCP was adopted by the Board of Directors by Resolution No. 2021-14 (provided in Appendix H) and was submitted to the Department of Water Resources (DWR) within thirty days of approval. Additionally, the adopted plan will be made available per the requirements of the Water Code.

Starting in 2020, urban water suppliers are required to report and submit information related to the Water Shortage Contingency Plan in standardized tables developed by DWR. The standardized tables for the 2020 UWMP are provided as Appendix I of this document.

This page intentionally left blank.

9. Demand Management Measures

The following sections describe the demand management measures Casitas uses for the wholesale and retail systems it operates.

9.1. Demand Management Measures for Wholesale Suppliers

Demand management measures for Casitas' wholesale system are described in the following subsections.

9.1.1. [Metering](#)

Casitas' wholesale customers are fully metered and are under a reactive meter replacement program. The oldest and largest meters are typically replaced first and on an as-needed basis. Replacement triggers are typically due to accuracy meter reading issues. Current Rockwell meters are dated and parts are very difficult to locate to warrant a repair-based program. Newer and more accurate Omni meters are installed.

Annual budget allocations are included for the reactive replacement program, with an anticipated five-year timeline for all wholesale meters to be replaced.

9.1.2. [Public Education and Outreach](#)

Customers of Casitas' wholesale accounts are included in all outreach and education opportunities, and additionally are eligible to apply for all rebate programs, provided they meet the requirements. These programs are described in more detail in Section 9.2.4.

9.1.3. [Water Conservation Program Coordination and Staffing Support](#)

Casitas full-time Water Conservation staff includes a Manager, a full-time specialist, an analyst, and a technician. These positions perform multiple water conservation-related tasks including: landscape, residential, and commercial surveys; administering the allocation program and rebate programs; preparing public information programs; and hosting special events and education programs. Casitas also uses consulting firms, as needed, to assist with the implementation of all of the Water Conservation Best Practices, including public outreach and education.

9.1.4. [Other Demand Management Measures](#)

Wholesale customers pay a fixed and volumetric water rate. The volumetric-based rate structure aids in demand management. Additionally, wholesale customers have allocations assigned to assist in demand management.

9.1.5. [Asset Management](#)

The District's GIS program started in earnest in 2018 with the addition of a GIS Technician in the Engineering Department. All District assets (facilities and infrastructure) are in the GIS portal. Casitas is implementing various applications to use GIS for asset management including Leaks and Repairs, Fire Hydrant Maintenance, and Valve Maintenance. As the GIS program matures, Casitas will make use of the data to manage ongoing asset management.

Casitas is preparing to develop a Casitas System Master Plan which will identify a ten-year capital improvement program for facilities in the Casitas system.

9.1.6. Wholesale Supplier Assistance Programs

Casitas does not currently have a Wholesale Supplier Assistance Program; however the District's rebate programs are available to all customers within the Casitas service area, including wholesale agency customers. Section 9.2.4 describes rebates and free-water saving devices available.

From August 2017 to October 2019, Casitas participated in a grant-funded regional turf replacement program with other local agencies including the City of Santa Paula and City of Ventura. Casitas had 23 customers apply and successfully complete the program resulting in 34,678 square feet of turf grass removed.

9.2. Demand Management Measures for Retail Suppliers

Demand management measures for Casitas' retail customers are described in the following subsections.

9.2.1. Water Waste Prevention Ordinances

Ordinance No. 15-02 Establishing Water Waste Prohibitions is provided in Appendix G.

The District's website has a link for anonymous reporting of water waste. Notice of Water Waste door hangers are hung at customer's residences when water waste is reported. Information displayed on the door hangers includes the location, date, time, and type of water waste observed. Types of water waste prohibited and increasing violation warnings and penalties are displayed, as well as contact information to allow the customer to ask any questions or schedule a free water use survey to assist them in identifying solutions to prevent water waste and use water more efficiently.

9.2.2. Metering

All Casitas' retail customers are fully metered. Small and large retail meters in the Casitas System are replaced as needed over time through a reactive replacement program. Ojai Water System retail meters were entirely replaced upon system integration from Golden State Water Company in October 2017 with iPerl meters.

Automatic Meter Reading (AMR) is used as a drive-by method once per month. If a meter read results in an unusual recording compared with historical use data, it is flagged to be verified and checked. The customer is notified of any unusual water use.

9.2.3. Conservation Pricing

Casitas has implemented conservation pricing for decades. Currently, there is a three-tier residential rate structure supporting water conservation incentive. Casitas' current rates are included as Appendix J.

9.2.4. Public Education and Outreach

The District's public education and outreach program is managed by the Water Conservation Manager and includes marketing of rebates and giveaways.

The Water Survey Program is a free service to provide indoor and outdoor water-saving assistance, ultimately lowering customer's water bill. Casitas offers on-site surveys for indoor and outdoor water use of single-family and multi-family residential customers as well as for commercial customers in the service area. The indoor survey includes a test of showerhead and faucet flow rates, an estimate of toilet flush volumes, a review of all water-using appliances and a test for toilet leaks. The outdoor survey

includes a review of the irrigation system, irrigation design, and watering schedules. The survey also includes reading the meter to reveal possible leaks in the customer's system.

Casitas provides the following water conservation devices free of charge to all customers in the service area: earth showerhead, kitchen aerator with swivel, 1.5 gallons-per minute bathroom faucet aerator, toilet flapper, dye tablets, and shower shut-off valves.

Casitas participates in Smart Rebates, a statewide program administered by the California Water Efficiency Partnership that offers a list of measures for conservation products and appliance rebates available for eligible customers. The Smart Rebates Program is made possible with funding assistance from participating water utilities.

Smart Irrigation Controller Rebates are available to all eligible Casitas customers. The goal of the smart irrigation controller rebate program is to increase irrigation efficiency and promote healthy and attractive landscaping within Casitas' district boundaries. It saves water and lowers customer's bills.

Casitas offers a free hobby farm survey and rebate program for those customers with one to two acres of planted agriculture.

The goal of the Agricultural Rebate Program is to encourage water use efficiency for farms within Casitas boundaries. District customers who enlist in an irrigation evaluation through the Ventura County Resource Conservation District (VCRC) and who implement water use efficiency recommendations provided by the VCRC are eligible to qualify for a rebate from Casitas.

Customer water bills include a monthly usage bar chart; usage for the current year and previous year comparison; allocation section that includes the current monthly allocation, current month usage, usage under allocation, and next month's allocation; and a special message section that allows for a variety of communication topics, including conservation tips.

Event booths are provided to share water conservation information, water conservation devices, District information, and Casitas Lake levels to the public. These type of booths are available at the annual Ojai Day event and Ventura County Fair.

Tours of Casitas' facilities are scheduled periodically for District customers and interested participants to learn more about the District water facilities, supplies and important issues.

Regular Board Meetings are held twice a month and are open to the public.

A semi-annual newsletter provides project updates, conservation tips, Lake Casitas water level updates, drought updates, and current events that may have an impact on water services.

Casitas' website www.casitaswater.org is the most comprehensive source of information for Casitas' customers. Other informative websites linked on Casitas' website are:

- <http://www.gardensoft.com> partners with water districts and municipalities to educate homeowners about water conservation in the landscape.
- www.venturacountygardening.com Water Wise Gardening in Ventura County – This website resource offers customers a personalized plant database that they can develop for their specific landscape needs.

Casitas utilizes social media such as Facebook and Twitter as an additional way to communicate District news, updates and projects.

Casitas coordinates with local and county newspapers to release advertisements for water conservation, current projects, District updates, and legal notices.

9.2.5. Programs to Assess and Manage Distribution System Real Loss

System losses are described in Section 4.2.4. Leaks and breaks are repaired as soon as Casitas staff is made aware of them. The OWS has experienced a significant number of leaks and breaks, at three times the rate of the Casitas system. The Ojai Water System Improvements (OWSI) projects include pipeline replacements of aged and under-sized cast iron pipes. The District's website includes regular project updates for the community at <https://www.casitaswater.org/for-customers/your-district-at-work>.

9.3. Implementation Over the Past Five Years

Casitas' program implementation over the past five years is discussed in the following subsections.

9.3.1. Water Survey Programs

Casitas began its water survey programs for single-family and multi-family residential customers for direct retail customers and for wholesale agency customers in February 2010.

Casitas' direct survey program includes evaluating all indoor and outdoor water use. A meter check is provided to check for leaks, landscape is thoroughly inspected for irrigation efficiency and plant type. Low-flow showerheads, kitchen aerators, and bathroom aerators are provided, if needed. All toilets and faucets are inspected for leaks. The customer is provided with a report including recommendations and suggestions of how to improve their water efficiency for both indoor and outdoor use. The end of each report includes all current rebate opportunities, a list of free aerators available, and links to the water conservation page on Casitas' website.

9.3.2. Water Conservation Devices

Casitas provides free low-flow showerheads, faucet aerators, toilet flappers, leak detection kits, and automatic hose shut-off nozzles to all residents within the district boundaries. Casitas advertises these devices in the semi-annual newsletter, the Casitas website, and bill messages.

Casitas tracks the distribution of these water saving devices by keeping a log indicating:

- Type of device provided
- Which event (if any) the aerators are being distributed
- Class of service (Single-family, Multi-family, Commercial, etc)
- Which water agency they belong to within the District boundary

9.3.3. Smart Rebates: High-Efficiency Washing Machine and Toilet Rebate Program

Casitas began its washing machine rebate program in 2007. Casitas joined the Smart Rebate program which is run by the California Water Efficiency Partnership (CalWEP) and also includes high efficiency toilets. Casitas provides advertising and leaves the processing of rebates to CalWEP. Table 9-1 shows the number of washing machine rebates provided from 2016 to 2020.

Table 9-1 Washing Machine Rebates Completed					
	2016	2017	2018	2019	2020
\$ Per Rebate	\$150 Residential \$400 Commercial	\$150 Residential \$400 Commercial	\$150 Residential \$400 Commercial	\$150 Residential \$400 Commercial	\$150 Residential \$400 Commercial
# of Rebates completed	31	44	97	50	48
NOTES: This is <u>not</u> a DWR-required table.					

Table 9-2 shows the number of toilet rebates completed from 2016 to 2020.

Table 9-2 Toilet Rebates Completed					
	2016	2017	2018	2019	2020
\$ Per Rebate	\$100 Residential \$200 Commercial	\$100 Residential \$200 Commercial	\$100 Residential \$200 Commercial	\$100 Residential \$200 Commercial	\$100 Residential \$200 Commercial
# of Rebates completed	24	36	53	28	23
NOTES: This is <u>not</u> a DWR-required table.					

9.3.4. [Smart Irrigation Controller Rebates](#)

Casitas offers a rebate of up to \$250 per customer for the purchase of a smart irrigation controller from a preapproved list of manufacturer models. Smart irrigation controllers automatically adjust irrigation schedules based on actual site and real-time weather conditions. They stop irrigating when it rains and apply the most efficient amount during dry weather, including automatic cycle and soak to reduce runoff on slopes. Once a customer applies and qualifies for a smart irrigation controller rebate, a site visit by a Casitas staff member is required to ensure the device is actually installed. Table 9-3 summarizes the smart irrigation controller rebates completed from 2016 to 2020.

Table 9-3 Smart Irrigation Controller Rebates Completed					
	2016	2017	2018	2019	2020
\$ Per Rebate	Up to \$250	Up to \$250	Up to \$250	Up to \$250	Up to \$250
# of Rebates completed	7	7	7	7	6
NOTES: This is <u>not</u> a DWR-required table.					

9.3.5. [Hobby Farm Survey and Rebate Program](#)

The Hobby Farm Rebate Program encourages greater water use efficiency for small “hobby” farms under two-acres, maintained without the expectation of a primary income source. In partnership with the VCRCD, an irrigation evaluation is performed to identify water conservation opportunities from which the applicant can choose to implement. The applicant may be eligible to implement some or all of the recommendations with a rebate not to exceed 50 percent of the total receipt amount or \$400.

9.3.6. [Agricultural Rebate Program](#)

Like the Hobby Farm Survey and Rebate Program, the Agriculture Rebate Program is a partnership with the VCRCD. Customers with an Agriculture classification who wish to participate will coordinate with the

VCRCDD to schedule and complete an irrigation evaluation. Upon completion of the evaluation, the VCRCDD representative provides the customer with a complete report and recommendations. If the customer purchases and installs equipment within 60 days of receiving the recommendations, they are eligible to complete the rebate application with Casitas. Total rebate amount does not exceed 50 percent of the receipt amount or \$650. Rebates are provided on a first-come, first-served basis until all designated funds are expended.

9.3.7. Public Information & Outreach Programs

Casitas’ public information program started in 2003. It currently includes publishing a semi-annual newsletter to provide information on water conservation to all residents in the District. Water bills include information on previous usage, and every statement has a space for custom messaging to the customer. Bill inserts are often included to ensure there is consistent contact with customers on a variety of topics, including conservation. Press releases, op-eds, public notices and general ads are placed in two local print publications regularly. Casitas removed all turf from the main office and replaced it with drought tolerant plants. The office is located on a main thoroughfare within the District providing high visibility for the drought tolerant plantings and therefore sets a significant example for customers.

District staff members attend multiple community meetings throughout the year and discuss water conservation issues as part of their presentations. Casitas staff tables at community events and offers give-a-ways such as free toilet flappers, low flow showerheads, and faucet aerators. The Board of Directors hold two meetings per month that are open to the public. In 2017, Casitas implemented an increased presence on social media platforms, specifically Facebook and Twitter. Lastly, www.casitaswater.org is the primary consortium for all information related to Casitas Municipal Water District and is referred to in all published outreach material. Table 9-4 summarizes the public information and outreach programs implemented from 2016 to 2020.

	2016	2017	2018	2019	2020
Paid Advertising	Yes	Yes	Yes	Yes	Yes
Public Service Announcement	Yes	Yes	Yes	Yes	Yes
Bill inserts, Newsletters, Brochures	Yes	Yes	Yes	Yes	Yes
Bill comparing previous water usage	Yes	Yes	Yes	Yes	Yes
Demonstration Garden	Yes	Yes	Yes	Yes	Yes
Special Events, Media Events	Yes	Yes	Yes	Yes	No*
Coordination with other government entities	Yes	Yes	Yes	Yes	Yes
NOTES: This is <u>not</u> a DWR-required table.					
*Due to COVID-19 public events were cancelled					

9.3.8. Conservation Pricing

Casitas’ water bills are made up of a fixed and volumetric component, and all customers are billed monthly. The volumetric component is billed based on the amount of water used and encourages conservation. Residential and Agriculture Domestic classifications have a three tier volumetric rate

structure consisting of Tier 1 (0 – 10 units¹¹); Tier 2 (11 – 50 units); and Tier 3 (51+ units). Agriculture Domestic is a class for Agriculture customers who have a legal residential dwelling unit on the same property as their crop. They are billed a tiered Residential Rate through the first two tiers (up to 50 units), and are then charged the uniform Agriculture rate for 50+ units. All other customer classifications are billed based on uniform volumetric rate. Table 9-5 summarizes the rate structure for retail customers of the Casitas and Ojai systems, and the water rates are provided in Appendix J.

Table 9-5 Retail Volumetric Rate Structure	
Customer Type	Volumetric Water Rate Structure
Residential	Tiered Conservation Pricing
Commercial	Uniform
Industrial	Uniform
Institutional/Government	Uniform
Agricultural	Uniform
Ag-Domestic	Tiered Conservation & Uniform
Other	Uniform

Table 9-6 summarizes the wholesale volumetric water rate structure.

Table 9-6 Wholesale Volumetric Rate Structure	
Customer Type	Volumetric Water Rate Structure
Wholesale (Resale)	Uniform

9.3.9. [Water Waste Prohibition](#)

Section 22, Regulation Prohibiting Water Waste, is adopted in Casitas’ Rates and Regulations as discussed in Section 9.2.1.

9.4. Water Use Objectives (Future Requirements)

On April 7, 2017, the state of California released the “Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16” Final Framework Report¹² (State Framework Report). The State Framework Report, which builds upon Governor Brown’s call for new long-term water use efficiency requirements in Executive Order (EO) B-37-16, provided the state’s proposed approach for implementing new long-term water conservation requirements. A key element of the report is the proposed new water use targets for urban water suppliers that go beyond existing SB X7-7 requirements.

On May 17, 2018, the California Legislature adopted SB 606 and AB 1668 to implement new long-term water use efficiency requirements. The legislation requires the State Water Resources Control Board, in coordination with DWR, to adopt long-term standards for the efficient use of water. The legislation establishes specified standards for per capita daily indoor residential use. In addition, the SWRCB will adopt standards for outdoor water use, CII water use, and water loss.

¹¹ A billing unit is one hundred cubic feet per month (HCF/month).

¹² California Department of Water Resources, et al. (2017). *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*

The legislation requires each urban retail water supplier to calculate and report an urban water use objective, which is an estimate of aggregate efficient water use for the previous year based on the adopted water use efficiency standards. Urban retail water suppliers will be required to calculate and report urban water use objectives by November 1, 2023 and by November every year thereafter, and to compare actual water use to the objective for the prior year by the same date.

The bills grant SWRCB the authority to enforce compliance with the urban water use objectives, with enforcement actions ramping up over the first three years of implementation. The bills also establish a schedule for state agencies to develop the methodology for implementing the requirements, as presented in Figure 9-1.

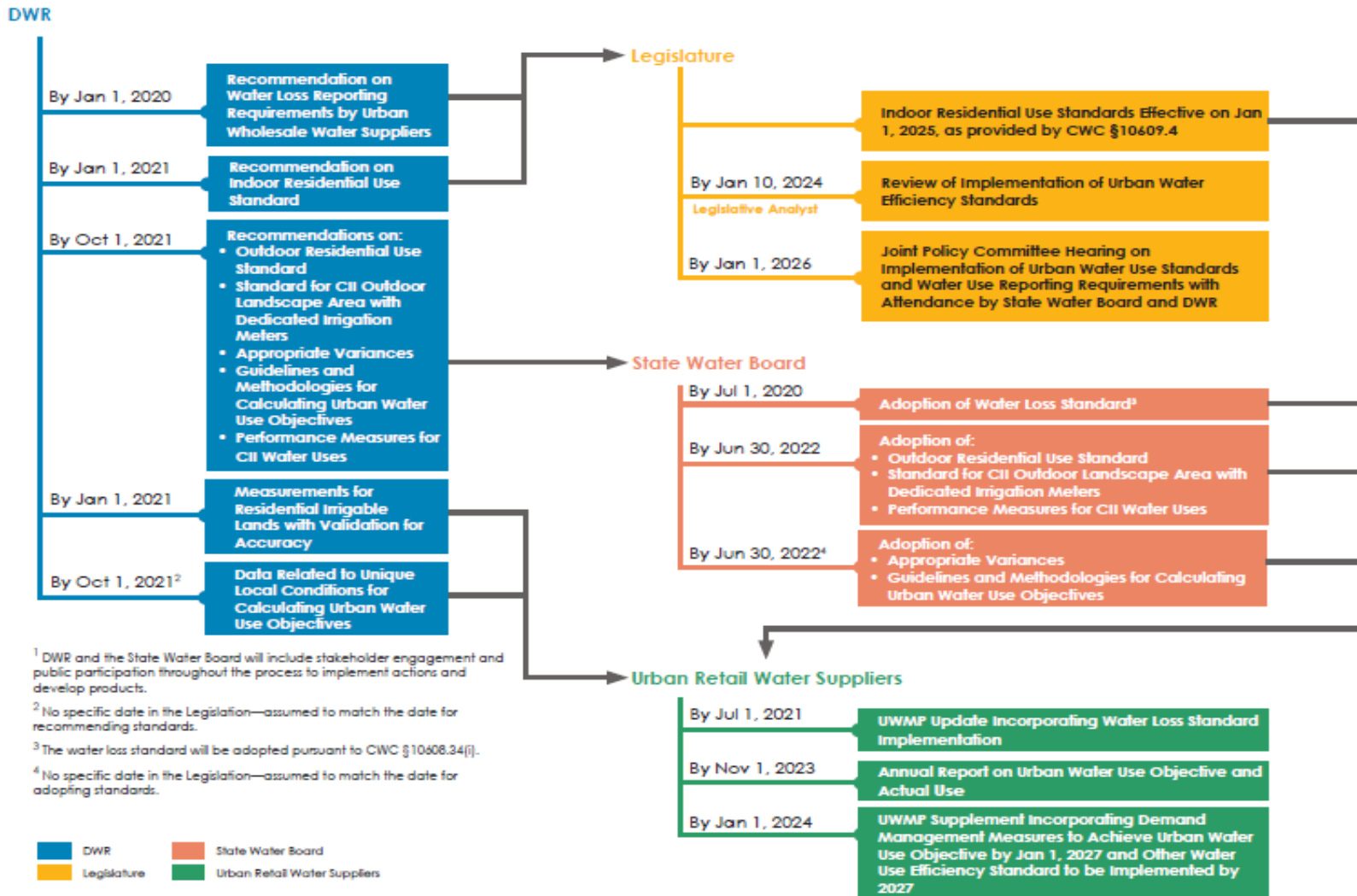
Casitas continues to track the State's development of the new water efficiency standards. Next steps in for Casitas conservation staff include:

- Engage in the State processes of establishing the urban water supplier efficiency standards as part of SB 606 and AB 1668. Casitas will review State documents, submit written comments as needed, and participate in public workshops and stakeholder groups.
- Form partnerships and apply for grants where appropriate.
- Continue to collect and analyze customer participation in conservation measures, costs, and other data to gauge successes and areas that need improvement.

With Casitas' existing WEAP, the District is well positioned to meet the State's future water use objectives. The WEAP provides a similar water use budgeting framework with an essential allocation for indoor water use and a non-essential allocation for outdoor water use (refer to Appendix F for allocation methods). A key work effort for Casitas will be to review the State's data and methodology in comparison with the District's allocation methods. In addition, Casitas will review its planned water use and WEAP policies to ensure they meet or exceed the State's water use objectives.

Figure 9-1. Major Actions Related to Making Conservation a Way of Life Legislation (SB 606 and AB 1668)¹³

Major Actions and Products Required to Implement Water Use Efficiency Standards and Urban Retail Water Supplier's Annual Reporting Requirements¹



¹³ Source: Making Conservation a Way of Life Primer of 2018 Legislation on Water Conservation and Drought Planning SB 606 and AB 1668, prepared by DWR and SWRCB, November 2018.

This page left intentionally blank.

10. Plan Adoption, Submittal, and Implementation

This section describes the public notifications and requirements for the 2020 UWMP adoption, submittal, and implementation.

10.1. Inclusion of all 2020 Data

This UWMP includes all data for calendar year 2020.

10.2. Notice of Public Hearing

This section describes notifications to Cities, Counties, and the public in compliance with the appropriate provisions of the Water Code.

10.2.1. Notice to Cities and Counties

Notice to Cities and Counties are described in the following subsections.

10.2.1.1. *60-Day Notification*

A sample letter sent to Cities and Counties is provided in Appendix B. The letter meets the requirements for 60-day notification.

10.2.1.2. *Notice of Public Hearing*

The Notice of Public Hearings for adoption of the Water Shortage Contingency Plan and the 2020 Urban Water Management Plan were provided for the Casitas Wholesale system, Casitas Retail system, and Ojai Retail system are described in the following subsections.

Casitas Wholesale System. Notifications regarding the Casitas wholesale system were sent to the City of Ventura and the County of Ventura as shown in Table 10-1.

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
<input type="checkbox"/>	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. Completion of the table below is not required. Provide a separate list of the cities and counties that were notified	
<input checked="" type="checkbox"/>	Supplier has notified 10 or fewer cities or counties. Complete the table below.	
City Name	60 Day Notice	Notice of Public Hearing
City of Ventura	Yes	Yes
County Name	60 Day Notice	Notice of Public Hearing
Ventura County	Yes	Yes

Casitas Retail System. For the Casitas Retail system, notification was sent to the City of Ojai and County of Ventura as shown in Table 10-1 Casitas Retail.

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Ojai	Yes	Yes
County Name	60 Day Notice	Notice of Public Hearing
Ventura County	Yes	Yes

Ojai Water System. For the Ojai Retail system, notification was sent to the City of Ojai and County of Ventura as shown in Table 10-1 Ojai Retail.

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Ojai	Yes	Yes
County Name	60 Day Notice	Notice of Public Hearing
Ventura County	Yes	Yes

10.2.2. [Notice to the Public](#)

Notifications regarding the public hearings for adoption of the Water Shortage Contingency Plan and 2020 Urban Water Management plan were published in the Ventura County Star on June 4 and June 11, 2021. A copy of the notification and proof of publication are included in Appendix K.

10.3. [Public Hearing and Adoption](#)

This section describes Casitas compliance with the Public Hearing and Adoption requirements of Water Code Section 10642.

10.3.1. [Public Hearing](#)

The public hearing included discussion of include baseline values, water use targets and compliance, and implementation plan in compliance with SB X7-7. A copy of the presentation provided during the public hearing is provided in Appendix L.

10.3.2. [Adoption](#)

The Board of Directors considered and adopted the WSCP and 2020 UWMP at their meeting of May 26, 2021. A copy of the Resolution is provided in Appendix H.

10.4. [Plan Submittal](#)

Casitas submitted the WSCP and 2020 UWMP in accordance with Water Code Section 10621.

10.4.1. Submitting a UWMP and Water Shortage Contingency Plan to DWR

The 2020 UWMP including the WSCP was submitted to DWR within 30 days of adoption.

10.4.2. Electronic Data Submittal

The 2020 UWMP including the WSCP was submitted to DWR via the web portal

<https://wuedata.water.ca.gov>.

10.4.3. Submitting a UWMP, including WSCP, to the California State Library

The 2020 UWMP including the WSCP was submitted within 30 days of adoption via hardcopy to the California State Library at:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
PO Box 942837
Sacramento CA 94237-0001

10.4.4. Submitting a UWMP to Cities and Counties

The 2020 UWMP including the WSCP was submitted within 30 days of adoption to the City of Ventura, City of Ojai, and County of Ventura electronically via email.

10.5. Public Availability

The adopted 2020 UWMP including WSCP was made available to the public on the District's website <https://www.casitaswater.org/about-us/engineering/engineering-reports-and-master-plans>. The District's main office is closed to the public due to the COVID-19 pandemic. When reopened, hard copies will be available in the District lobby.

10.6. Notification to Public Utilities Commission

This section does not apply to Casitas.

10.7. Amending an Adopted UWMP or Water Shortage Contingency Plan

If circumstances warrant, Casitas will amend the 2020 UWMP or Water Shortage Contingency Plan as necessary and provide such amendment(s) to DWR.

10.7.1. Amending a UWMP

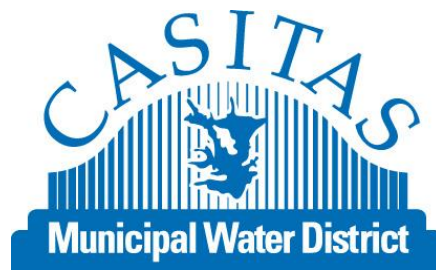
In the event Casitas amends its 2020 UWMP, the steps for notification, public hearing, adoption, and submittal will be followed for the amended plan.

10.7.2. Amending a Water Shortage Contingency Plan

In the event Casitas amends its WSCP, it shall be submitted to DWR no later than 30 days after adoption through the WUE portal.

Appendix A

Sample Letter to Other Agencies



February 16, 2021

Jamie Whiteford
Ventura River Watershed Coordinator
3380 Somis Road
Somis CA 93066

Subject: 2020 Urban Water Management Plan Update

The Casitas Municipal Water District (Casitas) is currently in the process of updating its Urban Water Management Plan (UWMP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every “urban water supplier” providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

As an urban water supplier, Casitas coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. Casitas will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you wish to contact Casitas about its review process, you may do so by contacting Julia Aranda, PE, Engineering Manager, at 805.649.2251 x107 or by email to jaranda@casitaswater.com.

Sincerely,

A handwritten signature in blue ink that reads "M. Flood".

Michael Flood
General Manager
805.649.2251
mflood@casitaswater.com

Appendix B

Sample Letter to City/County



February 16, 2021

James Vega
City of Ojai
401 S. Ventura St
Ojai CA 93023

Subject: 2020 Urban Water Management Plan Update

The Casitas Municipal Water District (Casitas) is currently in the process of updating its Urban Water Management Plan (UWMP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every “urban water supplier” providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

As an urban water supplier, Casitas coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. Casitas will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you wish to contact Casitas about its review process, you may do so by contacting Julia Aranda, PE, Engineering Manager, at 805.649.2251 x107 or by email to jaranda@casitaswater.com.

Sincerely,

A handwritten signature in blue ink that reads "M. Flood".

Michael Flood
General Manager
805.649.2251
mflood@casitaswater.com



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
Copyright © 2014. All Rights Reserved.

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **Casitas Municipal Water District (5610024)**
 Reporting Year: **2016** 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	5	14,186.158	acre-ft/yr
Water imported:	+	?	n/a	0.000	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	+	?	9	89.640	acre-ft/yr
	+	?	n/a	0.000	acre-ft/yr
	+	?	n/a	0.000	acre-ft/yr

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: **14,096.518** acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	7	12,796.000	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	n/a	0.000	acre-ft/yr
Unbilled unmetered:	+	?	6	12.370	acre-ft/yr

AUTHORIZED CONSUMPTION: **12,808.370** acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	+	?	n/a	12.370	acre-ft/yr
-------	---	---	-----	--------	------------

Use buttons to select percentage of water supplied OR value

Pcnt:	+	?	0.25%	0.000	acre-ft/yr
-------	---	---	-------	-------	------------

Pcnt:	+	?	1.00%	0.000	acre-ft/yr
	+	?	0.25%	0.000	acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1,288.148 acre-ft/yr

Apparent Losses

Unauthorized consumption:	+	?	5	35.241	acre-ft/yr
---------------------------	---	---	---	--------	------------

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	5	129.253	acre-ft/yr
Systematic data handling errors:	+	?	n/a	31.990	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **196.484** acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **1,091.664** acre-ft/yr

WATER LOSSES: **1,288.148** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **1,300.518** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	6	97.0	miles
Number of <u>active AND inactive</u> service connections:	+	?	9	3,197	
Service connection density:	?	n/a	n/a	33	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: **0.000** (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+	?	5	80.0	psi
-----------------------------	---	---	---	------	-----

COST DATA

Total annual cost of operating water system:	+	?	10	\$10,714,070	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$1.15	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$131.00	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 62 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Variable production cost (applied to Real Losses)



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **Casitas Municipal Water District**
 Reporting Year: **2017** 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	7	13,353.980	acre-ft/yr
Water imported:	+	?	3	37.770	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

	Pcnt:	Value:	
+	3	<input type="text"/>	acre-ft/yr
+	1	<input type="text"/>	acre-ft/yr
+		<input type="text"/>	acre-ft/yr

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: **13,391.750** acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	12,036.000	acre-ft/yr
Billed unmetered:	+	?	n/a		acre-ft/yr
Unbilled metered:	+	?	9	84.000	acre-ft/yr
Unbilled unmetered:	+	?	5	33.479	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	Value:
<input type="text"/>	33.479

AUTHORIZED CONSUMPTION: **12,153.479** acre-ft/yr

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

1,238.271 acre-ft/yr

Apparent Losses

Unauthorized consumption: **33.479** acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	3	122.424	acre-ft/yr
Systematic data handling errors:	+	?	5	30.090	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **185.994** acre-ft/yr

Pcnt:	Value:
0.25%	<input type="text"/>

1.00%	<input type="text"/>
0.25%	<input type="text"/>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **1,052.277** acre-ft/yr

WATER LOSSES: **1,238.271** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **1,355.750** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	8	162.6	miles
Number of active AND inactive service connections:	+	?	7	6,178	
Service connection density:	?			38	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line:

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average operating pressure: 92.3 psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$21,484,456	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$1.03	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$112.65	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
Copyright © 2014, All Rights Reserved

? Click to access definition
+ Click to add a comment

Water Audit Report for: Casitas Municipal Water District (CA5610024/CA5610014)
Reporting Year: 2018 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

<----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+ ?	7	13,162.640	acre-ft/yr
Water imported:	+ ?	3	44.490	acre-ft/yr
Water exported:	+ ?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	acre-ft/yr
+ ? 3	<input type="radio"/>	<input type="radio"/>
+ ? 1	<input checked="" type="radio"/>	<input type="radio"/>
+ ?	<input type="radio"/>	<input type="radio"/>

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 13,207.130 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+ ?	5	12,020.000	acre-ft/yr
Billed unmetered:	+ ?	n/a		acre-ft/yr
Unbilled metered:	+ ?	9	149.000	acre-ft/yr
Unbilled unmetered:	+ ?	5	33.018	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt: Value: 33.018 acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 12,202.018 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1,005.112 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 33.018 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	3	122.919	acre-ft/yr
Systematic data handling errors:	+ ?	5	30.050	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 185.987 acre-ft/yr

Pcnt: Value: 0.25% acre-ft/yr

1.00%
0.25%

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 819.125 acre-ft/yr

WATER LOSSES: 1,005.112 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 1,187.130 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	162.6	miles
Number of <u>active AND inactive</u> service connections:	+ ?	7	6,161	
Service connection density:	?		38	conn./mile main

Are customer meters typically located at the curbside or property line? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: + ? 0 (length of service line, beyond the property boundary, that is the responsibility of the utility)
Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 5 92.3 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	\$24,362,414	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	\$1.21	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ?	5	\$144.13	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **Casitas Municipal Water District (CA5610024/CA5610014)**
 Reporting Year: **2019** 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	7	9,340.110	acre-ft/yr
Water imported:	+	?	3	19.950	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

	Pcnt:	Value:	
+	3	<input type="radio"/>	acre-ft/yr
+	1	<input type="radio"/>	acre-ft/yr
+		<input type="radio"/>	acre-ft/yr

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: 9,360.060 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	8,361.000	acre-ft/yr
Billed unmetered:	+	?	n/a		acre-ft/yr
Unbilled metered:	+	?	9	130.000	acre-ft/yr
Unbilled unmetered:	+	?	5	23.400	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	Value:
<input type="radio"/>	23.400

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: ? 8,514.400 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

845.660 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 23.400 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	3	85.768	acre-ft/yr
Systematic data handling errors:	+	?	5	20.903	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 130.070 acre-ft/yr

Pcnt:	Value:
0.25%	<input type="radio"/>

1.00%	<input type="radio"/>
0.25%	<input type="radio"/>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **715.590** acre-ft/yr

WATER LOSSES: 845.660 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 999.060 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	8	162.6	miles
Number of active AND inactive service connections:	+	?	7	6,159	
Service connection density:	?			38	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: + ?

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average operating pressure: + ? 5 92.3 psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$21,723,178	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$1.52	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$121.90	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 67 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **Casitas Municipal Water District (CA5610024/CA5610014)**
 Reporting Year: **2020** 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	7	12,295.870	acre-ft/yr
Water imported:	+	?	3	23.100	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

	Pcnt:	Value:	
+	3	<input type="radio"/>	<input type="radio"/>
+	1	<input type="radio"/>	<input type="radio"/>
+		<input type="radio"/>	<input type="radio"/>

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: 12,318.970 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	11,703.000	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	9	134.000	acre-ft/yr
Unbilled unmetered:	+	?	5	30.797	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	Value:
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	30.797

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 11,867.797 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

451.173 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 30.797 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	3	119.566	acre-ft/yr
Systematic data handling errors:	+	?	5	29.258	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 179.621 acre-ft/yr

Pcnt:	Value:
0.25%	<input type="radio"/>

1.00%	<input type="radio"/>
0.25%	<input type="radio"/>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **271.552** acre-ft/yr

WATER LOSSES: 451.173 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 615.970 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	8	163.8	miles
Number of active AND inactive service connections:	+	?	7	6,166	
Service connection density:	?			38	conn./mile main

Are customer meters typically located at the curbside or property line?

Average length of customer service line: + ?

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 5 92.3 psi

(length of service line, beyond the property boundary, that is the responsibility of the utility)

COST DATA

Total annual cost of operating water system:	+	?	10	\$23,432,531	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$1.45	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$154.82	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Billed metered

FY2021-22 Casitas Water Supply and Demand Assessment

MEMORANDUM

TO: Board of Directors
From: Michael L. Flood, General Manager
RE: FY 2021-2022 Casitas Water Supply and Demand Assessment
Date: May 7, 2020

RECOMMENDATION

Adopt recommended drought-related actions and Water Efficiency Allocation Program (WEAP) revisions as contained in Section 5 of this memorandum.

1. BACKGROUND

In accordance with the direction provided in the Water Efficiency and Allocation Program, adopted April 24, 2019, specifically Section 5.2 entitled "*Water Resource Conditions and Actions*," the Board of Directors are to receive an annual assessment of local water supplies, water demands, and current effectiveness of water demand reduction measures. The information in the assessment may necessitate the consideration and direction from the Board of Directors for further actions to preserve water supply for the future.

2. ANNUAL EVENT SUMMARY

The annual event summary is to provide insight to unusual events that have occurred within the boundary of the Casitas Municipal Water District that would not otherwise be directly reported in the content of the assessment. The key events are as follows:

- a) The Casitas Municipal Water District has continued to cope with the demands of the acquisition of the Ojai Water System. The acquisition transferred to Casitas the operations and maintenance of the Ojai Water System including six groundwater wells in the Ojai Groundwater Basin which have an ongoing goal of maximizing the use of groundwater for that system through both maintenance and planning for future improvements.
- b) The Thomas Fire of December 2017 is expected to have a continuing effect on District operations primarily centered on the control of turbidity in Lake Casitas for water quality purposes and negative impacts to the operation of the Robles Fish Passage facility. With little runoff during the Fiscal Year 2021 season, there has been no impact over the last year.
- c) A groundwater adjudication commenced in the Ojai Valley area through an amended cross complaint filed with the California Superior Court on September 21, 2018. This action included not only Casitas but also many public and private water users in the Ojai Valley. This is of special significance to the District due to its operation of seven groundwater wells within the

basins under question in addition to its right to divert water from the Ventura River. There will likely be no impact on water supply for the next twelve months due to this action but may increase resale water demand.

- d) The District embarked on the development of a Comprehensive Water Resources Plan in early 2019 which was released to the public in draft form in June of 2020. The District has received public comment on the draft plan and the Board has been reviewing various aspects of the plan during the first several months of 2021. On April 21, 2021, the Board directed staff to use a planned operational yield of 15,010 Acre-Feet per Year and a planned demand of 14,525 Acre-Feet per Year for the Casitas System.

- e) The District staff are currently preparing the 2020 Urban Water Management Plan (UWMP) in compliance with the California Water Code. The UWMP is a supply and demand assessment and provides an understanding of past, current, and future water conditions and management. Casitas is a wholesale and retail water provider, and the UWMP will be prepared for 1) Casitas Wholesale, 2) Casitas System Retail, and 3) Ojai System Retail. The deadline for submission to the California Department of Water Resources (DWR) is July 1, 2021.

3. ASSESSMENTS

The assessments are to be considered in the implementation of a Water Shortage Condition Stage and the demand reduction measures for Fiscal Year 2021-22.

WEATHER CONDITIONS.

Long-term average rainfall at Matilija Dam and Casitas Dam are 28.24 and 23.74 inches, respectively, based on records dating back to the 1958-1959 Water Year. During the period of 2012 through 2021, the Ventura River watershed has been in an extreme to moderate drought condition with less than average rainfall amounts (Table 1) that have been insufficient to cause the restoration of local water resources to previous levels. Rainfall totals during the 2021 winter season were far below the long-term average rainfall for Matilija and Casitas Dam locations and have had a negative impact to District water supplies in the early months of the year.

Table 1 – Rainfall Totals for Matilija Dam and Casitas Dam (inches)

Water Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Avg.
Matilija Dam	40.28	14.21	11.85	14.76	17.57	13.35	31.98	16.75	37.54	16.46	6.42	20.1
Casitas Dam	35.99	15.11	10.99	9.90	11.65	11.07	30.75	9.89	24.77	13.93	6.39	16.4

The winter storms of 2021 can be described as negligible in effect. The annual rainfall total during the period of October 1, 2020 to April 15, 2021, at Matilija Dam and Casitas Dam are 6.42 and 6.39 inches respectively. These are the lowest rainfall totals during the period noted in Table 1.

Drought conditions have also affected the State of California as a whole with the majority of Ventura County be classified as being in a D4 (Extreme Drought) condition by the United States Drought Monitor as of April 20, 2021.

WATER RESOURCES

The primary water resources that provide water to Casitas MWD are collectively the groundwater basins of the Upper Ventura River and Ojai; and the surface water storage at Lake Casitas.

Groundwater Basins

The winter of 2021 brought little recovery to the local groundwater basins within Casitas' district boundaries. The few rainfall events caused continued flashy peak flows with some debris and silt from the previously burned Ventura River watershed.

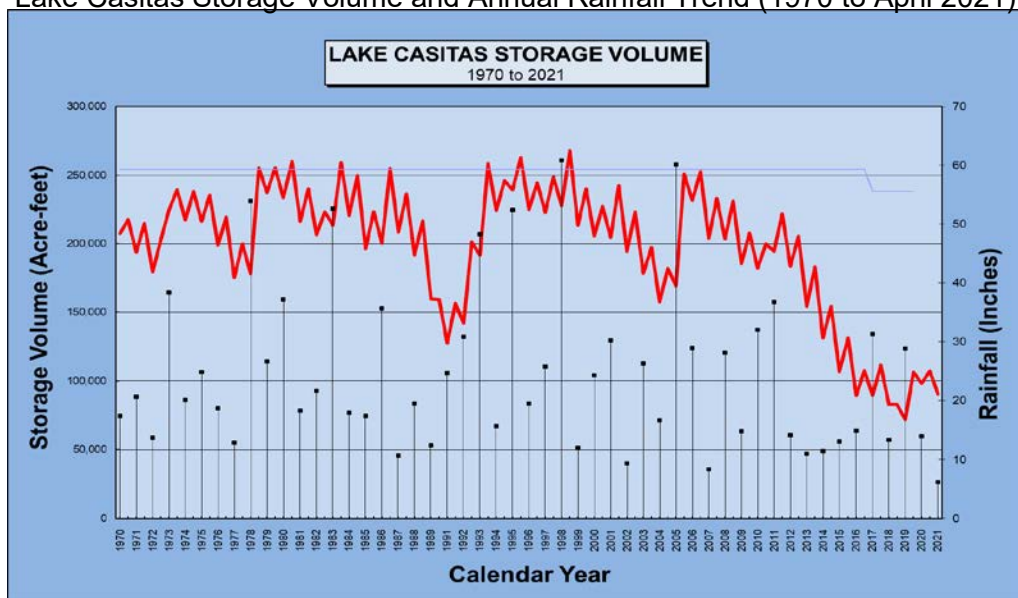
The Upper Ventura River groundwater levels have seen an overall decline since April of 2019. The recent data presented by the Ventura River Water District illustrates that while groundwater levels came to within twelve feet of the May 1 static water level average, they are still well short of being completely full (see May, 2021 VRWD Ground Water Level Chart – Attachment #1). The storage in the Upper Ventura River Basin will likely continue to allow groundwater pumpers to minimize their use of Lake Casitas supply over the next twelve months.

The Ojai groundwater basin is a primary water source for the Ojai Valley's urban and agricultural water demands. The basin's groundwater storage declined an approximate 34 feet in water elevation recorded at a key well in the basin since May 25, 2020. The Ojai basin Groundwater Management Agency has reported that the Ojai basin has an estimated storage of 56,800 acre-feet (71% capacity) at this same time (See OBGMA Summary Sheet – Attachment #2). This supply should allow most groundwater pumpers in this basin to minimize their use of Lake Casitas supply during the next twelve months.

Surface Water Storage

Lake Casitas is the primary source of water supply for the Casitas Municipal Water District. Its construction in the 1950's was as a supplemental supply to local groundwater and as a primary source for areas that do not have groundwater. Figure 1 presents the annual high-low water storage fluctuations that Lake Casitas has experienced since 1970. Lake Casitas storage was last at full storage capacity in May 2006 and has since been in a declining storage trend due to drought conditions, evaporation, environmental conditions, and water use.

Figure 1 – Lake Casitas Storage Volume and Annual Rainfall Trend (1970 to April 2021)



On January 1, 2018, Casitas officially changed the storage table based on a bathymetric survey conducted at Lake Casitas. The volume stored at each designated percentage specified in the Water Efficiency and Allocation Program (WEAP) is changed to reflect the data provided by the bathymetric survey as follows:

Table 2 – WEAP Stages and Lake Casitas Volumes

Stage	<u>Stage 1</u>	<u>Stage 2</u>	<u>Stage 3</u>	<u>Stage 4</u>	<u>Stage 5</u>
Percent Storage	100%	50%	40%	30%	25%
Volume (Acre-feet)	237,975	118,988	95,190	71,393	59,494

WATER DEMAND

In FY 2013-14, the Casitas water demands from Lake Casitas reached 20,417 acre-feet, while Lake Casitas was still in a Stage 1 condition. In April 2014, the State’s Drought Emergency Declaration raised the public awareness to the on-going drought throughout California, the severe conditions in the State Water Project, and the growing scarcity of water for agriculture and communities statewide.

In April 2015, Lake Casitas storage declined to fifty percent of its storage capacity and the Casitas Board of Directors declared that a Stage 2 condition existed for the Lake Casitas supply. In doing so, the Board of Directors initiated Stage 2 mandatory water demand reduction requirements with the further adoption of a revised Water Efficiency and Allocation Plan (WEAP). A key element of the WEAP was the assignment of individual water allocations for residential, commercial and agricultural beneficial water uses, and the assignment of a conservation penalty for water use that was in exceedance of the assigned water allocation.

In June 2016, the Casitas Board of Directors declared that a Stage 3 condition existed as Lake Casitas continued to decline to 100,000 acre-feet of water in storage. The Stage 3 declaration implemented a conservation penalty of \$5.00 per unit and limited the supply available for new water use to 10 acre-feet per fiscal year.

In April 2017, the Casitas Board of Directors continued the Stage 3 declaration, pending possible further decline of Lake Casitas storage to a Stage 4 level.

From December 2018 through February 2019, the Casitas Board of Directors considered the possibility of a Stage 4 declaration but decided to forego the declaration based on the strong conservation response from the community (near a Stage 5 level) combined with rainfall that had been adding significant supply volume to Lake Casitas in early 2019.

Early April 2020 saw a moderate set of storms allowing Lake Casitas storage levels to remain above 105,000 Acre-Feet, however a Stage 3 declaration was left in place for the 2021 Fiscal Year.

Demands on Lake Casitas have increased over the last twelve months with an estimated Fiscal Year 2021 Lake Casitas demand of 10,600 Acre-Feet, an increase of 1,800 Acre-Feet over the Fiscal Year 2020 demand.

Water Demand Response

A critical function of the WEAP is to manage water supplies in such a manner that prevents Lake Casitas from reaching a minimum pool condition through the implementation of water demand response measures – the assignment of individual water allocations and the implementation of a conservation penalty for water use in excess of the allocation.

Since FY 2013-14, the demand on the Lake Casitas supply continued to decline through the 2020 Fiscal Year (Table 3) in response to the WEAP, water resource changes by large customers, and the heightened customer awareness of water resource conditions. The estimated water delivery in Fiscal Year 2020-21 is an indication of a possible reversal trend of the decline in water delivery from Lake Casitas as noted in Table 3.

Table 3 – Water Deliveries from the Lake Casitas Supply

Fiscal Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21 (Estimated)
Lake Casitas Water Deliveries (AF)	20,417	17,339	15,662	13,200	12,322	9,340	8,802	10,600
% below 2013-14 Delivery	0	15	23	35	40	55	57	48
Declared Stage	1	1	2	3	3	3	3	3

Until Fiscal Year 2021, each of the listed periods since Fiscal Year 2015 exhibit the water demand reduction resulting from the public outreach, the conservation penalty, and the effects of the State’s 2014 drought declaration. (Note that the amounts in Table 3 are registered at the Marion Walker Treatment Plant and will differ from amounts reported on the District’s Monthly Consumption Reports, which don’t include system losses).

Beginning in Fiscal Year 2016, Lake Casitas demand has remained below the current Stage 3 demand reduction target of 16,736 Acre-Feet. The targeted goals for each WEAP Stage are listed in Table 4.

Table 4 – WEAP Targeted Demand Reduction Goals per Stage (Based of FY 1989-1990 Lake Casitas Demand of 23,909 Acre-Feet)

	<u>Stage 1</u> 20% Voluntary	<u>Stage 2</u> 20% Mandatory	<u>Stage 3</u> 30% Mandatory	<u>Stage 4</u> 40% Mandatory	<u>Stage 5</u> 50% Mandatory
Demand Reduction Goal (in Acre-Feet)	19,127	19,127	16,736	14,345	11,955

Supply and Demand Analysis

In consideration of an April 2021 start point of approximately 90,600 Acre-feet of storage in Lake Casitas, applying 2013 evaporation, no runoff additions to storage, and comparing three rates of water demands, Figure 2 illustrates the time for Lake Casitas to reach a particular level for the following estimated water demands:

1. A demand of **10,600 Acre-Feet/Year** reflects the estimated 2021 Fiscal Year Lake Casitas demand (middle line).
2. A demand of **9,600 Acre-Feet/Year** reflects a 10% reduction in the estimated 2021 Fiscal Year Lake Casitas demand (top line).
3. A demand of **11,700 Acre-Feet/Year** reflects a 10% increase in the estimated 2021 Fiscal Year Lake Casitas demand (bottom line).

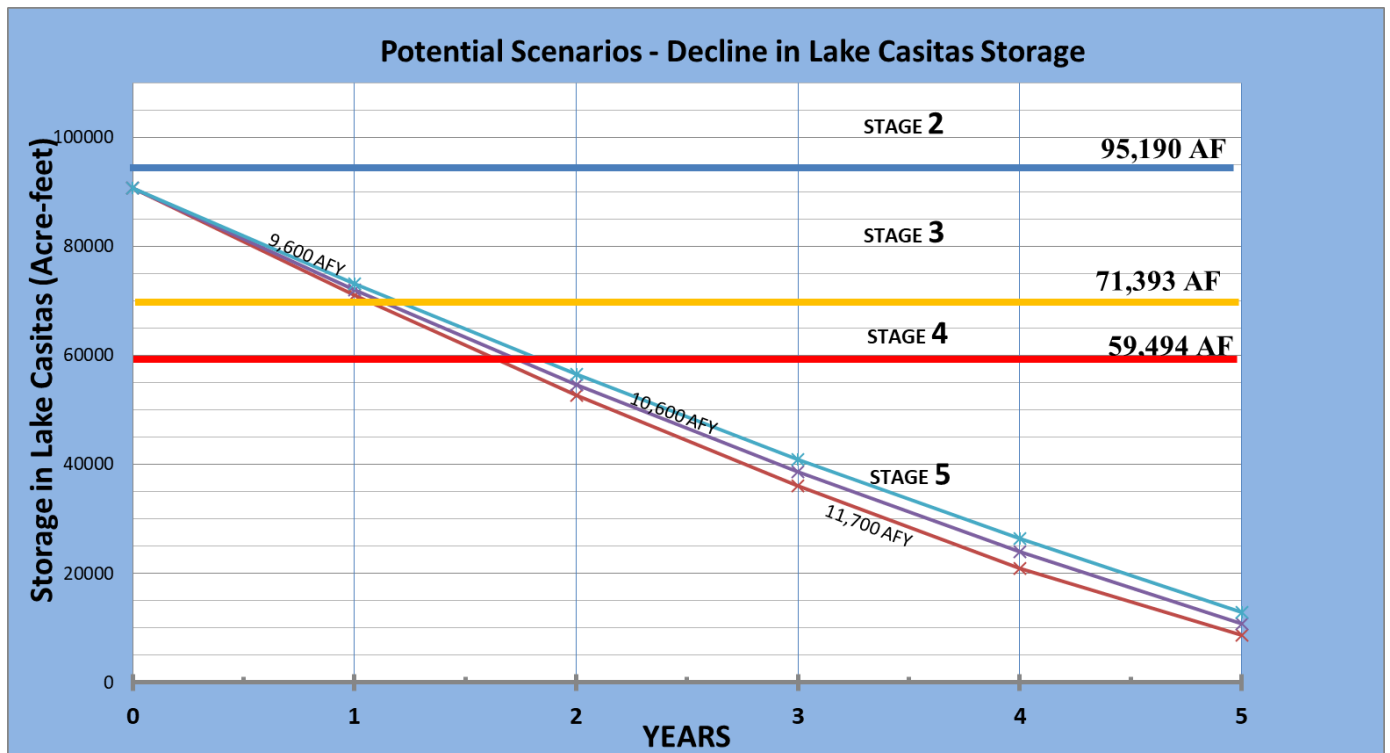


Figure 2 – Hypothetical Decline in Lake Casitas Storage with No Rainfall or Runoff; 2013 Evaporation Rate Every Year; Starting Storage at 90,600 Acre-Feet.

Figure 2 illustrates that with the given demand rates, 2013 evaporation, with no additional rainfall and runoff, Lake Casitas could reach Stage 4 levels in 12 to 14 months, and Stage 5 levels in 18 months to nearly two years.

Given the conditions noted above, Figure 2 illustrates that Lake Casitas could decline to approximately an 83,000 Acre-Foot capacity by December of 2021.

Conservation Penalty

The District has implemented a conservation penalty for water use in excess of the individual customer's Staged allocation. The funds resulting from the conservation penalty are to be applied toward new water supply projects and the water conservation efforts of the District.

In September 2015, and for the remainder of FY 2015-16, the residential water used in excess of the monthly allocation was billed as a conservation penalty at the rate of \$1.00 per unit. Effective July 1, 2016, and continued until the present, the conservation penalty was increased to \$5.00.

Overuse of Allocations

The Revenue and Expense Report for July 1, 2020 through February 28, 2021 indicates that allocation penalties collected through February 2021 for all residential accounts equates to roughly 400 Acre-Feet of overuse in this category. This is an increase from the same period in 2020 wherein penalties had been collected on approximately 260 Acre-Feet of overuse.

Annual penalties for all other types of accounts for Fiscal Year 2021 will not be known until August but overuse for the past two Fiscal Years for these accounts equated to 30 (FY 2020) and 111 (FY 2019) Acre-Feet.

Growth

The service area of the District is experiencing extremely slow growth. Most requests that Casitas receives are related to expansions of residential housing construction. The slow growth rate is indicative of the information illustrated in Table 5. During the past ten years, Casitas has installed 27 meters and issued 31.75 acre-feet of water allocation. On the average, less than three meters have been installed per year and new or additional allocation assignments have averaged three acre-feet per year.

Table 5 – Water Service and Allocation Assignments by Casitas (CY 2012-2021)

Calendar Year	No. of Meters Issued	Allocation Issued (AF)
2012	3	2.22
2013	1	1.88
2014	6	9.85
2015	1	1.27
2016	3	2.08
2017	3	5.54
2018	0	0
2019	6	6.92
2020	3	1.49
2021	1	0.5

4. WATER MANAGEMENT POLICY AND PROGRAMS CURRENTLY IN PLACE

Management Priorities of Casitas Municipal Water District (Resolution No. 93-12)

On March 10th, 1993, the Casitas Board of Directors resolved by Resolution No. 93-12 (1) that Casitas shall manage Lake Casitas and its water supplies so that it can provide back up to other water systems and meet its direct customer demands during droughts.

Water Conservation Program - 1992

Since 1992, Casitas has actively assisted water customers throughout the district with fixture retrofits, irrigation surveys, residential and institutional water use surveys, provision of water conservation materials to local schools, public workshops and presentations on a wide variety of water conservation topics, public messaging, and financing assistance for water well improvements. The Water Conservation Program has partnered with other Ventura County agencies to obtain grants for additional water conservation measures. The Water Conservation Department has also adjusted staffing levels as needed during drought to provide increased customer assistance with meeting conservation targets.

Water Waste Prohibition Ordinance (Ordinance 15-02)

This Ordinance established water waste prohibitions and identified actions against violations of the Ordinance. Casitas staff has been actively engaged with the public reports of water waste.

Water Efficiency and Allocation Program (WEAP)

The WEAP is the key water management tool for long-term drought response and water demand. The WEAP was originally adopted by the Board of Directors in January 1992 and most-recently revised in April 2019. A critical element of the WEAP implementation is to cause water demands to be commensurate to the declared Water Shortage Stage of Lake Casitas.

State of California Drought and Conservation Measures

On April 7, 2017, Governor Brown lifted the January 17, 2014 drought declaration, leaving in place water waste prohibitions and requirements for continuing development of urban and agricultural water use standards to promote continued water conservation (Executive Order B-40-17). The State is developing new regulations to continue the conservation measures as well as measures to hold all water users accountable for their water use.

Governor Newsom recently issued a State Emergency Proclamation placing two California counties in a State of Emergency due to drought and provided all California water districts with notice of the possibility of further actions should water supply conditions worsen in the coming months.

Water Security Projects

The Casitas Municipal Water District is committed to investigating and implementing opportunities to further secure its water supply.

State Water Interties – The Casitas Municipal Water District is pursuing the development of the infrastructure and agreements needed for the direct and in-lieu drought-protection use of the State Water Project water supplies of Casitas, Calleguas MWD, the City of Ventura, and United WCD. Consideration of the fiscal impacts and funding methods of the project are also under review. This is

an opportunity for regional collaboration to address common water supply reliability needs of the entirety of Ventura County.

Additionally, Casitas and Carpinteria Valley Water District are pursuing State loan/grant funding to increase the size of a current intertie connection as well as build pump stations to provide the ability to move Casitas' State Water Project water supplies directly into Casitas' system.

The preliminary schedule for final completion of these projects is four to eight years.

Ojai Well Field Rehabilitation – This project is intended to restore the production of the Ojai Well Field wells and also drill one replacement well. The replacement well has been drilled and the equipping of the well is expected to occur in the 2022 Fiscal Year.

Comprehensive Water Resources Plan - In 2019, Casitas hired a consultant to analyze current water resources and develop a plan that will support the continued planning efforts of the District. Casitas' stakeholder input was also collected and the draft plan was released to the public in June 2020.

The Casitas Board of Directors is expected to continue to review the plan but recently reached an important planning milestone by declaring a Casitas System Operational Yield of 15,010 Acre Feet per Year and a Planned Demand of 14,525 Acre-Feet per Year.

5. RECOMMENDED WEAP ACTIONS

The following are the staff recommendations for WEAP actions to be considered for adoption by the Board of Directors at the May 12, 2021 Board Meeting:

Customer Demand Reduction Measures

1. **Reaffirm the water shortage declaration as Stage 3.** The level of Lake Casitas has declined over the last twelve months placing it within the Stage 3 lake level described in the WEAP (95,104 AF – 71,328 AF). Water demands have also increased over the last twelve months but are expected to remain below the WEAP Stage 3 demand target of approximately 16,700 Acre-Feet per Year. The enforcement of the Water Waste Prohibition Ordinance should continue under the current system of public notification of waste. Conservation staff will continue to work with customers to help them understand and implement conservation measures. The system for allocation assignment and billing will continue until such time that the Board makes a different determination. The Board reviews consumption and hydrology information monthly thus it can respond quickly to changes in customer conservation behavior or water supply conditions.
2. **Reaffirm Stage 3 reduced water allocations.** If the water demand reduction goals are not being met during the course of FY 2021-22, the conservation penalty should be increased and the Board should consider additional measures to ensure these goals are met.
3. **Landscape watering restriction.** Continue with current water use restrictions of no landscape watering between the hours of 10AM and 6PM.

Penalties and Rates.

1. **Consider and implement Conservation Penalty for water use in excess of allocation.** Maintain the current conservation penalty of \$5.00 for each unit of water that is over the monthly/annual allocation assignment for all classifications of service. Direct staff to work with customers that are repetitively in excess of the allocation assignments.
2. **Continue planned rates for revenue stabilization and cost of service.** The Board has adopted water rates to achieve revenue stabilization and cost of service that became effective July 1, 2017 and continued for the following four Fiscal Years.

A rate study is recommended to be conducted during the 2022 Fiscal Year.

3. **Provide a leak-relief program**

The Board should consider implementing a leak-relief program. This will assist customers who have excellent conservation histories with the ability to get relief from unusual situations that cause penalties to be assessed.

Issuance of Additional Allocations

1. **Continue to set an annual allocation limit for new or existing water service connections.** Adhere to the Board's prior direction to limit the volume of water to be allocated to new service connections or requests for additional allocation. Based on the Growth section above, a limit of 10 acre-feet per fiscal year appears to be a reasonable approach.

Communications

1. **Communicate the Stage 3 Condition.** Stage 3 is identified as "*a condition of a water shortage is imminent*". The Board of Directors may consider at any time however to move to a particular Water Shortage Stage based on a number of factors including conservation response, supply forecasts, current supply, etc.
2. **Continue the public information campaign.** Despite the dry conditions experienced this year, local water users have continued to conserve. The local resale agencies should also recognize that their water supplies are subject to sufficient local rainfall and they may have to rely on Lake Casitas under continuing drought conditions. Casitas needs to continue the messaging of local water supply reliability, water security project status, and responsible water use. This can be done through newsletters, website and social media posts, and public workshops (when possible).
3. **Provide regular briefings, publish monthly consumption report.** The billing system provides each customer a monthly status on their water use and the application of conservation penalties.
4. **Review and revision of WEAP for implementation for the 2022-2023 Fiscal Year.** The Board recently directed staff to use a Casitas System Yield of 15,010 Acre-Feet/Year and a Planned Demand of 14,525 Acre-Feet/Year for water supply planning purposes. This

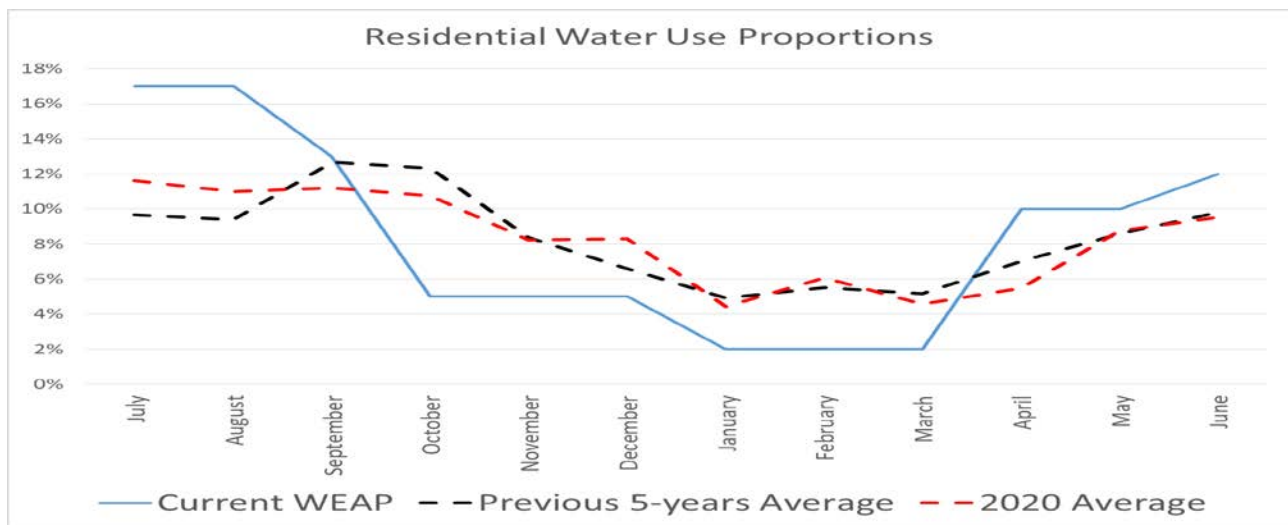
necessitates a revision to the WEAP which is currently based on a Safe Yield of 20,840 Acre-Feet/Year and a Stage 1 demand of approximately 19,000 Acre-Feet/Year. Staff recommends that the revision be completed prior to February 2022 in order to notify customers of the change and provide assistance to those customers who require it prior to implementation on the first day of the 2022-2023 Fiscal Year (July 1, 2022).

Modification of the FY 2022 WEAP

1. **Revise Section 4.3 (Allocation Assignments to Water Service Classifications): Multi-Family Residential and Residential reflecting seasonal water use proportions.**

The Casitas MWD Water Efficiency Allocation Program (WEAP) uses seasonal proportions to adjust the monthly non-essential allocation amounts for Multi-Family Residential and Residential customer classifications.

Staff recently completed an analysis of water use patterns over the last five fiscal years (2016–2020) for residential customers and found that those patterns do not reflect what is currently defined in the WEAP. Graph 1 shows a comparison.

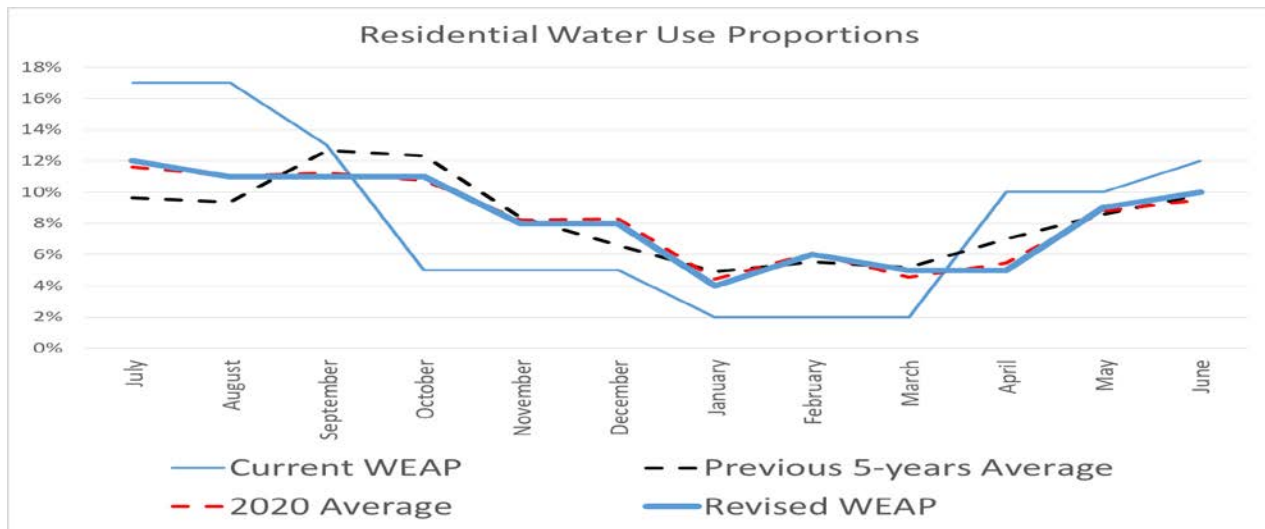


Graph 1 – Residential Water Use Comparison (Current WEAP, Five-Year Avg., and 2020 Avg.)

Staff recommends that the seasonal proportionality tables in Section 4.3 of WEAP for Multi-Family Residential and Residential classifications be revised as follows:

Month	July	August	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
% of Total Annual Allocation	.12	.11	.11	.11	.08	.08	.04	.06	.05	.05	.09	.10

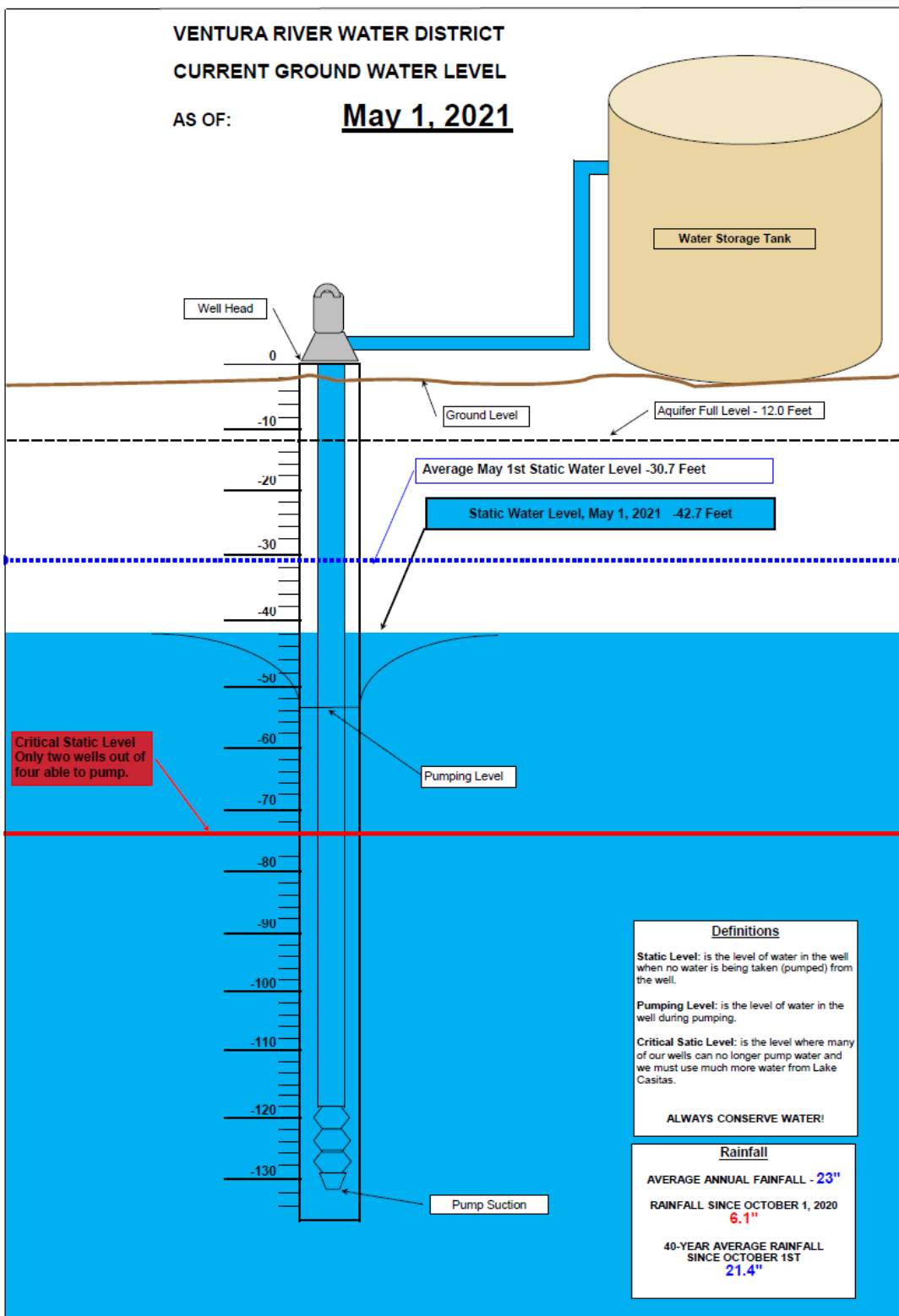
Graph 2 illustrates the recommended change to the seasonal proportionality tables:



Graph 2 - Residential Water Use Comparison (Current WEAP, Five-Year Avg., 2020 Avg., and Revised WEAP)

ATTACHMENT #1

Ventura River Water District May 1, 2021 "Current Groundwater Level" Graphic



ATTACHMENT #2

OBGMA April 2021 Summary of Ojai Groundwater Basin Conditions
(from website graphic & verbal Basin Status Report during the April 28,2021 OBGMA Board Meeting)

Key Well Level (May 25, 2020): 115.12' above mean sea level

Key Well Level (April 2021): 149.51' above mean sea level

Current Basin Volume: 56,800 Acre-Feet; 71% of capacity

SBx7-7 Compliance and Verification Forms

SB X7-7 Verification Form

The **SB X7-7 Verification Form** is for the calculation of baselines and targets. Most Suppliers will have completed this form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete this form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

The **SB X7-7 2020 Compliance Form** is for the calculation of 2020 compliance and is a separate workbook from the SB X7-7 Verification Form. All retail suppliers must submit the SB X7-7 2020 Compliance Form. Baselines and targets are done in the SB X7-7 Verification Form.

WUE Data Portal Entry Exceptions

The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.

Process Water Deduction

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Target Method 2

SB X7-7 Tables 7-B, 7-C, and 7-D

A supplier using Target Method 2 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Target Method 4

These tables are not in the SB X7-7 Verification Form, but are found in WUE Data Portal using the *Resources* button. A supplier using Target Method 4 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Where to Submit?

Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (<https://wuedata.water.ca.gov/>). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking Templates (use with caution)

The templates provided in this workbook are formatted to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit <https://wuedata.water.ca.gov> in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent with Submittal Table 2-3*

NOTES: Casitas Retail System

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	18,471	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0%	See Note 1
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range ³	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2005	
	Year ending baseline period range ⁴	2009	

¹ If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.

² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³ The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.

⁴ The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.

NOTES: Casitas Retail System.

Total water deliveries represents water produced at the Marion Walker WTP and Mira Monte well.

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population
(may check more than one)

1. Department of Finance (DOF) or American Community Survey (ACS)

2. Persons-per-Connection Method

3. DWR Population Tool

4. Other

DWR recommends pre-review

NOTES: Casitas Retail System.

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	1999	11,381
Year 2	2000	11,349
Year 3	2001	11,317
Year 4	2002	11,285
Year 5	2003	11,253
Year 6	2004	11,221
Year 7	2005	11,190
Year 8	2006	11,158
Year 9	2007	11,126
Year 10	2008	11,094
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2005	11,190
Year 2	2006	11,158
Year 3	2007	11,126
Year 4	2008	11,094
Year 5	2009	11,062
NOTES: Casitas Retail System.		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Acre Feet
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use							
Year 1	1999	20,121	7,528	-	7,529	-	5,064
Year 2	2000	21,588	7,054	-	7,611	-	6,923
Year 3	2001	17,879	6,951	-	5,957	-	4,971
Year 4	2002	22,116	8,822	-	8,718	-	4,576
Year 5	2003	16,809	6,119	-	7,139	-	3,550
Year 6	2004	20,477	9,214	-	8,033	-	3,230
Year 7	2005	17,778	7,679	-	6,036	-	4,063
Year 8	2006	17,457	6,267	-	6,917	-	4,273
Year 9	2007	21,598	8,150	-	8,646	-	4,802
Year 10	2008	18,471	6,307	-	7,144	-	5,020
Year 11	0	-	-	-	-	-	-
Year 12	0	-	-	-	-	-	-
Year 13	0	-	-	-	-	-	-
Year 14	0	-	-	-	-	-	-
Year 15	0	-	-	-	-	-	-
10 - 15 year baseline average gross water use							4,647
5 Year Baseline - Gross Water Use							
Year 1	2005	17,778	7,679	-	6,036	-	4,063
Year 2	2006	17,457	6,267	-	6,917	-	4,273
Year 3	2007	21,598	8,150	-	8,646	-	4,802
Year 4	2008	18,471	6,307	-	7,144	-	5,020
Year 5	2009	17,259	6,277	-	6,996	-	3,986
5 year baseline average gross water use							4,429
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.							
NOTES: Casitas Retail System. Exported Water reflects Resale Usage.							

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Marion Walker WTP

This water source is:

The supplier's own water source

A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
--	--	--	--

10 to 15 Year Baseline - Water into Distribution System

Year 1	1999	20,121	20,121
Year 2	2000	21,506	21,506
Year 3	2001	17,809	17,809
Year 4	2002	22,092	22,092
Year 5	2003	16,571	16,571
Year 6	2004	20,214	20,214
Year 7	2005	17,673	17,673
Year 8	2006	17,253	17,253
Year 9	2007	21,326	21,326
Year 10	2008	18,325	18,325
Year 11	0		-
Year 12	0		-
Year 13	0		-
Year 14	0		-
Year 15	0		-

5 Year Baseline - Water into Distribution System

Year 1	2005	17,673	17,673
Year 2	2006	17,253	17,253
Year 3	2007	21,326	21,326
Year 4	2008	18,325	18,325
Year 5	2009	17,259	17,259

¹ **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

² **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Casitas Retail System.

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Mira Monte Well

This water source is:

The supplier's own water source

A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
--	--	--	--

10 to 15 Year Baseline - Water into Distribution System

Year 1	1999	0	0
Year 2	2000	82.44	82
Year 3	2001	69.94	70
Year 4	2002	24.03	24
Year 5	2003	237.93	238
Year 6	2004	262.8	263
Year 7	2005	104.99	105
Year 8	2006	204.21	204
Year 9	2007	272.09	272
Year 10	2008	145.61	146
Year 11	0		0
Year 12	0		0
Year 13	0		0
Year 14	0		0
Year 15	0		0

5 Year Baseline - Water into Distribution System

Year 1	2005	104.99	105
Year 2	2006	204.21	204
Year 3	2007	272.09	272
Year 4	2008	145.61	146
Year 5	2009	0	0

¹ **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

² **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Casitas Retail System.

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)									
Baseline Year Fm SB X7-7 Table 3	Surface Reservoir Augmentation				Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System	
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/ Treatment Losses ¹		Recycled Volume Entering Distribution System from Groundwater Recharge
10-15 Year Baseline - Indirect Recycled Water Use									
Year 1	-	-	-	-	-	-	-	-	-
Year 2	-	-	-	-	-	-	-	-	-
Year 3	-	-	-	-	-	-	-	-	-
Year 4	-	-	-	-	-	-	-	-	-
Year 5	-	-	-	-	-	-	-	-	-
Year 6	-	-	-	-	-	-	-	-	-
Year 7	-	-	-	-	-	-	-	-	-
Year 8	-	-	-	-	-	-	-	-	-
Year 9	-	-	-	-	-	-	-	-	-
Year 10	-	-	-	-	-	-	-	-	-
Year 11	0	-	-	-	-	-	-	-	-
Year 12	0	-	-	-	-	-	-	-	-
Year 13	0	-	-	-	-	-	-	-	-
Year 14	0	-	-	-	-	-	-	-	-
Year 15	0	-	-	-	-	-	-	-	-
5 Year Baseline - Indirect Recycled Water Use									
Year 1	-	-	-	-	-	-	-	-	-
Year 2	-	-	-	-	-	-	-	-	-
Year 3	-	-	-	-	-	-	-	-	-
Year 4	-	-	-	-	-	-	-	-	-
Year 5	-	-	-	-	-	-	-	-	-

¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3. Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

² NOTES: No recycled water use in Ojai Retail System

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1 - Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES: No process water deductions

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility					
Criteria 1					
Industrial water use is equal to or greater than 12% of gross water use					
Baseline Year <i>Fm SB X7-7 Table 3</i>	Gross Water Use Without Process Water Deduction	Industrial Water Use *	Percent Industrial Water	Eligible for Exclusion Y/N	
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1999	5,064		0%	NO
Year 2	2000	6,923		0%	NO
Year 3	2001	4,971		0%	NO
Year 4	2002	4,576		0%	NO
Year 5	2003	3,550		0%	NO
Year 6	2004	3,230		0%	NO
Year 7	2005	4,063		0%	NO
Year 8	2006	4,273		0%	NO
Year 9	2007	4,802		0%	NO
Year 10	2008	5,020		0%	NO
<i>Year 11</i>	0	-			NO
<i>Year 12</i>	0	-			NO
<i>Year 13</i>	0	-			NO
<i>Year 14</i>	0	-			NO
<i>Year 15</i>	0	-			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2005	4,063		0%	NO
Year 2	2006	4,273		0%	NO
Year 3	2007	4,802		0%	NO
Year 4	2008	5,020		0%	NO
Year 5	2009	3,986		0%	NO
* Units of Measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.					
NOTES:					

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
 format.

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility

Criteria 2

Industrial water use is equal to or greater than 15 GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Water Use *	Population	Industrial GPCD	Eligible for Exclusion Y/N
10 to 15 Year Baseline - Process Water Deduction Eligibility				
Year 1	1999		11,381	- NO
Year 2	2000		11,349	- NO
Year 3	2001		11,317	- NO
Year 4	2002		11,285	- NO
Year 5	2003		11,253	- NO
Year 6	2004		11,221	- NO
Year 7	2005		11,190	- NO
Year 8	2006		11,158	- NO
Year 9	2007		11,126	- NO
Year 10	2008		11,094	- NO
Year 11	0		-	NO
Year 12	0		-	NO
Year 13	0		-	NO
Year 14	0		-	NO
Year 15	0		-	NO
5 Year Baseline - Process Water Deduction Eligibility				
Year 1	2005		11,190	- NO
Year 2	2006		11,158	- NO
Year 3	2007		11,126	- NO
Year 4	2008		11,094	- NO
Year 5	2009		11,062	- NO
* Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.				
NOTES:				

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>	Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	Industrial Water Use *	Non-industrial Water Use	Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N	
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	1999	5,064		5,064	11,381	397	NO
Year 2	2000	6,923		6,923	11,349	545	NO
Year 3	2001	4,971		4,971	11,317	392	NO
Year 4	2002	4,576		4,576	11,285	362	NO
Year 5	2003	3,550		3,550	11,253	282	NO
Year 6	2004	3,230		3,230	11,221	257	NO
Year 7	2005	4,063		4,063	11,190	324	NO
Year 8	2006	4,273		4,273	11,158	342	NO
Year 9	2007	4,802		4,802	11,126	385	NO
Year 10	2008	5,020		5,020	11,094	404	NO
Year 11	0	-		-	-	-	NO
Year 12	0	-		-	-	-	NO
Year 13	0	-		-	-	-	NO
Year 14	0	-		-	-	-	NO
Year 15	0	-		-	-	-	NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2005	4,063		4,063	11,190	324	NO
Year 2	2006	4,273		4,273	11,158	342	NO
Year 3	2007	4,802		4,802	11,126	385	NO
Year 4	2008	5,020		5,020	11,094	404	NO
Year 5	2009	3,986		3,986	11,062	322	NO
* Units of Measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.							
NOTES:							

Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4

Disadvantaged Community. A “Disadvantaged Community” (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

- 1. IRWM DAC Mapping tool**
<https://gis.water.ca.gov/app/dacs/>

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

- 2. 2010 Median Income**

	California Median Household Income	Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
2010	\$60,883		0%	YES

NOTES:

SB X7-7 Table 4-D: Process Water Deduction - Volume

Complete

a separate table for each industrial customer with a process water exclusion

Name of Industrial Customer *Enter Name of Industrial Customer 1*

Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Customer's Total Water Use *	Total Volume Supplied by Water Agency*	% of Water Supplied by Water Agency	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
---	---	--	-------------------------------------	-------------------------------------	--

10 to 15 Year Baseline - Process Water Deduction

Year 1	1999				-
Year 2	2000				-
Year 3	2001				-
Year 4	2002				-
Year 5	2003				-
Year 6	2004				-
Year 7	2005				-
Year 8	2006				-
Year 9	2007				-
Year 10	2008				-
<i>Year 11</i>	0				-
<i>Year 12</i>	0				-
<i>Year 13</i>	0				-
<i>Year 14</i>	0				-
<i>Year 15</i>	0				-

5 Year Baseline - Process Water Deduction

Year 1	2005				-
Year 2	2006				-
Year 3	2007				-
Year 4	2008				-
Year 5	2009				-

*** Units of Measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

NOTES:

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	11,381	5,064	397
Year 2	2000	11,349	6,923	545
Year 3	2001	11,317	4,971	392
Year 4	2002	11,285	4,576	362
Year 5	2003	11,253	3,550	282
Year 6	2004	11,221	3,230	257
Year 7	2005	11,190	4,063	324
Year 8	2006	11,158	4,273	342
Year 9	2007	11,126	4,802	385
Year 10	2008	11,094	5,020	404
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	

10-15 Year Average Baseline GPCD **369**

5 Year Baseline GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2005	11,190	4,063	324
Year 2	2006	11,158	4,273	342
Year 3	2007	11,126	4,802	385
Year 4	2008	11,094	5,020	404
Year 5	2009	11,062	3,986	322

5 Year Average Baseline GPCD **355**

NOTES: Casitas Retail System.

SB X7-7 Table 6: Baseline GPCD *Summary*
From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	369
5 Year Baseline GPCD	355

NOTES: Casitas Retail System.

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Tables
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator <i>Located in the WUE Data Portal at wuedata.water.ca.gov Resources button</i>

NOTES:

SB X7-7 Table 7-A: Target Method 1

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
369	295

NOTES: Casitas Retail System.

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 7-B: Target Method 2	
Target Landscape Water Use	
Units of Measure	Acre Feet
Reference Evapotranspiration Rate (ET0) ¹ for Service Area (inches/year)	
Acres of Irrigated Landscape and Applicable ETAF	Water Use³
Acres of landscape installed pre-2010 (ETAF 0.8) ²	-
Acres of landscape installed post-2010 (ETAF 0.7) ²	-
Acres of residential landscape installed post 2015 (ETAF .55)	-
Acres of CII landscape installed post 2015 (ETAF .45)	-
Acres of Special Landscape Area (ETAF 1.0) ²	-
Target Landscape Water Use for 2020	-

¹ ETo information can be found at <https://cimis.water.ca.gov>. If the water supplier's service area spans more than one ETo Zone, the supplier will use multiple versions of SB X7-7 Table 7B for each ETo zone that they serve.

² ETAF - Evapotranspiration Adjustment Factor. Refer to the Model Water Efficient Landscape Ordinance at <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Model-Water-Efficient-Landscape-Ordinance>

³ Water Use Unit of Measure (AF, MG, CCF) is automatically converted to the units selected by the user in Table 0.

NOTES: TABLE NOT USED

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 7-C: Target Method 2

Target CII Water Use

Baseline Year <i>Fm SB X7-7 Table 3</i>	CII Water Use ^{1,2}	Process Water Exclusion (Optional) <i>Fm SB X7-7 Table 4</i>	CII Water Use Minus Process Water	Population <i>Fm SB X7-7 Table 3</i>	CII GPCD
Unit of Measure					Acre Feet
Year 1	1999	0	0	11,381	0
Year 2	2000	0	0	11,349	0
Year 3	2001	0	0	11,317	0
Year 4	2002	0	0	11,285	0
Year 5	2003	0	0	11,253	0
Year 6	2004	0	0	11,221	0
Year 7	2005	0	0	11,190	0
Year 8	2006	0	0	11,158	0
Year 9	2007	0	0	11,126	0
Year 10	2008	0	0	11,094	0
Year 11	0	0	0	-	
Year 12	0	0	0	-	
Year 13	0	0	0	-	
Year 14	0	0	0	-	
Year 15	0	0	0	-	
Average Annual 10 to 15 Year Baseline CII Water Use (GPCD)					0
10% Reduction					0.0
2020 Target CII Water Use					0
¹ CII water use for each year of the baseline period must be provided by the user.					
² Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.					
NOTES: TABLE NOT USED					

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 7-D: Target Method 2 Summary

2020 Population	Enter 2020 Population	
Sector	Volume	GPCD
	Acre Feet	
Target Indoor Residential Water Use		55
Target Landscape Water Use* <i>From SB X7-7 Table 7-B</i>	-	
Target CII Water Use <i>From SB X7-7 Table 7-C</i>		0
2020 Target	-	55
<i>*Additional rows may be added for Target Landscape Water Use if the service area spans more than one Eto Zone.</i>		
NOTES: TABLE NOT USED		

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input type="checkbox"/>		South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
2020 Target <i>(If more than one region is selected, this value is calculated.)</i>				0
NOTES: TABLE NOT USED				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²			Confirmed 2020 Target ⁴
		As calculated by supplier in this SB X7-7 Verification Form	Special Situations ³		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
355	338	295			295

¹ **Maximum 2020 Target** is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² **Calculated 2020 Target** is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.

³ **Prorated targets and population weighted target** are allowed for special situations only. These situations are described in Appendix P, Section P.3

⁴ **Confirmed Target** is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)

NOTES: Casitas Retail System.

SB X7-7 Verification Form

The **SB X7-7 Verification Form** is for the calculation of baselines and targets. Most Suppliers will have completed this form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete this form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

The **SB X7-7 2020 Compliance Form** is for the calculation of 2020 compliance and is a separate workbook from the SB X7-7 Verification Form. All retail suppliers must submit the SB X7-7 2020 Compliance Form. Baselines and targets are done in the SB X7-7 Verification Form.

WUE Data Portal Entry Exceptions

The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.

Process Water Deduction

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Target Method 2

SB X7-7 Tables 7-B, 7-C, and 7-D

A supplier using Target Method 2 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Target Method 4

These tables are not in the SB X7-7 Verification Form, but are found in WUE Data Portal using the *Resources* button. A supplier using Target Method 4 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Where to Submit?

Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (<https://wuedata.water.ca.gov/>). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking Templates (use with caution)

The templates provided in this workbook are formatted to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit <https://wuedata.water.ca.gov> in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent with Submittal Table 2-3*

NOTES: Ojai Retail System

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	2,400	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0%	See Note 1
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range ³	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range ⁴	2008	

¹ If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.

² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³ The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.

⁴ The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.

NOTES: Ojai Retail System.

Total water deliveries represent Ojai Groundwater Well production and deliveries from Casitas System.

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population
(may check more than one)

1. Department of Finance (DOF) or American Community Survey (ACS)

2. Persons-per-Connection Method

3. DWR Population Tool

4. Other

DWR recommends pre-review

NOTES: Ojai Retail System.

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	1999	7,053
Year 2	2000	7,023
Year 3	2001	6,993
Year 4	2002	6,962
Year 5	2003	6,932
Year 6	2004	6,902
Year 7	2005	6,872
Year 8	2006	6,841
Year 9	2007	6,811
Year 10	2008	6,781
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2004	6,902
Year 2	2005	6,872
Year 3	2006	6,841
Year 4	2007	6,811
Year 5	2008	6,781
NOTES: Ojai Retail System.		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Acre Feet
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use							
Year 1	1999	2,552			-	-	2,552
Year 2	2000	2,631			-	-	2,631
Year 3	2001	2,462			-	-	2,462
Year 4	2002	2,760			-	-	2,760
Year 5	2003	2,442			-	-	2,442
Year 6	2004	2,488			-	-	2,488
Year 7	2005	2,239			-	-	2,239
Year 8	2006	2,314			-	-	2,314
Year 9	2007	2,649			-	-	2,649
Year 10	2008	2,400			-	-	2,400
Year 11	0	-			-	-	-
Year 12	0	-			-	-	-
Year 13	0	-			-	-	-
Year 14	0	-			-	-	-
Year 15	0	-			-	-	-
10 - 15 year baseline average gross water use							2,494
5 Year Baseline - Gross Water Use							
Year 1	2004	2,488			-	-	2,488
Year 2	2005	2,239			-	-	2,239
Year 3	2006	2,314			-	-	2,314
Year 4	2007	2,649			-	-	2,649
Year 5	2008	2,400			-	-	2,400
5 year baseline average gross water use							2,418
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.							
NOTES: Ojai Retail System.							

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Ojai Basin Groundwater Wells

This water source is:

The supplier's own water source

A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
--	--	--	--

10 to 15 Year Baseline - Water into Distribution System			
Year 1	1999	2,181	2,181
Year 2	2000	2,080	2,080
Year 3	2001	2,258	2,258
Year 4	2002	2,220	2,220
Year 5	2003	2,066	2,066
Year 6	2004	1,824	1,824
Year 7	2005	1,955	1,955
Year 8	2006	1,818	1,818
Year 9	2007	1,963	1,963
Year 10	2008	1,736	1,736
Year 11	0		-
Year 12	0		-
Year 13	0		-
Year 14	0		-
Year 15	0		-

5 Year Baseline - Water into Distribution System			
Year 1	2004	1,824	1,824
Year 2	2005	1,955	1,955
Year 3	2006	1,818	1,818
Year 4	2007	1,963	1,963
Year 5	2008	1,736	1,736

¹ **Units of measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.
² **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Ojai Retail System.

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Casitas System Interconnections

This water source is:

The supplier's own water source

A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
--	--	--	--

10 to 15 Year Baseline - Water into Distribution System

Year 1	1999	370.5064813	371
Year 2	2000	550.9547376	551
Year 3	2001	204.345916	204
Year 4	2002	539.869677	540
Year 5	2003	376.0184005	376
Year 6	2004	664.246527	664
Year 7	2005	284.3526447	284
Year 8	2006	496.0478067	496
Year 9	2007	685.9734793	686
Year 10	2008	664.277876	664
Year 11	0		0
Year 12	0		0
Year 13	0		0
Year 14	0		0
Year 15	0		0

5 Year Baseline - Water into Distribution System

Year 1	2004	664.246527	664
Year 2	2005	284.3526447	284
Year 3	2006	496.0478067	496
Year 4	2007	685.9734793	686
Year 5	2008	664.277876	664

¹ **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

² **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Casitas acquired the Ojai System from Golden State Water Company in 2017. When GSWC owned the Ojai System, they purchased water from Casitas.

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)

Baseline Year Fm SB X7-7 Table 3	Surface Reservoir Augmentation				Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System	
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1, 2}	Transmission/ Treatment Losses ¹		Recycled Volume Entering Distribution System from Groundwater Recharge
10-15 Year Baseline - Indirect Recycled Water Use									
Year 1			-		-			-	-
Year 2			-		-			-	-
Year 3			-		-			-	-
Year 4			-		-			-	-
Year 5			-		-			-	-
Year 6			-		-			-	-
Year 7			-		-			-	-
Year 8			-		-			-	-
Year 9			-		-			-	-
Year 10			-		-			-	-
Year 11			-		-			-	-
Year 12			-		-			-	-
Year 13			-		-			-	-
Year 14			-		-			-	-
Year 15			-		-			-	-
5 Year Baseline - Indirect Recycled Water Use									
Year 1			-		-			-	-
Year 2			-		-			-	-
Year 3			-		-			-	-
Year 4			-		-			-	-
Year 5			-		-			-	-

¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1 - Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility

Criteria 1
 Industrial water use is equal to or greater than 12% of gross water use

Baseline Year <i>Fm SB X7-7 Table 3</i>	Gross Water Use Without Process Water Deduction	Industrial Water Use *	Percent Industrial Water	Eligible for Exclusion Y/N
---	---	------------------------	--------------------------	----------------------------

10 to 15 Year Baseline - Process Water Deduction Eligibility

Year 1	1999	2,552		0%	NO
Year 2	2000	2,631		0%	NO
Year 3	2001	2,462		0%	NO
Year 4	2002	2,760		0%	NO
Year 5	2003	2,442		0%	NO
Year 6	2004	2,488		0%	NO
Year 7	2005	2,239		0%	NO
Year 8	2006	2,314		0%	NO
Year 9	2007	2,649		0%	NO
Year 10	2008	2,400		0%	NO
Year 11	0	-			NO
Year 12	0	-			NO
Year 13	0	-			NO
Year 14	0	-			NO
Year 15	0	-			NO

5 Year Baseline - Process Water Deduction Eligibility

Year 1	2004	2,488		0%	NO
Year 2	2005	2,239		0%	NO
Year 3	2006	2,314		0%	NO
Year 4	2007	2,649		0%	NO
Year 5	2008	2,400		0%	NO

* **Units of Measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
 format.

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility

Criteria 2

Industrial water use is equal to or greater than 15 GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Water Use *	Population	Industrial GPCD	Eligible for Exclusion Y/N
10 to 15 Year Baseline - Process Water Deduction Eligibility				
Year 1	1999		7,053	- NO
Year 2	2000		7,023	- NO
Year 3	2001		6,993	- NO
Year 4	2002		6,962	- NO
Year 5	2003		6,932	- NO
Year 6	2004		6,902	- NO
Year 7	2005		6,872	- NO
Year 8	2006		6,841	- NO
Year 9	2007		6,811	- NO
Year 10	2008		6,781	- NO
<i>Year 11</i>	0		-	NO
<i>Year 12</i>	0		-	NO
<i>Year 13</i>	0		-	NO
<i>Year 14</i>	0		-	NO
<i>Year 15</i>	0		-	NO
5 Year Baseline - Process Water Deduction Eligibility				
Year 1	2004		6,902	- NO
Year 2	2005		6,872	- NO
Year 3	2006		6,841	- NO
Year 4	2007		6,811	- NO
Year 5	2008		6,781	- NO
* Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.				
NOTES:				

Data from this table will not be entered into WUEdata.

Instead,

the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>	Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	Industrial Water Use *	Non-industrial Water Use	Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
10 to 15 Year Baseline - Process Water Deduction Eligibility						
Year 1	1999	2,552	2,552	7,053	323	NO
Year 2	2000	2,631	2,631	7,023	334	NO
Year 3	2001	2,462	2,462	6,993	314	NO
Year 4	2002	2,760	2,760	6,962	354	NO
Year 5	2003	2,442	2,442	6,932	314	NO
Year 6	2004	2,488	2,488	6,902	322	NO
Year 7	2005	2,239	2,239	6,872	291	NO
Year 8	2006	2,314	2,314	6,841	302	NO
Year 9	2007	2,649	2,649	6,811	347	NO
Year 10	2008	2,400	2,400	6,781	316	NO
<i>Year 11</i>	0	-	-	-	-	NO
<i>Year 12</i>	0	-	-	-	-	NO
<i>Year 13</i>	0	-	-	-	-	NO
<i>Year 14</i>	0	-	-	-	-	NO
<i>Year 15</i>	0	-	-	-	-	NO
5 Year Baseline - Process Water Deduction Eligibility						
Year 1	2004	2,488	2,488	6,902	322	NO
Year 2	2005	2,239	2,239	6,872	291	NO
Year 3	2006	2,314	2,314	6,841	302	NO
Year 4	2007	2,649	2,649	6,811	347	NO
Year 5	2008	2,400	2,400	6,781	316	NO
* Units of Measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.						
NOTES:						

Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4

Disadvantaged Community. A “Disadvantaged Community” (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

- 1. IRWM DAC Mapping tool**
<https://gis.water.ca.gov/app/dacs/>

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

- 2. 2010 Median Income**

	California Median Household Income	Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
2010	\$60,883		0%	YES

NOTES:

SB X7-7 Table 4-D: Process Water Deduction - Volume

Complete

a separate table for each industrial customer with a process water exclusion

Name of Industrial Customer *Enter Name of Industrial Customer 1*

Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Customer's Total Water Use *	Total Volume Supplied by Water Agency*	% of Water Supplied by Water Agency	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
--	---	--	-------------------------------------	-------------------------------------	--

10 to 15 Year Baseline - Process Water Deduction

Year 1	1999				-
Year 2	2000				-
Year 3	2001				-
Year 4	2002				-
Year 5	2003				-
Year 6	2004				-
Year 7	2005				-
Year 8	2006				-
Year 9	2007				-
Year 10	2008				-
<i>Year 11</i>	0				-
<i>Year 12</i>	0				-
<i>Year 13</i>	0				-
<i>Year 14</i>	0				-
<i>Year 15</i>	0				-

5 Year Baseline - Process Water Deduction

Year 1	2004				-
Year 2	2005				-
Year 3	2006				-
Year 4	2007				-
Year 5	2008				-

* **Units of Measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

NOTES:

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	7,053	2,552	323
Year 2	2000	7,023	2,631	334
Year 3	2001	6,993	2,462	314
Year 4	2002	6,962	2,760	354
Year 5	2003	6,932	2,442	314
Year 6	2004	6,902	2,488	322
Year 7	2005	6,872	2,239	291
Year 8	2006	6,841	2,314	302
Year 9	2007	6,811	2,649	347
Year 10	2008	6,781	2,400	316
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	

10-15 Year Average Baseline GPCD **322**

5 Year Baseline GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2004	6,902	2,488	322
Year 2	2005	6,872	2,239	291
Year 3	2006	6,841	2,314	302
Year 4	2007	6,811	2,649	347
Year 5	2008	6,781	2,400	316

5 Year Average Baseline GPCD **316**

NOTES: Ojai Retail System.

SB X7-7 Table 6: Baseline GPCD *Summary*
From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	322
5 Year Baseline GPCD	316

NOTES: Ojai Retail System.

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Tables
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator <i>Located in the WUE Data Portal at wuedata.water.ca.gov Resources button</i>

NOTES:

SB X7-7 Table 7-A: Target Method 1

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
322	257

NOTES: Ojai Retail System.

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 7-B: Target Method 2

Target Landscape Water Use

Units of Measure		Acre Feet
Reference Evapotranspiration Rate (ET0) ¹ for Service Area (inches/year)		
Acres of Irrigated Landscape and Applicable ETAF		Water Use ³
	Acres	
Acres of landscape installed pre-2010 (ETAF 0.8) ²		-
Acres of landscape installed post-2010 (ETAF 0.7) ²		-
Acres of residential landscape installed post 2015 (ETAF .55)		-
Acres of CII landscape installed post 2015 (ETAF .45)		-
Acres of Special Landscape Area (ETAF 1.0) ²		-
Target Landscape Water Use for 2020		-

¹ ET0 information can be found at <https://cimis.water.ca.gov>. If the water supplier's service area spans more than one ETo Zone, the supplier will use multiple versions of SB X7-7 Table 7B for each ETo zone that they serve.

² ETAF - Evapotranspiration Adjustment Factor. Refer to the Model Water Efficient Landscape Ordinance at <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Model-Water-Efficient-Landscape-Ordinance>

³ Water Use Unit of Measure (AF, MG, CCF) is automatically converted to the units selected by the user in Table 0.

NOTES: TABLE NOT USED

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 7-C: Target Method 2

Target CII Water Use

Baseline Year <i>Fm SB X7-7 Table 3</i>		CII Water Use ^{1,2}	Process Water Exclusion (Optional) <i>Fm SB X7-7 Table 4</i>	CII Water Use Minus Process Water	Population <i>Fm SB X7-7 Table 3</i>	CII GPCD
Unit of Measure						Acre Feet
Year 1	1999		0	0	7,053	0
Year 2	2000		0	0	7,023	0
Year 3	2001		0	0	6,993	0
Year 4	2002		0	0	6,962	0
Year 5	2003		0	0	6,932	0
Year 6	2004		0	0	6,902	0
Year 7	2005		0	0	6,872	0
Year 8	2006		0	0	6,841	0
Year 9	2007		0	0	6,811	0
Year 10	2008		0	0	6,781	0
Year 11	0		0	0	-	
Year 12	0		0	0	-	
Year 13	0		0	0	-	
Year 14	0		0	0	-	
Year 15	0		0	0	-	
Average Annual 10 to 15 Year Baseline CII Water Use (GPCD)						0
10% Reduction						0.0
2020 Target CII Water Use						0
¹ CII water use for each year of the baseline period must be provided by the user.						
² Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.						
NOTES: TABLE NOT USED						

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 7-D: Target Method 2 Summary

2020 Population	Enter 2020 Population	
Sector	Volume	GPCD
	Acre Feet	
Target Indoor Residential Water Use		55
Target Landscape Water Use* <i>From SB X7-7 Table 7-B</i>	-	
Target CII Water Use <i>From SB X7-7 Table 7-C</i>		0
2020 Target	-	55
<i>*Additional rows may be added for Target Landscape Water Use if the service area spans more than one Eto Zone.</i>		
NOTES: TABLE NOT USED		

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input type="checkbox"/>		South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
2020 Target <i>(If more than one region is selected, this value is calculated.)</i>				0
NOTES: TABLE NOT USED				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²			Confirmed 2020 Target ⁴
		As calculated by supplier in this SB X7-7 Verification Form	Special Situations ³		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
316	300	257			257

¹ **Maximum 2020 Target** is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² **Calculated 2020 Target** is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.

³ **Prorated targets and population weighted target** are allowed for special situations only. These situations are described in Appendix P, Section P.3

⁴ **Confirmed Target** is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)

NOTES: Ojai Retail System.

SB X7-7 2020 Compliance Form

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form. Baseline and target calculations are done in the SB X 7-7 Verification Form.

The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form. Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

Process Water Deduction tables will not be entered into WUE Data Portal tables.

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Where to submit? Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (<https://wuedata.water.ca.gov/>). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking templates (use with caution): The templates provided in this workbook are formatted to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit <https://wuedata.water.ca.gov> in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES: Casitas Retail System.

SB X7-7 Table 1 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 2: Method for 2020 Population Estimate

Method Used to Determine 2020 Population
(may check more than one)

<input type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input checked="" type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review

NOTES: 2020 Census data not yet available.

SB X7-7 Table 3: 2020 Service Area Population

2020 Compliance Year Population

2020	11,042
-------------	--------

NOTES: Casitas Retail System.

SB X7-7 Table 4: 2020 Gross Water Use

Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions				2020 Gross Water Use	
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*		Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>
	10,626	3,095		-	5,115	-	2,416

* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: Casitas Retail System.
Exported water reflects Resale usage.

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source		Marion Walker WTP	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
	10,447	-	10,447
¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES Casitas Retail System.			

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source		Mira Monte Groundwater Well	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
	179		179
¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES: Casitas Retail System.			

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)									
2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/Treatment Losses ¹	Recycled Volume Entering Distribution System from Groundwater Recharge	
	-	0%	-		-	-	-	-	-

¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

No Indirect Recycled Water use in the Casitas retail system

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

**SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility
(For use only by agencies that are deducting process water) Choose Only One**

<input type="checkbox"/>	Criteria 1- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES: No Process water Deductions

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1
 Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
	2,416	12	0%	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
 format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 2)*

Criteria 2
 Industrial water use is equal to or greater than 15 GPCD

2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	Eligible for Exclusion Y/N
	12	11,042	1	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 3)*

Criteria 3
 Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
	2,416	12	2,404	11,042	194	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool <https://gis.water.ca.gov/app/dacs/>

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
	2020	\$75,235	\$87,277	116%	NO
<input type="checkbox"/>	*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.				

NOTES

Data from these tables will not be entered into WUEdata.

Instead,

the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		<i>Enter Name of Industrial Customer 1</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
	-	-		-	-

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

2020 Gross Water <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm</i> <i>SB X7-7 Table 3</i>	2020 GPCD
2,416	11,042	195

NOTES: Casitas Retail System.

SB X 7-7 Table 6 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 7 applies to baseline and target calculations and is not included in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 8 was used for the 2015 Interim Target and is not used in the 2020 UWMP.

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD ^{1,2}	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹	Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>		
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
195	-	-	-	-	195	295	YES

¹ All values are reported in GPCD

² **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES: Casitas Retail System.

SB X7-7 2020 Compliance Form

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form. Baseline and target calculations are done in the SB X 7-7 Verification Form.

The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form. Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

Process Water Deduction tables will not be entered into WUE Data Portal tables.

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Where to submit? Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (<https://wuedata.water.ca.gov/>). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking templates (use with caution): The templates provided in this workbook are formatted to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit <https://wuedata.water.ca.gov> in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES: Ojai Retail System.

SB X7-7 Table 1 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 2: Method for 2020 Population Estimate

Method Used to Determine 2020 Population
(may check more than one)

<input type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input checked="" type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review

NOTES: 2020 Census data not yet available.

SB X7-7 Table 3: 2020 Service Area Population

2020 Compliance Year Population

2020	6,712
-------------	-------

NOTES: Ojai Retail System.

SB X7-7 Table 4: 2020 Gross Water Use

Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions				2020 Gross Water Use	
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*		Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>
	1,669			-	100	-	1,569

* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: Ojai Retail System.

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source		Ojai Basin Groundwater Wells	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
	1,300	-	1,300
¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES Ojai Retail System.			

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source		Casitas System Interconnections	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
	369		369
¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES: Casitas acquired the Ojai System from Golden State Water Company in 2017. When GSWC owned the Ojai System, they purchased water from Casitas.			

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)									
2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/Treatment Losses ¹	Recycled Volume Entering Distribution System from Groundwater Recharge	
	-		-		-	-		-	-

¹ Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

2

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1 - Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1
 Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
	1,569	3	0%	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
 format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 2)*

Criteria 2
 Industrial water use is equal to or greater than 15 GPCD

2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	Eligible for Exclusion Y/N
	3	6,712	0	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 3)*

Criteria 3
 Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
	1,569	3	1,566	6,712	208	NO

NOTES:

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool <https://gis.water.ca.gov/app/dacs/>

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
	2020	\$75,235	\$82,823	110%	NO
<input type="checkbox"/>	*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.				

NOTES

Data from these tables will not be entered into WUEdata. Instead, the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*

Name of Industrial Customer		<i>Enter Name of Industrial Customer 1</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

2020 Gross Water <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm</i> <i>SB X7-7 Table 3</i>	2020 GPCD
1,569	6,712	209

NOTES: Ojai Retail System.

SB X 7-7 Table 6 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 7 applies to baseline and target calculations and is not included in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 8 was used for the 2015 Interim Target and is not used in the 2020 UWMP.

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD				Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>	2020 Confirmed Target GPCD ^{1,2}	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹			
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
209	-	-	-	-	209	257	YES

¹ All values are reported in GPCD

² **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES: Ojai Retail System.

Water Efficiency Allocation Program (WEAP)

WATER EFFICIENCY AND ALLOCATION PROGRAM

Casitas Municipal Water District

May 12, 2021

SECTION 1: INTRODUCTION

In 1992 the Casitas Municipal Water District (Casitas) adopted a series of ordinances, resolutions, and a Water Efficiency and Allocation Program (WEAP) in response to the increasing water demands and declining water storage in Lake Casitas experienced during the 1987-1991 drought period. The collective work in 1992 set the starting point for a system of water allocation assignments and demand response criteria that are based on the level of water storage in Lake Casitas. Since 1992, there has been a significant outreach by Casitas to raise the public's awareness on the importance to conserve local water supplies, changes in the water supply and demand, regulatory compliance directives pursuant to the Endangered Species Act (ESA), and system outage events that temporarily activated Casitas' emergency response plan. All of these factors, including the responses and experiences of the current drought, are considered in the update of the Water Efficiency and Allocation Program.

1.1 Purpose and Principles of the Plan.

The purpose of this update of the WEAP is to provide guidance on water supply and demand strategies that (1) conserve the water supply of the Ventura River Project, Lake Casitas and other water resources that are in the direct control of Casitas, for the greatest public benefit, (2) mitigate the effects of a water shortage on public health and safety and economic activity, (3) allocate water use so that a reliable and sustainable supply of water will be available for the most essential purposes under all water storage conditions of Lake Casitas, and (4) adapt to changing conditions of water supply demand and constraints.

The WEAP describes the water demand reduction strategies and measures to address future water shortage conditions, promote water conservation and the efficient use of water, and the application of a conservation penalty to customers who waste water.

1.2 Relationship between this Document, Water Codes, and Other Plans.

This WEAP shall be guided by State regulations and planning requirements as provided by the California Water Code that provides Casitas with broad powers to implement and enforce regulations and restrictions for managing a water shortage (§71640-71644), to implement water conservation programs (§375--378), to implement allocation-based conservation water pricing (§370-374), and to declare a water shortage emergency (§350-359).

As required by Water Code Section 10632, this WEAP shall be integrated as a part of the Casitas Urban Water Management Plan (UWMP), as amended or updated every five years. The Casitas 2010 UWMP has been accepted and approved by the State Department of Water Resources. The UWMP provides an in-depth description of the Casitas water system, water resources and demands, and water supply reliability. For the purposes of integration and lessening the conflicts due to the replication of information, the WEAP shall rely on the updates of the Water Code Sections provided in the attached Appendices and UWMP, as amended or updated every five years.

SECTION 2: WATER SUPPLY AND DEMAND CONDITIONS

2.1 Water Supply.

The water supply for Casitas is derived from (1) the watersheds that flow directly and indirectly by diversion from the Ventura River of water during wet years to carryover storage in Lake Casitas for use during dry years, and (2) groundwater to the extent that Casitas has its own groundwater supply. The watersheds of the Ventura River region are subject to an extreme variation in the weather patterns, ranging from multiple years of drought to sometimes significant wet year events that are associated with El Nino conditions that add to the uncertainty of available local water supplies.

2.1.1 Surface Water.

The primary goal of Casitas is to provide a safe and reliable water supply. Due to the uncertainty of weather conditions that provide water to the local watersheds, a safe yield modeling has been implemented to provide guidance on water supply availability. The safe yield modeling criteria for the Casitas surface water supply provides a theoretical rate of decline in available water supply during a critical drought period, that if given a specific annual extraction rate from storage, that would reduce Lake Casitas to an exhausted minimum pool.

The sizing of Lake Casitas storage volume and the determination of the annual safe yield of water from Lake Casitas was originally determined by the Bureau of Reclamation in 1954, based on the hydrologic modeling for the critical drought period that started in 1919 and continued through 1936. The storage volume of the off stream reservoir, Lake Casitas, was set to be 254,000 acre-feet and the annual safe yield was determined to be 28,000 acre-feet. In 2004, Casitas recalculated the annual safe yield of Lake Casitas for the drought period of 1944 to 1965 based on newer knowledge of the diminished value of Matilija Reservoir and its impending removal, and the change in Robles Diversion operations resulting from the 2003 Biological Opinion established by the National Marine Fisheries Service pursuant to the federal Endangered Species Act. The recalculated annual safe yield of Lake Casitas was determined to be 20,840 acre-feet per year.

The safe yield trend for the 1944-1965 critical drought period is illustrated in Figure 1, with the assumption that the critical drought period begins with a full reservoir. The modeling applies the hydrology, river diversions operations, and lake evaporation for the period (1944-1965) that contribute to the Lake Casitas storage. The safe yield is a constant extraction rate from lake storage that contribute to the decline in Lake Casitas storage during the critical drought period, taking lake storage from full capacity to a minimum pool condition. Based on the safe yield model with a continuous and steady extraction rate, or safe yield, of water at 20,840 acre-feet each year, Lake Casitas would decline from full storage to minimum pool in approximately twenty years.

Also included in Figure 1 is the Recovery Period of Lake Casitas, which illustrates the actual filling rate experienced at Lake Casitas during the 1959 to 1978 period. The recovery of the Lake Casitas volume during the Recovery Period that is illustrated in Figure 1 cannot be assumed as the normal or common sequence given the variability of the rainfall amounts in the Ventura River watershed, constraints, and other influences to Lake Casitas inflow and storage. Casitas may experience elevated water supply risks that could be associated with a delay in the start of the recovery period while at minimum pool in Lake Casitas, or there could be a condition where the critical drought period begins with a partially recovered storage level in Lake Casitas.

The availability of the Lake Casitas supply can be influenced or impacted by long-term droughts, changes to lake water quality, and/or changes to diversion and storage conditions. The safe yield of Lake Casitas and annual water availability may need to be reconsidered in the future as a result of changing conditions or new information that differs from the present conditions.

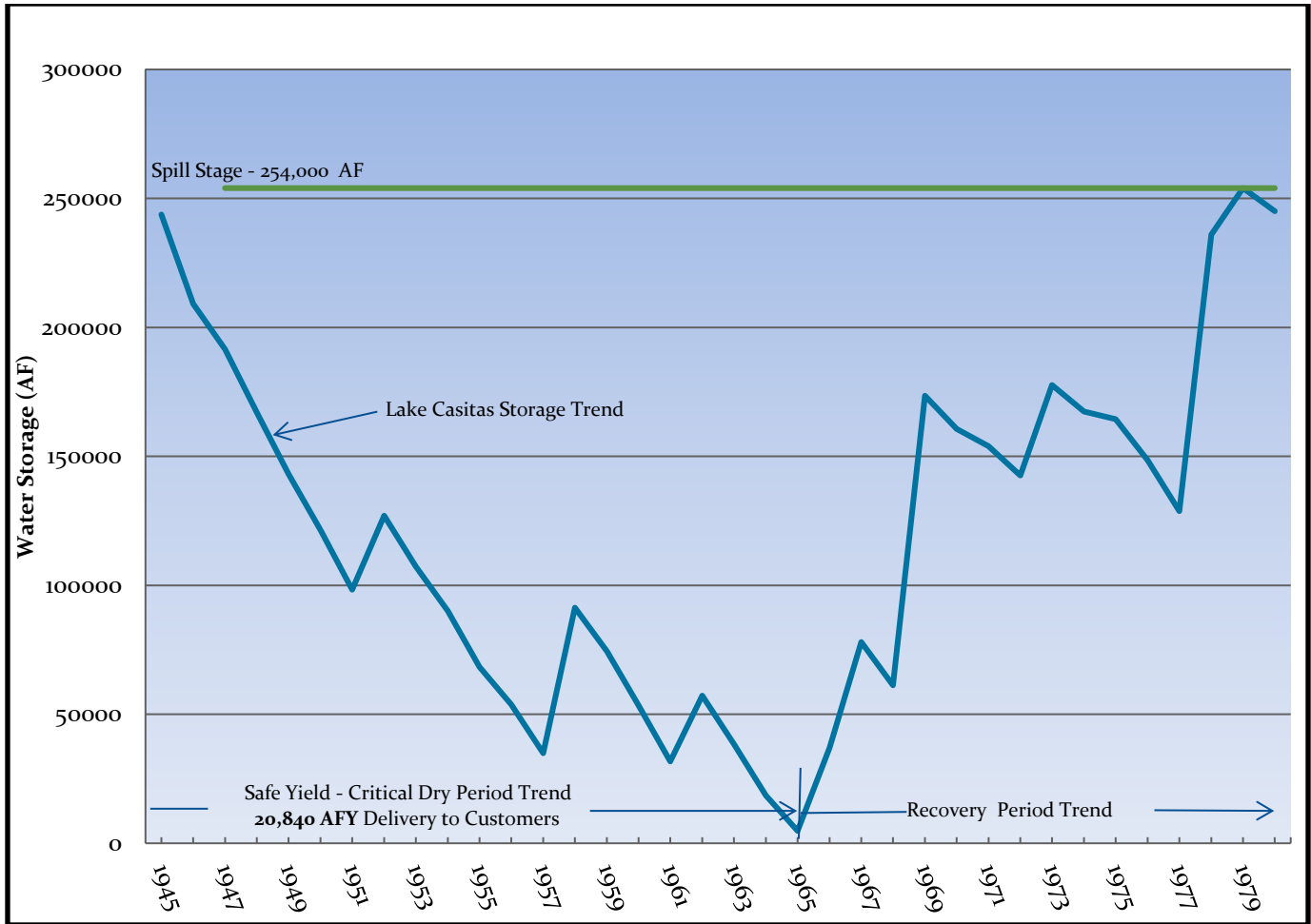


Figure 1 – Lake Casitas Safe Yield Storage and Recovery Period Trends

2.1.2 Groundwater.

Within Casitas’ district boundaries, there are several local groundwater basins that are primary and critical sources of water supply for other local water purveyors (public, mutual and private), individual residential use and agriculture. During extended periods of drought with several years of less than average rainfall (20-inches) the local groundwater basins can become depleted due to pumping, natural drainage and evapotranspiration. The Lake Casitas surface water supply serves as a back-up water supply to the groundwater supply during times of extended drought.

Table 1 – Groundwater Basins of the Ventura River Watershed

Groundwater Basin	Acres	Max. Capacity (AF)	Approx. Safe Yield (AF/Yr.)
Upper Ojai	2,840	5,681	Unavailable
Ojai Valley	6,471	85,000	5,026

Upper Ventura River	9,360	35,118	9,482
Lower Ventura River	6,090	8,743	2,130

Source: Ventura River Watershed Council

The groundwater basins have demonstrated an ability to recharge rapidly in any one year with sufficient rainfall events, upon which time groundwater becomes the preferred source for those with well pumping access to the groundwater basins.

2.2 Water Demand.

The Casitas Board of Directors has established that the average long-term demand upon Lake Casitas must not exceed the annual safe yield of Lake Casitas supply. As a result of the 1987-1991, multi-year drought that resulted in water demands exceeding the annual safe yield, Casitas implemented specific actions in 1992 to limit water demands. The actions included the declaration of a voluntary twenty percent reduction in water demand, the assignment of water allocations based on 80 percent of FY1989-90 water usage that reflects a reduction in demand that comports more closely to safe yield of the Lake Casitas Supply, the implementation of water conservation measures to assist water users in adapting to less water consumption, and the limiting of new water service connections and expansions of agricultural plantings. Table 2 provides a comparison of classification water use, from prior to the action being taken by Casitas, to the level of water use during the recent drought. The FY 1989-90 water demand is recognized as being a high extreme water demand year at the end of the four year drought period.

Table 2 – Water Use Comparison by Customer Classification

Classification	No. of Service Connections		Water Demand – Lake Casitas (AF)		
	FY 1989-90	FY 2013-14	FY 1989-90	FY 2012-13	FY 2013-14
Residential	2424	2700	1603	1678	1738
Business	93	108	821	663	724
Industrial	12	9	155	23	22
Other	33	41	530	244	255
Resale Gravity	8	8	7724	4642	5614
Resale Pumped	15	15	1027	551	1182
Irrigation	253	251	11706	7978	9385
Interdepartmental	21	21	343	120	119
Temporary			11	13	55
Total	2,859	3,153	23,909	15,899	19,094

The local groundwater resources of the Ojai Valley and Ventura River provide on average 7,385 acre-feet per year (Daniel B. Stephens, 2010) to municipal, residential and agricultural pumpers. During multiple dry years, the groundwater basins become depleted and groundwater demands are met by supplementing groundwater supply from the Lake Casitas supply. In most cases, groundwater pumpers have a water service connection to Casitas as a backup supply of water. During any year or multiple dry year sequence of less than average rainfall, Casitas can anticipate that a portion of the 7,385 acre-feet of groundwater demand may be supplemented by the Lake Casitas supply. When groundwater basins are restored by rainfall events, groundwater pumpers convert back to the less expensive groundwater supply. The demand shifts are illustrated in Table 2 and Figure 2 for various classifications of water consumers. The FY 1989-90 and FY 2013-14 water demands occurred at the end of a three-year drought sequence.

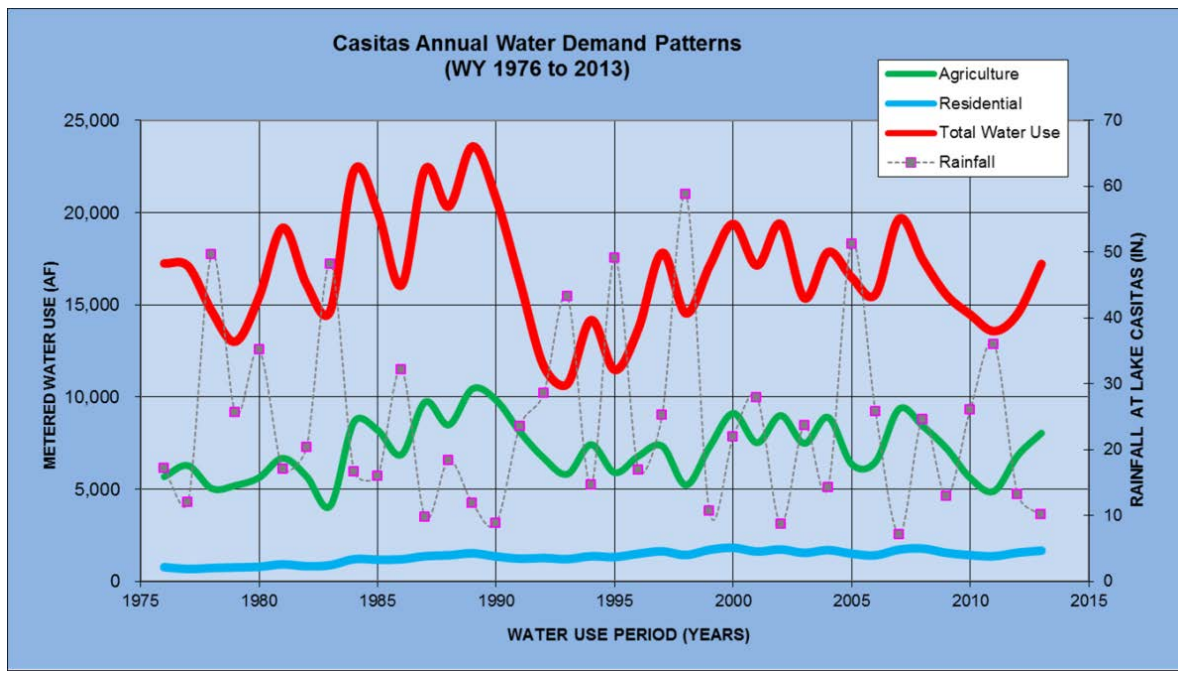


Figure 2 – Casitas Annual Demand Patterns

2.3 Priorities of Water Use.

Casitas recognizes the following priorities for potable water:

- 1) Public safety, health and sanitation;
- 2) Economic sustainability; and
- 3) Quality of life for the district’s customers.

Within each of the customer classifications there may be water uses that are considered non-essential to public health and sanitation and may have no significant impact to the economic productivity of the western Ventura County. The non-essential water uses may be asked at any time to be curtailed during times of extreme water shortages.

Casitas recognizes that the agricultural crops in western Ventura County are primarily tree orchards that require a substantial period of time before becoming productive, and if fallowed will experience several years of non-production. To maintain water supplies into the future that will meet the local water demands, Casitas and the public may be faced with additional decisions on water use reductions that may impact the agricultural classification.

SECTION 3: WATER SHORTAGE EMERGENCY ACTIONS

3.1 Urban Water Contingency Analysis.

Water Code 10632 requires that the agency’s Urban Water Management Plan provide an urban water shortage contingency analysis that includes specific elements that are within the authority of the urban water supplier. The required water shortage analysis is performed in the Casitas 2010 Urban Water Management Plan, and is further supported by this WEAP and the Casitas Emergency Response Plan, as amended.

3.2 Water Shortage Emergencies.

Water Code §350-359 provides that the governing body of a distributor of a public water supply may declare a water shortage emergency condition to prevail within the service area whenever it finds and determines that the ordinary demands cannot be satisfied without depleting water supplies to the extent that there would be insufficient water for human consumption. When deemed as a water shortage emergency in accordance with Water Code 350, Casitas shall follow the procedures provided by the Water Code in the implementation of the water shortage declaration and actions.

The State of California, through its authority under the Water Code and Government Code, may declare a water shortage emergency and require curtailment of water use that is above and beyond the requirements of the Casitas WEAP. Customers of Casitas must respond and comply with the orders of the State in a timely manner. A failure to comply may cause the State to impose fines and penalties that will be redistributed to the customers of Casitas in a manner determined by the Casitas Board of Directors.

3.3 Water Shortage Contingency Plan.

The District has prepared a Water Shortage Contingency Plan (Resolution 92-11), and further defined in the Casitas Urban Water Management Plan, that addresses emergencies under short-term, catastrophic events, and long-term water shortages that may occur as a result of a prolonged drought.

A water shortage emergency may be determined to exist in the event of a short-term interruption of water supply or as a result of long-term diminishment of the Lake Casitas water supply. A short-term interruption of water supply can be the result of earthquakes, regional power outages, landslides, or other major and minor events that impact Casitas water facilities or supply. These events are more often a short term interruption of water supplies until the water system can be restored to the customers. A long-term or district-wide condition may be the result of drought conditions or a reduction in local water supplies that will require long-term water supply-demand management.

The Casitas response to a short-term interruption of water supply may cause the implementation of the Casitas Emergency Action Plan that is structured under the State's Standardized Emergency Management System (SEMS), in coordination with federal, state and county emergency response planning that provides the framework for an organized response to catastrophic events.

3.4 Water Waste Prohibitions on Certain Uses.

Water Code § 71640 provides the District the authority to restrict the use of district water during any emergency caused by drought, or other threatened or existing water shortage, and the district may prohibit the wastage of district water or the use of district water during such periods for any purpose other than household uses or such other restricted uses as the district determines to be necessary. The District may also prohibit use of district water during such periods for specific uses which it finds to be nonessential.

SECTION 4: STRATEGY FOR MANAGED WATER SUPPLY AND DEMAND

4.1 Strategy Principles.

The communities and rural agricultural areas of western Ventura County recognize that there is a reliance on limited local groundwater and surface water supply to serve all of the beneficial uses within the District, and there is a local responsibility required to sustain those supplies during

extended drought periods. The continuous implementation of water conservation education and measures (Best Management Practices) has had a significant influence on the beneficial use and sustainability of local water supplies. Ongoing water conservation efforts can ease the impact on normal activities during drought periods, but may not completely eliminate the need for reductions in water use during periods when Lake Casitas water supplies are severely impacted by extended drought. The main mechanism to respond to water supply conditions is to rely on informed customers working in partnership with Casitas to limit water use to no more than the assigned water allocation and support the water use limitations with appropriate conservation penalties for water use in excess of the assigned, or adjusted, allocation.

To address the water shortage risk that may occur during an extended drought, the Casitas Board established in the Casitas Urban Water Management Plan of 1995 a series of five storage levels of Lake Casitas at which the Board could take actions to restrict the annual water extractions from Lake Casitas. The safe yield trend and the five stages of restrictive actions are illustrated in Figure 3.

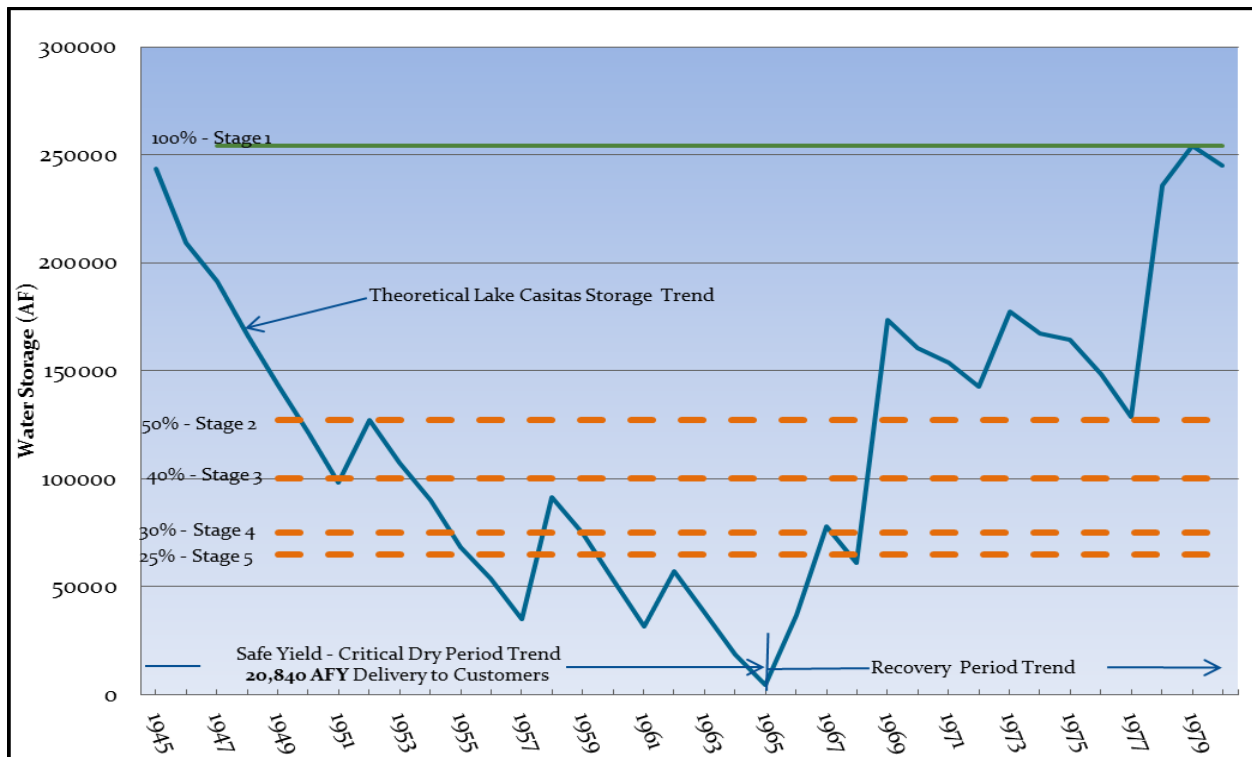


Figure 3 – Lake Casitas Safe Yield Storage Trend and Stages for Demand Reduction

4.2 Water Allocation Principles.

Each and every water service provided by Casitas is metered and a basic water use allocation is established for each customer account that provides a reasonable amount of water for the customer’s needs and property characteristics (WC § 372). The following principles are to be followed for the Casitas water allocations:

- 1) Each Casitas water service shall be assigned either a monthly water allocation in the terms of Units or an annual water allocation in terms of Units and Acre-feet.
- 2) Allocation shall not mean an entitlement or imply water rights in favor of the customer.

- 3) The assignment of allocations shall be based on reasonable and necessary water use, the application of water conservation practices and standards, and other relevant factors associated with water use during Stage 1 conditions at Lake Casitas.
- 4) The Casitas Board of Directors reserve the right to make individual allocation assignments and to change water allocations at any time within each classification based on the changes to the availability of water stored in Lake Casitas, changes in water use that appears to compromise the reliability of the Lake Casitas water supply, and changes in water conservation practices and standards.
- 5) Water allocations provided by Casitas are assigned to property or water purveyors and are not transferrable from one property or water purveyor to another.
- 6) Casitas' water allocations shall not be sold, exported, bartered or traded by or between Casitas' customers.
- 7) Casitas water allocated shall not be transported from the property or by any agency served to any other property or agency without prior written agreement with Casitas.

4.3 Allocation Assignments to Water Service Classifications.

Casitas has established the definitions of water customer classifications as provided by the Casitas Rates and Regulations for Water Service and has made specific allocation assignments to each and every water account by either (1) written agreement, or (2) the application of historical water use data, or (3) the application of documented water use standards. Where deemed necessary by Casitas, Casitas may perform site specific water use audits and survey to determine the appropriate level of allocation to be assigned to any one service connection or customer. Water allocations may change by action of the Casitas Board of Directors based on the Lake Casitas storage level or trend, water use trends, and the performance by customer classification in meeting water consumption reduction goals.

The following subsections describe the method used to assign the water allocation for each classification of water service at **Stage 1** condition:

Business

- 1) Water allocation shall be specified as an **annual** allocation based on a fiscal year (July 1st to June 30th).
- 2) Allocation assigned by recorded agreement; or
- 3) Where not defined by recorded agreement, the lesser of the historical water consumption recorded for either the 80% of the 1989-90 water use or the Fiscal Year 2012-13 water use.

Fire

There is no water allocation for the Fire classification. This water use is for emergency only, and not a part of a continuing annual water use.

Industrial

- 1) Water allocation shall be specified as an **annual** allocation based on a fiscal year (July 1st to June 30th).
- 2) Allocation assigned by recorded agreement; or
- 3) Where not defined by recorded agreement, the lesser of historical water consumption recorded for either the 80% of the 1989-90 water use or the Fiscal Year 2012-13 water use.

Interdepartmental

- 1) Water allocation shall be specified as an annual allocation based on a fiscal year (July 1st to June 30th).
- 2) The **annual** allocations for individual Interdepartmental classification services shall be based on the Fiscal Year 2012-13 water use.

Irrigation (Commercial Agriculture)

- 1) Water allocation shall be specified as an **annual** allocation based on a fiscal year (July 1st to June 30th).
- 2) Qualifying acreage for each Irrigation account shall be limited to acreage that can be identified as under irrigation prior to March 1, 1992. There will be no allocation for irrigation acreage that has been expanded after March 1, 1992, except as otherwise approved in written and recorded agreement between Casitas and the property owner. Casitas' records and mapping will be the standard for the identification of lands in irrigation prior to March 1, 1992.
- 3) Allocation assignments to lands served by multiple meter services shall consider the proportion of the allocation that each meter is intended to serve. The aggregation of meter readings and allocations from multiple meters shall not be allowed except under the terms and conditions of an approved addendum to the Application for Water Service to provide an aggregation variance. The customer may apply for the aggregation of allocations and water volume for accounts serving contiguous parcels under a single ownership, subject to the conditions of the Casitas addendum to the Application for Water Service. The aggregation variance must be approved and on file for the current year during which the variance is applicable. The issuance of the aggregation variance is subject to the discretion of the General Manager.
- 4) The Stage 1 water allocation assigned to each Irrigation water account is the greater volume of either (1) the water use recorded at each meter service during fiscal year 2012-13 or (2) eighty (80) percent of recorded water volume metered to the account in fiscal year 1989-90, neither of which shall exceed a water volume of 3 acre-feet per acre applied to the qualifying acreage.
- 5) The residential water use for Agricultural/Domestic classification that is directly associated with the Irrigation shall be considered as Irrigation for purpose of allocation assignments and meeting the demand reduction requirements for Irrigation.

Multi-Family Residential

- 1) Stage 1 water allocations are assigned to each existing Multi-Family Residential account by either a recorded agreement or based on the standards set in 1992 by Casitas.
- 2) The Multi-Family Residential water allocation for each account shall be distributed by either a monthly or bi-monthly scheduling of the allocation.
- 3) A part of the Multi-Family Residential allocation is provided for health and sanitation and shall be set at **84 units per year per dwelling**, distributed evenly each month as 7 units per month for each dwelling.
- 4) The essential water use portion of the allocation is not subject to adjustment by the Staged Demand Reduction Program, unless otherwise deemed by the Board to be a necessity during extreme water supply conditions or during emergencies.
- 5) The part of the Multi-Family Residential allocation that is in excess of the essential allocation shall be specified as a monthly allocation and distributed proportionally to reflect varying seasonal water use, as follows:

Month	July	August	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
% of Total Annual Allocation	.12	.11	.11	.11	.08	.08	.04	.06	.05	.05	.09	.10

The part of the Multi-Family Residential allocation that is in excess of the essential allocation is subject to adjustment by the Staged Demand Reduction Program.

- 6) Where not previously assigned a residential allocation, a residential allocation shall be based on the following:
 - a. The essential health and sanitation portion of the residential allocation shall be set at **84 units per year per year per dwelling**, and be constant for each month of the year;
 - b. Non-essential portion of the annual residential allocation shall be based on a maximum limit of 1.99 acres (86,684 square feet) of irrigated landscape area and set as follows:
 - i. For the first 5,000 square feet of landscape area, 15 gallons per square foot;
 - ii. For the next 10,000 square feet of landscape area, 10 gallons per square foot
 - iii. For the next increment up to 71,684 square feet of landscape area, 3 gallons per square foot;

Other

- 1) Water allocation shall be specified as an **annual** allocation based on a fiscal year (July 1st to June 30th).
- 2) Allocation assigned by recorded agreement; or
- 3) Where not defined by recorded agreement, the lesser of historical water consumption of either the 80% of the 1989-90 water use or the Fiscal Year 2012-13 water use.

Resale

- 1) Water allocation shall be specified as an **annual** allocation based on a fiscal year (July 1st to June 30th).
- 2) The Stage 1 allocation for each individual Resale customer shall be mutually agreed to by each water agency and Casitas, be incorporated into a memorandum of understanding (MOU), and assigned to provide water to supplement the Resale agency's primary source of water supply. An annual adjustment to the allocation assignment may be a condition of the MOU.
- 3) An objective of a MOU is to achieve parity between the Resale agency customers and Casitas customers in applying similar overall water use restrictions and financial penalties in each Stage.
- 4) The Resale agency shall determine the reliability of its water sources and ensure that the annual water requirements from Casitas do not exceed their annual water allocation from Casitas.
- 5) The allocation assignment from Casitas shall not be used by the Resale agency for growth within the Resale service area, unless additional allocation for growth is authorized by written agreement with Casitas.
- 6) The Resale agency shall implement water conservation measures in accordance with the State's or California Urban Water Conservation Council's Best Management Practices, responsibly maintain water system metering and pipeline systems to reduce water losses, and when necessary or when asked to do so, implement water demand reduction measures similar to or more restrictive than those imposed by Casitas to assure the continued availability of water for health and safety purposes.

Residential

- 1) Stage 1 water allocations are assigned to each existing Residential account by either a recorded agreement or based on the standards set in 1992 by Casitas.

- 2) The Residential water allocation for each account shall be distributed by either a monthly or bi-monthly scheduling of the allocation.
- 3) A part of the Residential Allocation is provided for health and sanitation and shall be set at **120 units per year**, distributed evenly each month as 10 units per month for each dwelling.
- 4) The essential water use portion of the allocation is not subject to adjustment by the Staged Demand Reduction Program, unless otherwise deemed by the Board to be a necessity during extreme water supply conditions or during emergencies.
- 5) The part of the Residential Allocation that is in excess of the essential allocation shall be specified as a monthly allocation and distributed proportionally to reflect varying seasonal water use, as follows:

Month	July	August	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
% of Total Annual Allocation	.12	.11	.11	.11	.08	.08	.04	.06	.05	.05	.09	.10

The part of the Residential Allocation that is in excess of the essential allocation is subject to adjustment by the Staged Demand Reduction Program.

- 6) Where not previously assigned a residential allocation, a residential allocation shall be based on the following:
 - a. The essential health and sanitation portion of the residential allocation shall be set at **120 units per year**, and be constant for each month of the year;
 - b. Non-essential portion of the annual residential allocation shall be based on actual irrigated landscape area of the parcel with a maximum limit to 1.99 acres (86,684 square feet) of irrigated landscape area and set as follows:
 - i. For the first 5,000 square feet of irrigated landscape area, 15 gallons per square foot;
 - ii. For the next 10,000 square feet of irrigated landscape area, 10 gallons per square foot
 - iii. For the next increment up to 71,684 square feet of irrigated landscape area, 3 gallons per square foot;

Temporary

- 1) There is no water allocation assigned for the Temporary classification. Temporary water service is not property related on a permanent basis.
- 2) Temporary water use is limited for a short-term of six months or less, for such purposes as construction projects, or short-term water supply emergencies, or temporary backup water to non-metered agricultural parcels.
- 3) Temporary meters that are issued to serve supplemental commercial irrigation shall be temporarily allocated water based on the allocation assignment provided at the time of the application for the Temporary service based on the same water use standards as provided for the Irrigation classification, and reduced by Stage conditions,. The allocation does not extend beyond the period of the temporary water service application of six (6) months, unless the Casitas Board of Directors approves a limited continuance of the temporary service.

4.4 Allocation Adjustments.

A Casitas customer may request the reconsideration of their initial assigned Stage 1 water allocation within 60 days of the adoption of the WEAP where the request does not include a consideration for either an expansion in the area of use or new construction. The customer shall submit a water allocation adjustment application in order to have their request considered by the General Manager of

the District. The information contained on the application may be subject to an audit and, if necessary, additional documentation may be required in order to substantiate the requested adjustment.

Adjustments to water allocations that have been assigned through a recorded Water Service Agreement between the property owner, or prior property owner, and Casitas must proceed through an amendatory agreement, will be subject to the capital facility charges for the amount of water provided as the allocation adjustment, and subject to the availability of water allocations.

Adjustments to water allocations will not be granted in amounts that exceed 80 percent of the FY 1989-90 metered usage of water by the meter service account without prior Board approval.

4.5 Standards for a Water Allocation Adjustment.

Water allocation adjustments may be considered by Casitas during initiation of the WEAP that appropriately assigns a Stage 1 allocation, to ensure that the needs of the water customer are reasonably balanced against the purpose of this Plan.

Water allocations may be considered for adjustment for:

- a. Correction of irrigable area square footage;
- b. Correction of number of dwelling units (Multi-family accounts only);
- c. Exemption granted for a licensed in-home childcare or elderly care facility;

Water allocations will not be adjusted to accommodate:

- a. Pools, ponds, spas, or hot tubs;
- b. In-home businesses or hobbies that use an increased amount of water;
- c. Gardens and orchards;
- d. Homeowner's Association requirements for turf areas in excess of that water allocation specified by Casitas for a Residential classification;
- e. Where an allocation has been assigned through a recorded agreement.

Agricultural Irrigation Allocation Adjustment Standards:

- a. Limited to acreage planted in commercial agricultural production prior to March 1, 1992. Casitas shall also consider the assignment of an appropriate allocation to lands that are verified as being in a crop rotation status, or temporarily in a fallowed state, having been in a planted status prior to March 1, 1992.
- b. Comparative (same crop type and average use of various parcels) crop usage in FY2012-13 for full irrigation, not to exceed 3 AF/AC/YR, which is located within a 1-mile circumference of the parcel seeking the appeal for a change in water allocation.

4.6 Appeals Process.

Customers that are denied an adjustment of water allocation may request a review of the request by submitting a written appeal to the Casitas Water Resources Manager stating the nature of the appeal. The appeal shall be reviewed by the Casitas Water Resources Manager and a recommendation shall be reported to the General Manager. The decision of the General Manager shall be reported to the customer in written form. If the customer is not satisfied with the General Manager's decision, the customer must request within 10 days that the appeal be placed on the agenda of the Casitas Board of Directors. The determination by the Board of Directors shall be final.

4.7 Availability of Allocations.

The determination of supplies being available for issuance of new allocations of water shall be made upon staff recommendation at a regular Board of Directors meeting. The determination that water is or is not available shall be within the determination of the Board of Directors. The determination that a supply is available shall be based upon more detailed information about existing supplies, the availability of new supplies, new water supply projects, or contracts or proposed contracts for additional supplies where, in the opinion of the Board of Directors, the supply of water is definite enough to provide the assurance to the County of Ventura that there is a forty year supply.

4.8 Allocation for New or Expanded Water Uses.

A customer may request a change to a water allocation assignment for the purposes of obtaining new or expanded use of water that is associated with a new building permit, new or existing conditional use permit, or agricultural irrigation acreage expansion. The approval of an addition or change to the water allocation for new and/or expanded water allocation is subject to Casitas' discretion on the limits of available water allocation and subject to the charges for new and/or expanded water allocation.

When the Board of Directors determine that additional new water supplies are available, either from the safe yield of the existing CMWD project supply or additional new supplies, supplies shall be allocated in accordance with the following criteria:

- a) No single property owner or applicant for the given type of service (municipal, industrial or agricultural) shall receive a new water allocation greater than 10 percent of the total new available supply or the minimum standard residential allocation, whichever is greater. If the applicant's allocation requirements are not fully met, the applicant may maintain a position of priority until more water is available.
- b) All applicants seeking an allocation shall provide Casitas with a detailed description of the project, the use of water for which the water is sought, and information on peak flow and annual water requirements. Casitas shall determine meter size and amount of allocation based upon reasonable and necessary needs and Casitas' Rates and Regulations.
- c) The amount of water to be allocated shall be at Casitas' sole discretion. The assignment of an allocation shall be limited to the availability of water from the Lake Casitas safe yield, and be based on current water demand factors as adopted by the District and as amended. The amount of water required for the project may be calculated and submitted for the consideration of Casitas by a civil engineer, registered in the State of California, representing the project proponent.

SECTION 5: STAGED DEMAND REDUCTION IMPLEMENTATION

5.1 Staged Demand Reduction Principles.

The primary source of water that is available to the Casitas Municipal Water District is the amount of water stored behind Casitas Dam, forming Lake Casitas. The quantity of water stored in Lake Casitas is dependent upon the local hydrology, watershed conditions, diversions from the Ventura River, and the outflow from lake evaporation and water deliveries to beneficial uses. There may be times during which Casitas must consider implementing staged water demand reductions to ensure a sustainable water supply and prevent a complete depletion of water supply in Lake Casitas.

The District has assigned five stages of water storage in Lake Casitas that serve as a guidance to triggering the implementation of water use reduction goals and measures. The overarching goals of the Staged Demand Reduction Program are:

- 1) conserving the water supply for the greatest priority and public benefit; and
- 2) mitigating the effects of a water shortage on public health, safety, and economic activity.

5.2 Water Resource Conditions and Actions.

The General Manager shall report to the Board of Directors each year (*April*) with an assessment of the current water storage in Lake Casitas and local groundwater basins, current water use trends, predicted weather conditions, and an evaluation of current water use reduction goals. The time of the reporting can be each April, as the rainfall season is ending and water resources can be evaluated at the maximum for the year, or as Lake Casitas storage reaches a change in Stage action level. The Board of Directors may, at their sole discretion, declare that a Stage condition of water supply in Lake Casitas exists and implement the appropriate demand reduction goals and measures in response to current and/or predicted water availability conditions. Casitas shall make such determinations public and follow with appropriate and timely notification of all customers. Casitas has established the implementation of various Stages of action based on the amount of water in storage in Lake Casitas, as shown in Table 3. An action to declare and implement a Stage may be by either an action by Casitas Board of Directors based on unanticipated changing lake supply conditions or by the following schedule in Table 4.

Table 3 – Stage Conditions

Stage	Stage Title	Lake Casitas Storage - %	Lake Casitas Storage Action Level (acre-feet)
1	Water Conservation	100% - 50%	237,761 to 118,880
2	Water Shortage Warning	50% - 40%	118,880 to 95,104
3	Water Shortage Eminent	40% - 30%	95,104 to 71,328
4	Severe Water Shortage	30% - 25%	71,328 to 59,440
5	Critical Water Shortage	25% - 0%	59,440 to 3,000

Table 4 - Stage Action Schedule

<u>Target Dates</u>	<u>Action</u>
June - April	Monitor water demands, rainfall, reservoir level trend, groundwater trends, and diversion and runoff amounts.
Early April	Staff presents water status report and a recommendation to the Casitas Board of Directors. Publish a notice of a public hearing if changes are recommended.
Late April	Casitas Board of Directors formally declares a Stage, and/or water shortage emergency, adopts recommendations for demand reduction actions.
May	Customer Notification of change in Stage, allocation, and conservation surcharge.
June	Stage demand reduction actions are effective and are implemented.

5.3 Demand Reduction Goals and Measures.

The demand reduction goals and measures begin with Stage 1, where reasonable and appropriate water allocation assignments are made to each Casitas service connection and the end water users are

Demand Reduction Stage	1	2	3	4	5
Volume Range of Lake Casitas	254,000 to 127,000	127,000 to 100,000	100,000 to 75,000	75,000 to 65,000	65,000 to 3,000
% Lake Storage	100% - 50%	50% - 40%	40% - 30%	30% - 25%	25% - 0%
Water Use Reduction Response Goal	20%	20%	30%	40%	50%
Residential & Multi-Family Residential Essential Use Non-essential Use	0% 20%	0% 20%	0% 30%	0% 40%	0% 50%
Business	20%	20%	30%	40%	50%
Industrial	20%	20%	30%	40%	50%
Other	20%	20%	30%	40%	50%
Resale	20%	20%	30%	40%	50%
Irrigation	20%	20%	30%	40%	50%
Interdepartmental	20%	20%	30%	40%	50%

implementing the Best Management Practices that conform to State requirements for water conservation and water use efficiency measures. Upon determination of a Stage 2 condition and continuing through Stage 5 conditions, the primary actions to achieve the demand reduction goal is the adjustment of allocations that were made available for each classification during Stage 1 by a reduction of the allocation during the duration of the declared Stage condition.

5.4 Stage Adjustments to Allocations.

The five stages of storage in Lake Casitas and the initial guideline for water allocation adjustments for each classification at each Stage are presented in Table 5. Upon recommendation of the General Manager and approval of the Board of Directors at the onset of a specific Stage, the District shall apply appropriate demand reduction factors to the allocations for each customer classification, as deemed necessary. The Board of Directors retain the sole discretion to make allocation changes as a result of declaring a change in Stage, or during any Stage, that are more or less severe than that provided in Table 5. Examples of applying this discretion may include, but not be limited to, the change in any water resource conditions or the demand reduction goals are not being attained by the customer classification.

Table 5 – Staged Water Demand Reductions for Water Classifications

Note: Initial Stage 1 Allocations include a 20% reduction from the 1989-90 demands.

Essential Use Allocations will remain the same and not adjusted, except as otherwise determined by the Board to be a necessity to preserve water supply during extreme conditions. The measures to

achieve the demand reduction goal may be selected from a menu of options as provided in Table 6, or should water supply conditions become worse than anticipated the Casitas Board may adopt more stringent requirements as deemed necessary.

5.5 Customer Notification.

The customers of each and every classification shall be notified in a timely and appropriate manner of any and all actions to declare and implement Demand Reduction Stage. The methods of communication to the customer shall be through direct mailings, public meetings, and billing information that provides the customer the comparison of water use with allocation.

5.6 Water Rates and Conservation Penalty.

- a. The Casitas Board of Directors shall annually consider the setting or adjustment of water rates that reflect the cost of water service, consistent with State law.
 1. Casitas has implemented a tiered inclining rate structure for the Residential and Multi-family Residential classifications that represents the proportional cost of service that is attributable to the parcel that is served water.
- b. The Casitas Board of Directors shall annually set the Conservation Penalty for each classification that will be applied to each individual customer billing for each unit of water that is in excess of the customer's allocation, or the adjusted allocation pursuant to a change in Stage. The Conservation Penalty is imposed to curtail the potential for adverse effects of excessive water consumption.
- c. Upon determination of a change in the Demand Reduction Stage, or at such time the Board deems that the customer response does not appear to attain the desired demand reduction goals, the Board may consider the modification of the Conservation Penalty.
- d. Revenues recovered from the Conservation Penalty will supplement Casitas' water conservation costs, provide revenue for water shortage related projects, and cover costs associated with implementing changes to the WEAP as directed by the Board.

5.7 Appeals for Exception to Staged Adjustments of Allocation or Conservation Penalty Assessment.

- a. A Casitas customer may file an appeal for:
 1. An Exception to Staged Adjustment of Allocation, as provided in Section 5.4 above; or
 2. The assessment of a Conservation Penalty, as provided in Section 5.6 aboveby submitting a written appeal, on a form provided by Casitas, directly to the General Manager or his/her designee.
- b. The following paragraphs provide the criteria or reasons for an appeal for an Exception to Staged Adjustments of Allocation and an appeal for an Exception to Staged Adjustments of Allocation may be granted for one or more of the following reasons:

1. The staged adjustment would cause a condition affecting the health, sanitation, fire protection, or safety of the customer or the public;
 2. Strict application of the water allocation adjustment provisions imposes a severe or undue hardship on a particular business, or renders it infeasible for a business or class of business to remain in operation;
 3. The customer is a hospital or health care facility using industry best management practices;
 4. The business has already implemented environmental sustainability measures and water conservation measures reducing water consumption to the maximum extent possible.
- c. The customer must support their reason for an appeal for an Exception to Staged Adjustments of Allocation with supporting documentation or substantial evidence demonstrating the need for an exception. A failure to provide supporting documentation or evidence shall result in a denial of the appeal.
- d. The appeal for an Exception to Staged Adjustments of Allocation will be first reviewed, approved or denied, by the General Manager or his/her designee. The decision of the General Manager or his/her designee shall be reported to the customer/appellant in written form. If the customer is not satisfied with the General Manager or his/her designee's decision, the customer/appellant must request, within 10 days of the date of the General Manager or his/her designee's decision, that the appeal be placed on the agenda of the Casitas Board of Directors for their review and determination based on the criteria set forth in Section 5.7(b)(1)-(4). The determination by the Casitas Board of Directors shall be final.
- e. The following paragraphs provide the criteria and process for an appeal from a Conservation Penalty:
1. An appeal for relief of a Conservation Penalty may only be considered when a natural disaster such as a wildfire, earthquake, flood or landslide or other naturally occurring phenomenon which directly causes a leakage or leakage event.
 2. The customer must file their appeal to the Casitas Municipal Water District Board of Directors' Appeals Panel.¹ A request for review and an evidentiary hearing must be made in writing and submitted to the District within thirty (30) days of date the Casitas bill with the Conservation Penalty was issued by the District. Upon receipt by the District, a review and evidentiary hearing will be placed on the next agenda of the Appeals Panel.
 3. The appeal of a Conservation Penalty must explain why the leakage or leakage event was caused by a naturally occurring event such as wildfire, earthquake, flood or landslide.
 4. The customer/appellant must support their reason for an appeal from a Conservation Penalty with supporting documentation or substantial evidence demonstrating the circumstances for the appeal. A failure to provide supporting documentation or evidence shall result in a denial of the appeal.

¹ The Appeals Panel is a Board-appointed committee composed of three (3) Board members who are authorized to conduct evidentiary hearings, make findings and render decisions in accordance with this section of the Water Efficiency and Allocation Program. This is in accordance with California Water Code Sections 71300, 71301 and 71305.

5. The General Manager or his/her designee will review the appeal and the documentation or evidence provided by the customer supporting the appeal. The General Manager or his/her designee may request additional information from the customer. Following a review of the appeal, the General Manager shall make a recommendation to the Appeals Panel. A copy of the General Manager's recommendation will be provided to the customer/appellant.
6. If a review and evidentiary appeal hearing is properly requested before the Appeals Panel, the customer/appellant shall have an opportunity to state their case and present evidence supporting their appeal. Following the customer's presentation of the grounds for appeal, the Appeals Panel shall review the General Manager's recommendation on the conservation penalty appeal and determine whether to grant the appeal in full, apportion the penalty, or deny the appeal based on the following:
 - A. The documentation and/or evidence provided by the customer in their initial written appeal;
 - B. The basis of the General Manager's recommendation as provided in the General Manager's written explanation of the grounds for the recommendation; and
 - C. Any additional circumstances the Appeals Panel determines to be relevant during the evidentiary hearing.
7. In order to approve an appeal of a Conservation Penalty, the Appeals Panel must make the following findings:
 - A. The customer provided documentation or substantial evidence that the Conservation Penalty could not be avoided by circumstances within the customer's reasonable control;
 - B. The General Manager's written recommendation is valid or invalid in light of the customer's documentation or evidence provided; and
 - C. The reason for the appeal is not to accommodate for leakage or a leakage event within the control of the customer.
8. If the appeal for a Conservation Penalty is approved by the Appeals Panel, the Appeal Panel shall determine if the Conservation Penalty is denied in whole or in part.
9. Following the review and the evidentiary hearing, the Appeals Panel shall provide a written determination with findings to the customer within thirty (30) days of the hearing either approving, denying or apportioning the appeal. The Appeals Panel's determination is final and binding on the customer.

SECTION 6: EXPORT OF CASITAS WATER

Water Code Section 71611 authorizes Casitas to sell water under its control for use only within the jurisdictional boundaries of the Casitas Municipal Water District. The unauthorized export and use of Casitas water beyond the Casitas district boundaries can have significant negative impacts on the Casitas water supply reliability, and therefore shall be prohibited unless specifically authorized in writing by the Casitas Board of Directors. All customers receiving Casitas water into water

conveyance systems which cross Casitas boundaries shall meet the following requirements as a condition of service:

- 1) Customers shall submit to Casitas a certified report on the last day of each month that demonstrates that no Casitas water was transported or used outside Casitas boundaries during the prior month without written approval by Casitas.
- 2) Customer shall install and maintain approved metering devices and shall be required to account for all Casitas water delivered in the customer's system.
- 3) In the event Casitas water is exported during any month, the customer shall be billed for exported water at five (5) times the Casitas rate for the Temporary Service classification.
- 4) In the event the customer fails to comply with the conditions of service stated in the above (1) and/or (2), all water purchased in excess of the allocation shall be considered exported water and shall be billed in accordance with the foregoing.
- 5) This Section, Export of Casitas Water, is in effect at all times.
- 6) The exceptions to the export are during a declaration by the Board of Directors of surplus water, and limited to the surplus water or exchange agreement between the Board of Directors and other party.

Continuing or reoccurring violations of this section by any Casitas customer may result in the restriction or disconnection of water service to the customer.

Table 6 – Stage Actions and Water Demand Reduction Measures

Water Shortage Condition	Key Casitas Communications and Actions	Customer Demand Reduction Measures	Penalties And Rates
<p>Stage 1</p> <p>Supply Range 100% - 50%</p> <p>Voluntary Demand Reduction To Stage 1 Allocation</p>	<ul style="list-style-type: none"> • Initiate public information and advertising campaign. • Publicize ways to reduce water consumption. • Coordinate conservation actions with other water purveyors and cities. • Perform water audits and promote water efficient use/conversions. • Conduct water workshops. • Temporary staffing for public inquiries, as needed. 	<ul style="list-style-type: none"> • Water conservation practices requested of all customer classifications. • Adhere to Water Waste Prohibition Ordinance and State of California laws and regulations regarding water waste • Adhere to assigned water allocation or less. 	<ul style="list-style-type: none"> • Consider and implement Conservation Penalty for water use in excess of allocation. • Consider rates for revenue stabilization and cost of service.
<p>Stage 2</p> <p>Supply Range 50% - 40%</p> <p>Mandatory Demand Reduction to Stage 1 Allocation</p>	<ul style="list-style-type: none"> • Declare Stage 2 • Implement demand reductions for each customer classification. • Intensify public information campaign. • Optimize existing water resources. • Intensify leak detection. • Develop appeals staffing. • Consult with major customers to develop conservation plans and water use audits. 	<ul style="list-style-type: none"> • Continue all Stage 1 measures. • Landscape watering advised to two (2) watering days per week. • Require water audits for large water users; implement recommendations of the water audits. • Businesses display “save water” signage. • Increase public information. 	<ul style="list-style-type: none"> • Consider and implement Conservation Penalty for water use in excess of allocation – response to reduced allocation. • Consider rates for revenue stabilization and cost of service.
<p>Stage 3</p> <p>Supply Range 40% - 30%</p> <p>Demand Reduction From Stage 1 Allocation 10%</p>	<ul style="list-style-type: none"> • Declare Stage 3 • Implement demand reductions for each customer classification. • Expand and intensify public information campaign. • Provide regular briefings, publish monthly consumption report. • Hire additional temporary staff in customer service and conservation. Water waste enforcement. 	<ul style="list-style-type: none"> • Continue with Stage 1 and 2 measures. • Reduced water allocations. • Landscape watering advised to one (1) watering day per week. 	<ul style="list-style-type: none"> • Consider and implement Conservation Penalty for water use in excess of allocation – response to reduced allocation. • Consider rates for revenue stabilization and cost of service.
<p>Stage 4</p> <p>Supply Range 30% - 25%</p> <p>Demand Reduction From Stage 1 Allocation 20%</p>	<ul style="list-style-type: none"> • Declare Stage 4 • Implement demand reductions for each customer classification. • Continue to provide regular media briefings. • Open drought information center. 	<ul style="list-style-type: none"> • Continue with Stage 1 through 3 measures. • Reduced water allocations. • Landscape watering advised to one (1) watering day per week. • Consider prohibition of filling swimming pools and fountains. 	<ul style="list-style-type: none"> • Consider and implement Conservation Penalty for water use in excess of allocation – response to reduced allocation. • Consider rates for revenue stabilization and cost of service.
<p>Stage 5</p> <p>Supply Range 25% - 0%</p> <p>Demand Reduction From Stage 1 Allocation 30%</p>	<ul style="list-style-type: none"> • Declare Stage 5 • Implement demand reductions for each customer classification. • Minimize outdoor water use and non-essential uses. • Implement aggressive public outreach and education program. • Implement crisis communications plan. • Coordinate with State and local agencies to address enforcement challenges. • Water Shortage Emergency declaration to be considered. • Consider further Staged reductions and other future Board actions 	<ul style="list-style-type: none"> • Continue with Stage 1 through 4 measures. • Reduced water allocations. • Rescind Temporary meters issued. 	<ul style="list-style-type: none"> • Consider and implement Conservation Penalty for water use in excess of allocation – response to reduced allocation. • Consider rates for revenue stabilization and cost of service.

CASITAS MUNICIPAL WATER DISTRICT

ORDINANCE NO. 15-02

AN ORDINANCE OF THE CASITAS MUNICIPAL WATER DISTRICT ESTABLISHING WATER WASTE PROHIBITIONS

THIS ORDINANCE is adopted in light of the following facts and circumstances, which are hereby found and declared by the Casitas Municipal Water District (Casitas) Board of Directors:

WHEREAS, Article X, Section 2 of the California Constitution and Section 100 of the California Water Code declare that the general welfare requires water resources be put to beneficial use, therefore, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

WHEREAS, the adoption and enforcement of this Ordinance is necessary to help manage Casitas' potable water supply and to avoid or minimize the effects of drought within the Casitas service area.

WHEREAS, Casitas has the power to perform all acts necessary to fully carry out the provisions of this Ordinance consistent with Section 71640 and Sections 10608 through 10656 of the California Water Code.

WHEREAS, this Ordinance rescinds and replaces Casitas Municipal Water District Resolution No. 08-09, Resolution Approving a Water Waste Prohibition Regulation.

BE IT ORDAINED by the Board of Directors of the Casitas Municipal Water District as follows:

1. TITLE.

This Ordinance shall be known as the Water Waste Prohibition Ordinance.

2. APPLICABILITY.

The provisions of this Ordinance shall apply to all persons, corporations, public or private entities, governmental agencies or institutions, or any other direct water customers of the Casitas Municipal Water District. The water customers of other water purveyors shall be governed by the prohibitions that are adopted by the other water purveyors.

3. PROHIBITED USES.

A. The following uses of water are permanently prohibited and are in effect year round:

- a. **General Waste:** Indiscriminate running of water or washing with water which is wasteful and without reason or purpose.
- b. **Washing of Exterior Surfaces:** The washing of hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, except when necessary to alleviate safety or sanitary hazards or when

broom or other waterless device will not suffice. If necessary, washing may only be done with a bucket or similar container, a hose equipped with a positive shut-off nozzle, a pressure washer, a low-volume high pressure water efficient water broom, or a cleaning machine equipped to recycle the water used.

- c. **Cleaning of Structures and Vehicles:** The washing of building exteriors, mobile homes, cars, boats or recreational vehicles without the use of a positive shut-off nozzle on either the hose or pressure washer.
- d. **Watering/Irrigation Runoff Control:** The watering of grass, lawn, groundcover, shrubbery, open ground, crops and trees, including agricultural irrigation, in a manner or to an extent which allows water to run off the area being watered. Every water user is deemed to have under their control, at all times, their water distribution lines and facilities, and to know the manner and extent of their water use and run off.
- e. **Limits on Watering Hours:** The watering or irrigating of outdoor ornamental landscapes and turf areas between the hours of 10:00 a.m. and 6:00 p.m. Pacific Standard Time on any day. (Does not apply to irrigation systems that use drip-irrigation and weather-based controllers or stream rotor sprinklers that meet a 70% efficiency standard. Exceptions may be authorized by the General Manager where there is no ability to not water between 10:00 a.m. to 6:00 p.m.).
- f. **Watering During Rainfall:** The watering of grass, lawn, groundcover, shrubbery, open ground, crops and trees, including agricultural irrigation, at any time while it is raining.
- g. **Drought Restrictions:** Watering/irrigating during publicly declared curtailment period in a manner that is not compliant with drought restrictions.
- h. **Plumbing Leaks:** The escape of water through leaks, breaks, or malfunctions within the water user's plumbing or distribution system, for a substantial period of time within which such break or leak should reasonably have been discovered and corrected.
- i. **Fountains and Decorative Water Features:** The operation of any ornamental fountain using water from the District's domestic water system unless water for such use is re-circulated.
- j. **Cooling:** The use of water in mechanical equipment purchased and installed after the adoption of this Ordinance that utilizes a single pass cooling system. Water used for all cooling purposes shall be re-circulated.
- k. **Drinking Water Served Upon Request Only:** Eating and drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, clubs or other public places where food or drinks are sold or served, are prohibited from providing drinking water to customers unless expressly requested. Affected establishments must prominently display notice informing their customers of this requirement using clear and easily understood language.
- l. **Restaurant Non-water Conserving Dish Wash Spray Valves:** Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.
- m. **Providing Option to Not Launder Linen and Towels Daily:** Hotels, motels, vacation rentals and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

- n. **Commercial Car Wash Systems:** Installation of non-recirculating water systems is prohibited in new or renovations of commercial conveyor car washes systems.
- o. **Turf Irrigation Restrictions:** Irrigating turf or ornamental landscapes during and 48 hours following measurable precipitation.

4. EXEMPTED WATER USES.

- A. All water use associated with the operation and maintenance of fire suppression equipment or employed by the District for water quality flushing and sanitation purposes shall be exempt from the provisions of this Ordinance.
- B. Use of water supplied by gray water or rainwater collection system is also exempt; however, use of water from these systems is not exempt from the applicable regulations of the State and local jurisdictions governing the use of such water.
- C. Supervised testing, adjusting, or repairing of irrigation systems is allowed any time for no more than five (5) minutes per station.

5. VIOLATIONS AND PENALTIES.

- A. Any person, who uses, causes to be used, or permits the use of water in violation of this Ordinance is guilty of an offense punishable as provided herein.
- B. **Enforcement of Violation.** Complaints of water waste will be investigated and enforced by the District in the form of a notice of violation. The following officers and employees of the Casitas Municipal Water district are hereby designated and authorized to issue citations for enforcement of this Ordinance:
 - Operations and Maintenance Manager
 - Public Affairs/Resource Manager
 - Water Conservation Coordinator
 - Utility Workers
 - Water employees designated by the General Manager
- C. **Notice of Violation.** The notice to the District water customer of a violation of this Ordinance will be issued by either a telephone call, mail, hand-delivery, or posting at the entrance of the violator's premises. The District will issue a written notice that state the time, place, and general description of the violation or repeat of violation, as well as a time frame in which the violation must be corrected. District staff may use discretion when determining the correction time.
- D. **Consequence of Violation.** Administrative fines and water service actions may be levied and applied for each violation of a provision of this Ordinance as follows:
 - 1. **Penalties:** Penalties for failure to comply with any provision of the ordinance are as follows:
 - a. **First Violation:** The District will issue a written notice to the water customer and attach a copy of this Ordinance.
 - b. **Second Violation:** If the first violation is not corrected within the time frame specified by the District, or if a second violation occurs within the following twelve (12) months after the first violation notice, a second notice of violation will be issued and an administrative fine of one hundred dollars (\$100.00) shall be levied for the second violation of this Ordinance.

- c. **Third Violation:** A third violation within the following twelve (12) months after the date of issuance of the second notice of violation is punishable by an administrative fine of two hundred fifty dollars (\$250.00).
 - d. **Fourth and Subsequent Violations:** Each day that a violation of this Ordinance occurs beyond the remedy allowance provided in the third notice of violation is a separate offense, subject to any or all of the following penalties:
 1. Water service may be turned off or flow may be restricted. Where water service is turned off or flow restricted, it shall be turned on or unrestricted upon correction of the violation and the payment of the reestablishment charges, staff time, and District material purchases per the District's Rates and Regulations for Water Service in effect at the time.
 2. A fine of not more than \$600 or imprisonment in the county jail for not more than 30 days, or both the fine and imprisonment, may be imposed upon conviction under Section 71644 of the California Water Code, or fines/ penalties as defined and allowable under Section 53069.4 of the Government Code may be imposed.
 - e. **Payment of Administrative Fines:** The water customer is responsible for the full payment of administrative fines. Each administrative fine shall be applied in the customer's regular water billing. Payment of the administrative fine will be the final responsibility of the individual named on the water account. Non-payment of fines will be subject to the same remedies as non-payment of basic water rates, in accordance with the Casitas Rates and Regulations for Water Service.
3. **Appeal:** Any customer against whom a penalty is levied pursuant to this Ordinance shall have the right to appeal as follows:
- a. The customer request for an appeal consideration must be in writing, legible, and received by the General Manager within ten (10) calendar days of the issuance of the notice of violation to the customer. Any determination not timely appealed shall be deemed final. The written request for appeal consideration shall include:
 - i. A description of the issue,
 - ii. Evidence supporting the appeal, and
 - iii. A request for resolution of the dispute.
 - b. The General Manager will review the material submitted and make an independent determination of the issue, which shall be mailed to the customer within fifteen (15) calendar days of receipt of the request for appeal.
 - c. The General Manager's determination may be appealed in writing within ten (10) calendar days of the mailing of the notice of determination. The appeal of the General Manager's determination shall be heard and considered by the Board of Directors at an upcoming regular meeting of the Board. Notice of the hearing shall be mailed to the customer at least ten (10) calendar days prior to the date of the appeal hearing. The Board may, in its discretion affirm, reverse, or modify the determination. The Board's determination is final.

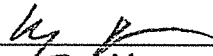
6. **SEVERABILITY.** If any competent court shall find any portion of this Ordinance unconstitutional, such decision shall not affect the validity of any other portion thereof.

7. **EFFECTIVE DATE.** This Ordinance becomes effective this 22nd day of April, 2015.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Casitas Municipal Water District held on April 22, 2015 by the following vote:

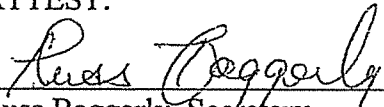
AYES: Word, Baggerly, Kaiser, Bergen
NOES: None
ABSENT: Hicks
ABSTAIN: None

APPROVED:



Mary Bergen, President
Casitas Municipal Water District

ATTEST:



Russ Baggerly, Secretary
Casitas Municipal Water District

Resolution No. 21-XX Adoption of Water Shortage Contingency Plan an Resolution of Adoption of 2020
Urban Water Management Plan

CASITAS MUNICIPAL WATER DISTRICT

Resolution No. 2021-14

**RESOLUTION ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN
AND THE 2020 URBAN WATER MANAGEMENT PLAN**

WHEREAS, the California Legislature in its 1983-1984 Regular Session adopted the Urban Water Management Planning Act; and

WHEREAS, said Act requires all urban water purveyors with greater than 3,000 service connections or water use of more than 3,000 acre-feet per year served directly to consumers to prepare and submit an urban water management plan to the California Department of Water Resources every five years; and

WHEREAS, the plan shall be reviewed periodically, at least every five years, and Casitas shall make any amendments or changes to its plan which are indicated by the reviews; and

WHEREAS, the original plan was adopted and sent to the California Department of Water Resources in March 1996; and

WHEREAS, the review plan must be filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, Casitas' Water Shortage Contingency Plan is included within the 2020 Urban Water Management Plan; and


WHEREAS, the 2020 Urban Water Management Plan addresses all state requirements for such a plan; and

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of the Casitas Municipal Water District as follows:

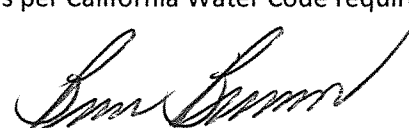
1. The Water Shortage Contingency Plan for Casitas Municipal Water District has been reviewed, modified, and is included in the 2020 Urban Water Management Plan and is hereby adopted.
2. The 2020 Urban Water Management Plan of Casitas Municipal Water District has been reviewed, modified, and is on file in Casitas' office and is hereby adopted.
3. A copy of the Final 2020 Urban Water Management Plan is to be forwarded to the California Department of Water Resources and other entities per California Water Code requirements.

APPROVED this 23rd day of June 2021

ATTEST



Neil Cole, Secretary
Casitas Municipal Water District



Brian Brennan, President
Casitas Municipal Water District

Submittal Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
5610024	Casitas Municipal Water District	3,187	7,122
TOTAL		3,187	7,122

** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Does not include resale customers. Includes ag and ag-domestic. Casitas acquired the Ojai Water System in June 2017.

Submittal Table 2-2: Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
<input checked="" type="checkbox"/>	Individual UWMP		
	<input type="checkbox"/>	Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/>	Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)		

NOTES:

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input checked="" type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years
<input type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange , Casitas Retail

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.

Wholesale Water Supplier Name

Add additional rows as needed

Not applicable

NOTES: Casitas serves as the 'wholesaler' to Casitas retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)

<input checked="" type="checkbox"/>	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
	Provide page number for location of the list.
<input type="checkbox"/>	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. Complete the table below.

Water Supplier Name
<i>Add additional rows as needed</i>
Casitas Mutual Water Company
City of Ventura
Del Vasco Mutual Water Company
Hermitage Mutual Water Company
Meiners Oaks Water District
Old Creek Road Water Company
Rancho del Cielo Mutual Water Company
Rincon Road and Water Works
Senior Canyon Mutual Water Company
Siete Robles Mutual Water Company
Sisar Mutual Water Company
Sulphur Mountain Road Water Association
Tico Mutual Water Company
Ventura River Water District
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected

Population Served	2020	2025	2030	2035	2040	2045(opt)
	11,042	11,101	11,161	11,221	11,281	

NOTES: Casitas Retail System

Submittal Table 3-1 Wholesale: Population - Current and Projected

Population Served	2020	2025	2030	2035	2040	2045(opt)
	45,964	46,828	47,709	48,606	49,520	

NOTES: Casitas Wholesale System

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable¹ Water - Actual CASITAS

Use Type	2020 Actual		
<p>Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</p>	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Single Family		Drinking Water	1,045
Multi-Family		Drinking Water	210
Commercial		Drinking Water	465
Industrial		Drinking Water	12
Institutional/Governmental		Drinking Water	134
Landscape		Drinking Water	0
Agricultural irrigation	Ag + Ag Domestic	Drinking Water	5,116
Wetlands or wildlife habitat		Drinking Water	0
Sales/Transfers/Exchanges to other Suppliers		Drinking Water	0
Losses	See note below	Drinking Water	325
Other Potable	Other, Fire Service, Temporary	Drinking Water	141
Other Potable	Ojai Retail Demands	Drinking Water	369
TOTAL			7,817
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.			
² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Casitas System. System losses are difficult to separate among the three systems (Casitas Wholesale, Casitas Retail, and Ojai Retail). Total losses are calculated using the AWWA Water Audit Software (v5) and apportioned to the Casitas Retail and Ojai Retail systems based on the proportional length of pipeline in each system (Casitas Retail 72% and Ojai Retail 28%).			

Submittal Table 4-1 Wholesale: Demands for Potable and Non-Potable¹ Water - Actual

Use Type	2020 Actual		
<p>Drop down list May select each use multiple times These are the only use types that will be recognized by the WUE data online submittal tool</p>	<p>Additional Description (as needed)</p>	<p>Level of Treatment When Delivered Drop down list</p>	<p>Volume²</p>
Add additional rows as needed			
Sales to other agencies	Resale customers	Drinking Water	3,095
TOTAL			3,095

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. ²
 Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: The 2020 bonafide exchange with San Gorgonio Pass Water Agency is discussed in Section 6.2.7. Losses for Casitas' system cannot be separated between wholesale and retail; they are reported in Table 4-1 Casitas Retail and Table 4-1 Ojai Retail.

Submittal Table 4-2 Retail: Use for Potable and Non-Potable¹ Water - Projected, Casitas System

Use Type	Additional Description (as needed)	Projected Water Use ² <i>Report To the Extent that Records are Available</i>				
		2025	2030	2035	2040	2045 (opt)
<p>Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUedata online submittal tool</p>						
Add additional rows as needed						
Single Family		1,157	1,157	1,157	1,157	
Multi-Family		202	202	202	202	
Commercial		574	574	574	574	
Industrial		23	23	23	23	
Institutional/Governmental		101	101	101	101	
Landscape		0	0	0	0	
Groundwater recharge		0	0	0	0	
Saline water intrusion barrier		0	0	0	0	
Agricultural irrigation	Ag + Ag Domestic	6,496	6,496	6,496	6,496	
Wetlands or wildlife habitat		0	0	0	0	
Sales/Transfers/Exchanges to other Suppliers		0	0	0	0	
Losses		954	954	954	954	
Other Potable	Other + Fire Service + Temporary	201	201	201	201	
Other Potable	Ojai Retail Demands	461	461	461	461	
TOTAL		10,169	10,169	10,169	10,169	0

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

² Units of

NOTES: Casitas System

Submittal Table 4-2 Wholesale: Use for Potable and Raw Water¹ - Projected

Use Type	Additional Description (as needed)	Projected Water Use ²				
		Report To the Extent that Records are Available				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Sales to other agencies		4,356	4,356	4,356	4,356	
Transfers to other agencies		0	0	0	0	
Exchanges to other agencies		0	0	0	0	
Groundwater recharge		0	0	0	0	
Saline water intrusion barrier		0	0	0	0	
Agricultural irrigation		0	0	0	0	
Wetlands or wildlife habitat		0	0	0	0	
Retail demand for use by suppliers that are primarily wholesalers with a small volume of retail sales		0	0	0	0	
Losses		0	0	0	0	
Other Potable		0	0	0	0	
Other Non-Potable		0	0	0	0	
Other		0	0	0	0	
TOTAL		4,356	4,356	4,356	4,356	0

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.
 Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES:

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable), Casitas Retail

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	7,817	10,169	10,169	10,169	10,169	0
Recycled Water Demand ¹ <i>From Table 6-4</i>	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	7,817	10,169	10,169	10,169	10,169	0

¹ Recycled water demand fields will be blank until Table 6-4 is complete ²
 Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier *may* deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.

NOTES: Casitas System

Submittal Table 4-3 Wholesale: Total Water Use (Potable and Non-Potable)

	2020	2025	2030	2035	2040	2045 (opt)
Potable and Raw Water From Tables 4-1W and 4-2W	3,095	4,356	4,356	4,356	4,356	0
Recycled Water Demand* From Table 6-4W	0	0	0	0	0	0
TOTAL WATER DEMAND	3,095	4,356	4,356	4,356	4,356	0

**Recycled water demand fields will be blank until Table 6-4 is complete.*

NOTES:

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting , Casitas Retail

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	1288
01/2017	891
01/2018	724
01/2019	609
01/2020	325

¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ²

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Losses are shown proportional to pipeline length of Casitas Retail (72%) and Ojai Retail (28%). For 2016, 100% is Casitas Retail as the Ojai System was acquired in 2017.

OPTIONAL Table 4-4 Wholesale: Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}

¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ² **Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections, Casitas and Ojai Retail Systems

<p>Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i></p>	<p>Yes</p>
<p>If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.</p>	<p>Section 4.2.3</p>
<p>Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i></p>	<p>Yes</p>

NOTES:

Submittal Table 5-1 Baselines and Targets Summary, Casitas Retail
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1999	2008	369	295
5 Year	2005	2009	355	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 5-2: 2020 Compliance, Casitas Retail System
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
195	0	195	295	Yes

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 6-1 Retail: Groundwater Volume Pumped

Supplier does not pump groundwater.
The supplier will not complete the table below.

All or part of the groundwater described below is desalinated.

Groundwater Type Drop Down List <i>May use each category multiple times</i>	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
--	------------------------	-------	-------	-------	-------	-------

Add additional rows as needed

Alluvial Basin	Upper Ventura River	24	111	106	87	125
TOTAL		24	111	106	87	125

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Mira Monte Well

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped

<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.
--------------------------	--

<input type="checkbox"/>	All or part of the groundwater described below is desalinated.
--------------------------	--

Groundwater Type	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
<i>Add additional rows as needed</i>						
Alluvial Basin	Upper Ventura River	11	48	45	37	54
TOTAL		11	48	45	37	54

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

There is no wastewater collection system. The supplier will not complete the table below.

Percentage of 2020 service area covered by wastewater collection system *(optional)*

Percentage of 2020 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
City of Ventura	Metered	66	City of Ventura	City of Ventura	No	No
Total Wastewater Collected from Service Area in 2020:		66				

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .**

NOTES: There are two agencies who provide wastewater collection and treatment within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

Recycled water is not used and is not planned for use within the service area of the supplier.
The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water: _____

Name of Supplier Operating the Recycled Water Distribution System: _____

Supplemental Water Added in 2020 (volume) *include units* _____

Source of 2020 Supplemental Water _____

Beneficial Use Type <i>additional rows if needed.</i>	<i>Insert</i> Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units ¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation		0			0	0	0	0	0	0
Landscape irrigation <i>(exc golf courses)</i>		0			0	0	0	0	0	0
Golf course irrigation		0			0	0	0	0	0	0
Commercial use		0			0	0	0	0	0	0
Industrial use		0			0	0	0	0	0	0
Geothermal and other energy production		0			0	0	0	0	0	0
Seawater intrusion barrier		0			0	0	0	0	0	0
Recreational impoundment		0			0	0	0	0	0	0
Wetlands or wildlife habitat		0			0	0	0	0	0	0
Groundwater recharge (IPR)		0			0	0	0	0	0	0
Reservoir water augmentation (IPR)		0			0	0	0	0	0	0
Direct potable reuse		0			0	0	0	0	0	0
Other (Description Required)		0			0	0	0	0	0	0
Total:					0	0	0	0	0	0

2020 Internal Reuse

¹ **Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area

<input checked="" type="checkbox"/>	Recycled water is not directly treated or distributed by the Supplier. Supplier will not complete the table below.	The
-------------------------------------	---	-----

Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment <i>Drop down list</i>	2020*	2025*	2030*	2035*	2040*	2045* (opt)
<i>Add additional rows as needed</i>							
Total		0	0	0	0	0	0

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual



Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation	0	0
Landscape irrigation (exc golf courses)	0	0
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	0	0
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Reservoir water augmentation (IPR)	0	0
Direct potable reuse	0	0
Other (Description Required)	0	0
Total	0	0

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE:

Submittal Table 6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

<input checked="" type="checkbox"/>	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020*	2020 Actual Use*
<i>Add additional rows as needed</i>		
	0	0
Total	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTES:		

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.
-------------------------------------	---

64	Provide page location of narrative in UWMP
----	--

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
----------------	-------------	-----------------------------	---

Add additional rows as needed

--	--	--	--

--	--	--	--

--	--	--	--

Total			0
--------------	--	--	----------

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Supplier Name</i>				

Add additional rows as needed

Ventura-Casitas SWP Interconnection ¹	Yes	City of Ventura	7-mile pipeline	2025	Multi-Dry Year	Unknown
Ventura-Santa Barbara Counties Intertie ²	Yes	Carpinteria Valley Water District	Pipeline and two booster pump stations	2025	Multi-Dry Year	1,400
Matilija Formation Deep Bore	No		15,000 foot vertical bore in Matilija Formation	2030	Single-Dry and Multi-Dry Year	5,600
Robles Fish Screen	No		Fixed backspray	2025	All Year Types	Unknown

NOTES: Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai Retail customers. Seventy percent of the projected supply is applied to the Retail system. 1) Ventura's SWP allocation is 10,000 AFY; this is a possible 'in-lieu' benefit to Casitas 2) Supply is based on available capacity in pipelines on Santa Barbara County side 3) Difficult to quantify the supply impact to improved fish screen operation as it is dependent on storm flows

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs

No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type Drop Down list	Expected Increase in Water Supply to Supplier*
	Drop Down Menu	If Yes, Supplier Name				

Add additional rows as needed

Ventura-Casitas SWP Interconnection ¹	Yes	City of Ventura	7-mile pipeline	2025	Multi-Dry Year	Unknown
Ventura-Santa Barbara Counties Intertie ²	Yes	Carpinteria Valley Water District	Pipeline and two booster pump stations	2025	Multi-Dry Year	600
Matilija Formation Deep Bore	No		15,000 foot vertical bore in Matilija Formation	2030	Single-Dry and Multi-Dry Year	2,400
Robles Fish Screen Improvements ³	No		Fixed backspray cleaning system	2025	All Year Types	Unknown

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Projects to be implemented benefit Casitas Wholesale and Retail customers, as well as Ojai Retail customers. Thirty percent of the projected supply is applied to the Wholesale system.

1) Ventura's SWP allocation is 10,000 AFY; this is a possible 'in-lieu' benefit to Casitas

2) Supply is based on available capacity in pipelines on Santa Barbara County side

Submittal Table 6-8 Retail: Water Supplies — Actual, Casitas

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Surface water (not desalinated)	Lake Casitas	7,571	Drinking Water	
Groundwater (not desalinated)	Mira Monte Well	129	Drinking Water	

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-8 Wholesale: Water Supplies — Actual

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Surface water (not desalinated)	Lake Casitas	3,245	Drinking Water	
Groundwater (not desalinated)	Mira Monte Well	50	Drinking Water	
Total		3,295		0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

OPTIONAL Table 6-8ds: Source Water Desalination

<input checked="" type="checkbox"/> Neither groundwater nor surface water are reduced in salinity prior to distribution.										
Plant Name or Well ID	Plant Capacity	Intake Type <i>Drop down list</i>	Source Water Type <i>Drop down list</i>	Influent TDS	Brine Discharge <i>Drop down list</i>	Volume of Water Desalinated				
						2016	2017	2018	2019	2020
Total						0	0	0	0	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

Notes:

Submittal Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Surface water (not desalinated)	Lake Casitas	10,405		10,405		10,405		10,405			
Groundwater (not desalinated)	Mira Monte Well	102		102		102		102			
Purchased or Imported Water	Ventura-Santa Barbara Counties Interconnection	1,400		1,400		1,400		1,400			
	Total	11,907	0	11,907	0	11,907	0	11,907	0	0	0

*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Casitas Retail System

Submittal Table 6-9 Wholesale: Water Supplies — Projected

Water Supply		Projected Water Supply*									
		Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Surface water (not desalinated)	Lake Casitas	4,460		4,460		4,460		4,460			
Groundwater (not desalinated)	Mira Monte Well	43		43		43		43			
Purchased or Imported Water	Ventura-Santa Barbara Intertie	600		600		600		600			
Total		5,103	0	5,103	0	5,103	0	5,103	0	0	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year	2003	11,907	100%
Single-Dry Year	2019	11907	100%
Consecutive Dry Years 1st Year	2011	11907	100%
Consecutive Dry Years 2nd Year	2012	11907	100%
Consecutive Dry Years 3rd Year	2013	11732	99%
Consecutive Dry Years 4th Year	2014	10682	90%
Consecutive Dry Years 5th Year	2015	11207	94%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Base volume available: Lake Casitas (10,060), Mira Monte Well (145) and Purchased/Imported (SWP) Water (1,400). SWP availability from 2011 to 2015 was factored into multiple dry years.

Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year	2003	5103	100%
Single-Dry Year	2019	5103	100%
Consecutive Dry Years 1st Year	2011	5103	100%
Consecutive Dry Years 2nd Year	2012	5103	100%
Consecutive Dry Years 3rd Year	2013	5028	99%
Consecutive Dry Years 4th Year	2014	4578	90%
Consecutive Dry Years 5th Year	2015	4803	94%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table. Suppliers may create an additional worksheet for the additional tables.

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Base volume available: Lake Casitas (4,460), Mira Monte Well (43) and Purchased/Imported (SWP) Water (600). SWP availability from 2011 to 2015 was factored into multiple dry years.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	11,907	11,907	11,907	11,907	0
Demand totals (autofill from Table 4-3)	10,169	10,169	10,169	10,169	0
Difference	1,738	1,738	1,738	1,738	0

NOTES:

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals <i>(autofill from Table 6-9)</i>	5,103	5,103	5,103	5,103	0
Demand totals <i>(autofill fm Table 4-3)</i>	4,356	4,356	4,356	4,356	0
Difference	747	747	747	747	0

NOTES:

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	11,907	11,907	11,907	11,907	
Demand totals*	10,169	10169	10,169	10,169	
Difference	1,738	1,738	1,738	1,738	0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>					
NOTES:					

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	5,103	5,103	5,103	5,103	
Demand totals*	4,356	4,356	4,356	4,356	
Difference	747	747	747	747	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	11,907	11,907	11,907	11,907	
	Demand totals	10,169	10,169	10,169	10,169	
	Difference	1,738	1,738	1,738	1,738	0
Second year	Supply totals	11,907	11,907	11,907	11,907	
	Demand totals	10,169	10,169	10,169	10,169	
	Difference	1,738	1,738	1,738	1,738	0
Third year	Supply totals	11,732	11,732	11,732	11,732	
	Demand totals	10,169	10,169	10,169	10,169	
	Difference	1,563	1,563	1,563	1,563	0
Fourth year	Supply totals	10,682	10,682	10,682	10,682	
	Demand totals	10,169	10,169	10,169	10,169	
	Difference	513	513	513	513	0
Fifth year	Supply totals	11,207	11,207	11,207	11,207	
	Demand totals	8,135	8,135	8,135	8,135	
	Difference	3,072	3,072	3,072	3,072	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	5,103	5,103	5,103	5,103	
	Demand totals	4,356	4,356	4,356	4,356	
	Difference	747	747	747	747	0
Second year	Supply totals	5,103	5,103	5,103	5,103	
	Demand totals	4,356	4,356	4,356	4,356	
	Difference	747	747	747	747	0
Third year	Supply totals	5,028	5,028	5,028	5,028	
	Demand totals	4,356	4,356	4,356	4,356	
	Difference	672	672	672	672	0
Fourth year	Supply totals	4,578	4,578	4,578	4,578	
	Demand totals	4,356	4,356	4,356	4,356	
	Difference	222	222	222	222	0
Fifth year	Supply totals	4,803	4,803	4,803	4,803	
	Demand totals	3,485	3,485	3,485	3,485	
	Difference	1,318	1,318	1,318	1,318	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%

2022	Total
Total Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%

2023	Total
Total Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%

2024	Total
Total Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	3,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	27%

2025	Total
Total Water Use	14,525
Total Supplies	10,626
Surplus/Shortfall w/o WSCP Action	(3,899)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	2000
WSCP - use reduction savings benefit	1,899
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	13%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions <i>(Narrative description)</i>
1	Up to 10%	Water Conservation: <u>Voluntary</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
2	Up to 20%	Water Shortage Warning: <u>Mandatory</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
3	Up to 30%	Water Shortage Eminent: <u>Mandatory</u> conservation measures to reduce water usage by up to 30%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
4	Up to 40%	Severe Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 40%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
5	Up to 50%	Critical Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 50%. Follow recommended response actions in most recently adopted WEAP. (Appendix F).
6	>50%	Catastrophic Water System Emergency: Limited to no water can be supplied due to infrastructure damage or failure. Follow recommended response actions in most recently adopted Emergency Response Plan.

NOTES:

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only</i> <i>Drop Down List</i>
----------------	--	---	--	---

Add additional rows as needed

1	Other	20% Voluntary	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	No
2	Other	20% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
3	Other	30% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
4	Other	40% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
5	Other	50% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
6	Other	>50% Mandatory	Catastrophic Emergency in which limited to no water is available. Response actions are outlined in Casitas' Emergency Response Plan.	Yes

NOTES:

Submittal Table 8-3: Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
Shortage Level 1	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 2	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 3	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 4	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 5	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 6	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.

NOTES: Action applies to Shortage levels 1 through 6 and is not cumulative

Table 8-4 is not applicable for the UWMP 2020.

Table 8-4 is not applicable for the UWMP 2020.

Submittal Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Ojai	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Ventura County	Yes	Yes
NOTES:		

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one)

<input type="checkbox"/>	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.
	Provide the page or location of this list in the UWMP.

<input checked="" type="checkbox"/>	Supplier has notified 10 or fewer cities or counties. Complete the table below.
-------------------------------------	---

City Name	60 Day Notice	Notice of Public Hearing
-----------	---------------	--------------------------

Add additional rows as needed

Ventura	Yes	Yes

County Name <small>Drop Down List</small>	60 Day Notice	Notice of Public Hearing
--	---------------	--------------------------

Add additional rows as needed

Ventura County	Yes	Yes

NOTES:

Submittal Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
5610014	Ojai Water System	2,943	1,625
TOTAL		2,943	1,625

** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Includes ag and ag-domestic. Casitas acquired the Ojai Water System in June 2017.

Submittal Table 2-2: Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
<input checked="" type="checkbox"/>	Individual UWMP		
	<input type="checkbox"/>	Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/>	Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)		

NOTES:

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years
<input type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
<i>* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange, Ojai Retail

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.

Wholesale Water Supplier Name

Add additional rows as needed

Not applicable

NOTES: Casitas serves as the 'wholesaler' to Ojai retail customers so notifications are not necessary. Casitas does not purchase water from any other wholesalers.

Submittal Table 3-1 Retail: Population - Current and Projected

Population Served	2020	2025	2030	2035	2040	2045(opt)
	6,712	6,773	6,834	6,895	6,957	

NOTES: Ojai Retail System

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable¹ Water - Actual OJAI

Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Single Family		Drinking Water	1,095
Multi-Family		Drinking Water	88
Commercial		Drinking Water	274
Industrial		Drinking Water	3
Institutional/Governmental		Drinking Water	0
Landscape		Drinking Water	0
Agricultural irrigation		Drinking Water	100
Wetlands or wildlife habitat		Drinking Water	0
Sales/Transfers/Exchanges to other Suppliers		Drinking Water	0
Losses	See note below	Drinking Water	126
Other Potable	Other, Fire Service, Temporary	Drinking Water	65
TOTAL			1,751

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. ²
 Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Ojai System. System losses are difficult to separate among the three systems (Casitas Wholesale, Casitas Retail, and Ojai Retail). Total losses are calculated using the AWWA Water Audit Software (v5) and apportioned to the Casitas Retail and Ojai Retail systems based on the proportional length of pipeline in each system (Casitas Retail 72% and Ojai Retail 28%).

Submittal Table 4-2 Retail: Use for Potable and Non-Potable¹ Water - Projected, Ojai System

Use Type	Additional Description (as needed)	Projected Water Use ² <i>Report To the Extent that Records are Available</i>				
		2025	2030	2035	2040	2045 (opt)
<p>Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUedata online submittal tool</p>						
Add additional rows as needed						
Single Family		1,088	1,088	1,088	1,088	
Multi-Family		95	95	95	95	
Commercial		425	425	425	425	
Industrial		2	2	2	2	
Institutional/Governmental		20	20	20	20	
Landscape		0	0	0	0	
Groundwater recharge		0	0	0	0	
Saline water intrusion barrier		0	0	0	0	
Agricultural irrigation	Ag + Ag domestic	38	38	38	38	
Wetlands or wildlife habitat		0	0	0	0	
Sales/Transfers/Exchanges to other Suppliers		0	0	0	0	
Losses		130	130	130	130	
Other Potable	Other + Fire Service + Temporary	52	52	52	52	
TOTAL		1,850	1,850	1,850	1,850	0

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.
measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

² Units of

NOTES: Ojai System

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable), Ojai Retail

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	1,751	1,850	1,850	1,850	1,850	0
Recycled Water Demand ¹ <i>From Table 6-4</i>	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	1,751	1,850	1,850	1,850	1,850	0

¹ Recycled water demand fields will be blank until Table 6-4 is complete ²
 Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier *may* deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.

NOTES: Ojai System

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting, Ojai Retail

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	unknown
01/2017	347
01/2018	281
01/2019	237
01/2020	126

¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ²

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Losses are shown proportional to pipeline length of Casitas Retail (72%) and Ojai Retail (28%). Casitas did not own the Ojai System in 2016.

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections, Casitas and Ojai Retail Systems

<p>Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i></p>	<p>Yes</p>
<p>If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.</p>	<p>Section 4.2.3</p>
<p>Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i></p>	<p>Yes</p>

NOTES:

**Submittal Table 5-1 Baselines and Targets Summary, Ojai Retail
From SB X7-7 Verification Form**
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1999	2008	322	257
5 Year	2004	2008	316	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 5-2: 2020 Compliance, Casitas Retail System
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
209	0	209	257	Yes

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 6-1 Retail: Groundwater Volume Pumped

Supplier does not pump groundwater.
The supplier will not complete the table below.

All or part of the groundwater described below is desalinated.

Groundwater Type <i>Drop Down List</i> May use each category multiple times	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
--	------------------------	-------	-------	-------	-------	-------

Add additional rows as needed

Alluvial Basin	Ojai Basin	944	1381	1378	1548	1300
TOTAL		944	1,381	1,378	1,548	1,300

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>
	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
Ojai Valley Sanitary District	Metered	1,826	Ojai Valley Sanitary District	Ojai Valley Sanitary District	Yes	No
Total Wastewater Collected from Service Area in 2020:		1,826				

*** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .**

NOTES: There are two agencies who provide wastewater collection and treatment within the Casitas service area, Ojai Valley Sanitary District and the City of Ventura. The boundaries for these agencies do not readily correspond to Casitas' wholesale, retail, or Ojai water system boundaries, nor can the wastewater collected for these agencies be readily ascribed to wholesale or retail customers. To simplify reporting, the City of Ventura's wastewater information is provided in Table 6-2 Casitas Retail and OVSD's wastewater information is provided in Table 6-2 Ojai Retail.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

Recycled water is not used and is not planned for use within the service area of the supplier.
 The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:

Name of Supplier Operating the Recycled Water Distribution System:

Supplemental Water Added in 2020 (volume) *include units*

Source of 2020 Supplemental Water

Beneficial Use Type <i>additional rows if needed.</i>	<i>Insert</i> Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation		0			0	0	0	0	0	0
Landscape irrigation <i>(exc golf courses)</i>		0			0	0	0	0	0	0
Golf course irrigation		0			0	0	0	0	0	0
Commercial use		0			0	0	0	0	0	0
Industrial use		0			0	0	0	0	0	0
Geothermal and other energy production		0			0	0	0	0	0	0
Seawater intrusion barrier		0			0	0	0	0	0	0
Recreational impoundment		0			0	0	0	0	0	0
Wetlands or wildlife habitat		0			0	0	0	0	0	0
Groundwater recharge (IPR)		0			0	0	0	0	0	0
Reservoir water augmentation (IPR)		0			0	0	0	0	0	0
Direct potable reuse		0			0	0	0	0	0	0
Other (Description Required)		0			0	0	0	0	0	0
Total:					0	0	0	0	0	0

2020 Internal Reuse

¹ **Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual



Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation	0	0
Landscape irrigation (exc golf courses)	0	0
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	0	0
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Reservoir water augmentation (IPR)	0	0
Direct potable reuse	0	0
Other (Description Required)	0	0
Total	0	0

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE:

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.
-------------------------------------	---

	Provide page location of narrative in UWMP
--	--

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
----------------	-------------	-----------------------------	---

Add additional rows as needed

--	--	--	--

--	--	--	--

--	--	--	--

Total			0
--------------	--	--	----------

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

Page 57 Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Supplier Name</i>				

Add additional rows as needed

Groundwater Well	No			2025	Average and Single-Dry Year	500

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Supplies from the Ojai Groundwater Basin are only available to Ojai Retail customers. Supplies from the Ojai Groundwater Basin are only available to Ojai Retail customers. Normal, Single-Year Dry, and first 3 years of a multi-year drought period.

Submittal Table 6-8 Retail: Water Supplies — Actual, Ojai

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Surface water (not desalinated)	Lake Casitas	369	Drinking Water	
Groundwater (not desalinated)	Ojai Wellfield	1,300	Drinking Water	

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Ojai Retail System

OPTIONAL Table 6-8ds: Source Water Desalination

<input type="checkbox"/> Neither groundwater nor surface water are reduced in salinity prior to distribution.										
Plant Name or Well ID	Plant Capacity	Intake Type <i>Drop down list</i>	Source Water Type <i>Drop down list</i>	Influent TDS	Brine Discharge <i>Drop down list</i>	Volume of Water Desalinated				
						2016	2017	2018	2019	2020
Total						0	0	0	0	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

Notes:

Submittal Table 6-9 Retail: Water Supplies — Projected, Ojai

Water Supply		Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
		Add additional rows as needed									
Surface water (not desalinated)	Lake Casitas Supplement	461		461		461		461			
Groundwater (not desalinated)	Ojai Wellfield	2,300		2,300		2,300		2,300			
	Total	2,761	0	2,761	0	2,761	0	2,761	0	0	0

*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES:

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year	2003	2761	100%
Single-Dry Year	2019	2761	100%
Consecutive Dry Years 1st Year	2011	2761	100%
Consecutive Dry Years 2nd Year	2012	2761	100%
Consecutive Dry Years 3rd Year	2013	2761	100%
Consecutive Dry Years 4th Year	2014	2169	79%
Consecutive Dry Years 5th Year	2015	2169	79%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Ojai Wellfield Capacity (2,300 AF) plus Lake Casitas Supplement (461 AF) in 1st three years; 1,800 AF and 369 AF, respectively in years 4 and 5.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	2,761	2,761	2,761	2,761	0
Demand totals (autofill from Table 4-3)	1,850	1,850	1,850	1,850	0
Difference	911	911	911	911	0

NOTES:

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	2,761	2,761	2,761	2,761	
Demand totals*	1,850	1850	1,850	1,850	
Difference	911	911	911	911	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	2,761	2,761	2,761	2,761	
	Demand totals	1,850	1,850	1,850	1,850	
	Difference	911	911	911	911	0
Second year	Supply totals	2,761	2,761	2,761	2,761	
	Demand totals	1,850	1,850	1,850	1,850	
	Difference	911	911	911	911	0
Third year	Supply totals	2,761	2,761	2,761	2,761	
	Demand totals	1,850	1,850	1,850	1,850	
	Difference	911	911	911	911	0
Fourth year	Supply totals	2,169	2,169	2,169	2,169	
	Demand totals	1,850	1,850	1,850	1,850	
	Difference	319	319	319	319	0
Fifth year	Supply totals	2,169	2,169	2,169	2,169	
	Demand totals	1,480	1,480	1,480	1,480	
	Difference	689	689	689	689	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2022	Total
Total Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2023	Total
Total Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2024	Total
Total Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	187
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2025	Total
Total Water Use	1,850
Total Supplies	1,663
Surplus/Shortfall w/o WSCP Action	(187)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	500
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	313
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions <i>(Narrative description)</i>
1	Up to 10%	Water Conservation: <u>Voluntary</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
2	Up to 20%	Water Shortage Warning: <u>Mandatory</u> conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
3	Up to 30%	Water Shortage Eminent: <u>Mandatory</u> conservation measures to reduce water usage by up to 30%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
4	Up to 40%	Severe Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 40%. Follow recommended response actions in most recently adopted WEAP (Appendix F).
5	Up to 50%	Critical Water Shortage: <u>Mandatory</u> conservation measures to reduce water usage by up to 50%. Follow recommended response actions in most recently adopted WEAP. (Appendix F).
6	>50%	Catastrophic Water System Emergency: Limited to no water can be supplied due to infrastructure damage or failure. Follow recommended response actions in most recently adopted Emergency Response Plan.

NOTES:

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
<i>Add additional rows as needed</i>				
1	Other	20% Voluntary	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	No
2	Other	20% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
3	Other	30% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
4	Other	40% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
5	Other	50% Mandatory	Demand Reduction Actions are outlined in the Water Efficiency Allocation Program (Appendix F)	Yes
6	Other	>50% Mandatory	Catastrophic Emergency in which limited to no water is available. Response actions are outlined in Casitas' Emergency Response Plan.	Yes
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
Shortage Level 1	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 2	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 3	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 4	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 5	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.
Shortage Level 6	Other Actions (describe)	2,000 AFY on average	Casitas is currently planning regional interconnection projects that would allow supply augmentation. These projects are further described in UWMP Section 6.2.8.

NOTES:

Table 8-4 is not applicable for the UWMP 2020.

Table 8-4 is not applicable for the UWMP 2020.

Submittal Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Ojai	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Ventura County	Yes	Yes
NOTES:		

Appendix J

Water Rates



What is changing about your water service?

Casitas periodically must assess rates for various customer groups to insure that customers are being charged fairly for the cost of their water. This means that each customer group is responsible for paying for the costs of water that relate directly to them.

Casitas recently hired an independent rate firm to conduct a comprehensive cost of service study. The study has confirmed that Casitas must adjust its rates to continue providing safe, reliable water delivery and maintain financial stability.

How are my rates calculated?

Rates for water service charges are billed monthly, and are made of two components, a variable volumetric charge and a fixed service charge.

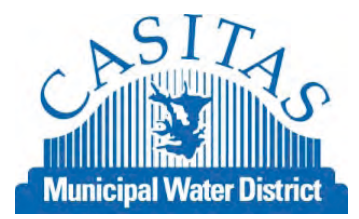
The volumetric charge is based on the amount of water served to a property in hundred cubic feet (HCF) or one unit of water billed. One HCF equals 748 gallons. There are three proposed residential tiered rates, which impose higher rates as water consumption increases. The purpose of increasing tiered rates is to encourage water conservation. The costs are designed to recover Casitas' fixed costs to store, treat, and deliver water. They are also meant to fund Casitas' water conservation efforts.

Rates for service charges are established on the basis of the size of the water meter serving a property, and use associated with the type of customer. These rates are calculated to recover the District's fixed costs of repairs and replacement of facilities, meter reading, billing, and customer service.

Together, the two rate components are made to proportionately allocate the costs of water service among Casitas' customers.



1055 Ventura Avenue
Oak View, California 93022
www.casitaswater.org
(805) 649-2251



PUBLIC HEARING

Date: May 10, 2017
Time: 3:00 p.m.
Location: Oak View Resource Center
Gymnasium
555 Mahoney Avenue
Oak View, California 93022

NOTICE OF PROPOSED RATE CHANGES

The Board of Directors for Casitas Municipal Water District will hold a public hearing at the time, date, and location specified above to consider a proposed five-year schedule of increases to the District's water charges.

If adopted, proposed rate increases and charges will become effective on July 1, 2017; July 1, 2018; July 1, 2019; July 1, 2020; July 1, 2021, respectively. The public hearing will be conducted per California Constitution Article XIII D, Section 6 (also known as "Proposition 218"). This notice is being sent to all property owners and customers whose parcels receive water service from Casitas, who would be impacted by imposed rates and charges.

All members of the public are invited to attend the public hearing. Additionally, under California State Law, all Casitas' property owners and customers of record may submit a written protest to the proposed rate changes. Only one protest per parcel is permitted. Please refer to the "How Can I Participate?" section of this document for instructions on submitting a formal written protest against the proposed action. You may also appear at the public hearing at the date and time specified above. More information, including a rate estimator, is available online at: www.casitaswater.org.

Este documento contiene información importante sobre sus tarifas de agua. Para más información ó traducción, visite www.casitaswater.org o llame al (805) 649-2251.

Why have I received this notice?

Casitas Municipal Water District is proposing changes to its water rates. District customers who may be impacted by these changes are receiving this notice. The District is dedicated to providing safe, reliable, cost-effective water deliveries at rates that do not exceed the cost of service. We are seeking feedback to help our Board of Directors make the right choice for the District and its ratepayers.

Why are rate increases needed?

According to the rate study, there are a few key issues that are dramatically impacting CMWD's financial outlook, forcing the District to consider rate increases to generate more revenue from water deliveries.



External Escalating Costs

Operating expenses, such as the electricity needed to pump water through the delivery system and chemicals to treat it, continue to rise.



Maintenance and repairs

As infrastructure ages, the system of pipelines and facilities needed to deliver water safely and reliably requires regular preventative maintenance and upgrades to keep it functioning and avoid more expensive emergency repairs.



Drought

Customers have done a great job of conserving water over the last five years of historic drought, but it is impacting finances. The hidden cost of drought is lost revenues, which is depleting Casitas' reserves.



Fiscal Responsibility

Current rates are near the lowest in Southern California, but unfortunately these rates are not sustainable. It has been four years since Casitas last had a rate increase. Casitas is committed to economical pricing and intends to maintain rates that are competitive with other regional water providers.

Did you know?

As a public agency, the district cannot earn a profit from the services it provides, and must charge no more than the actual costs associated with providing services to its customers.

Proposed Rates

Residential

SERVICE CHARGE								
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021		
5/8"-3/4"	\$23.34	\$28.75	\$32.20	\$36.06	\$40.39	\$45.24		
1"	\$34.86	\$47.91	\$53.66	\$60.10	\$67.31	\$75.39		
1-1/2"	\$63.66	\$95.82	\$107.32	\$120.20	\$134.62	\$150.77		
2"	\$98.22	\$153.31	\$171.71	\$192.32	\$215.40	\$241.25		
2-1/2"	\$150.05	\$255.52	\$286.18	\$320.52	\$358.98	\$402.06		
3"	\$207.65	\$335.37	\$375.61	\$420.68	\$471.16	\$527.70		
4"	\$368.92	\$603.67	\$676.11	\$757.24	\$848.11	\$949.88		
VOLUMETRIC RATES (PUMPED)								
Tier	TIER WIDTH		Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	Current	Proposed						
Tier 1	0-10	0-10	\$0.88	\$0.96	\$1.08	\$1.21	\$1.36	\$1.52
Tier 2	11-17	11-50	\$1.34	\$1.46	\$1.64	\$1.84	\$2.06	\$2.31
Tier 3	18-50	51+	\$1.77	\$2.36	\$2.64	\$2.96	\$3.32	\$3.72
Tier 4	51+		\$2.61	—	—	—	—	—
VOLUMETRIC RATES (GRAVITY)								
Tier	TIER WIDTH		Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	Current	Proposed						
Tier 1	0-10	0-10	\$0.60	\$0.49	\$0.55	\$0.62	\$0.69	\$0.77
Tier 2	11-17	11-50	\$1.06	\$0.99	\$1.11	\$1.24	\$1.39	\$1.56
Tier 3	18-50	51+	\$1.49	\$1.89	\$2.12	\$2.37	\$2.65	\$2.97
Tier 4	51+		\$2.33	—	—	—	—	—

Other

SERVICE CHARGE							
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
5/8"-3/4"	\$23.34	\$20.54	\$23.00	\$25.76	\$28.85	\$32.31	
1"	\$34.86	\$34.24	\$38.35	\$42.95	\$48.10	\$53.87	
1-1/2"	\$63.66	\$68.47	\$76.69	\$85.89	\$96.20	\$107.74	
2"	\$98.22	\$109.55	\$122.70	\$137.42	\$153.91	\$172.38	
2-1/2"	\$150.05	\$182.59	\$204.50	\$229.04	\$256.52	\$287.30	
3"	\$207.65	\$239.65	\$268.41	\$300.62	\$336.69	\$377.09	
4"	\$368.92	\$431.36	\$483.12	\$541.09	\$606.02	\$678.74	
VOLUMETRIC RATES (PUMPED)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$1.62	\$1.46	\$1.64	\$1.84	\$2.06	\$2.31	
VOLUMETRIC RATES (GRAVITY)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$1.34	\$0.99	\$1.11	\$1.24	\$1.39	\$1.56	

Agriculture Domestic

SERVICE CHARGE								
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021		
1"	\$34.86	\$34.78	\$38.95	\$43.62	\$48.85	\$54.71		
1-1/2"	\$63.66	\$69.57	\$77.92	\$87.27	\$97.74	\$109.47		
2"	\$98.22	\$111.30	\$124.66	\$139.62	\$156.37	\$175.13		
2-1/2"	\$150.05	\$185.51	\$207.77	\$232.70	\$260.62	\$291.89		
3"	\$207.65	\$243.48	\$272.70	\$305.42	\$342.07	\$383.12		
4"	\$368.92	\$438.26	\$490.85	\$549.75	\$615.72	\$689.61		
VOLUMETRIC RATES (PUMPED)								
Tier	TIER WIDTH		Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	Current	Proposed						
Tier 1	0-10	0-10	\$0.88	\$0.96	\$1.08	\$1.21	\$1.36	\$1.52
Tier 2	11-17	11-50	\$1.34	\$1.46	\$1.64	\$1.84	\$2.06	\$2.31
Tier 3	18-50	51+	\$1.77	\$1.09	\$1.22	\$1.37	\$1.53	\$1.71
Tier 4	51+		\$0.90	—	—	—	—	—
VOLUMETRIC RATES (GRAVITY)								
Tier	TIER WIDTH		Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	Current	Proposed						
Tier 1	0-10	0-10	\$0.60	\$0.49	\$0.55	\$0.62	\$0.69	\$0.77
Tier 2	11-17	11-50	\$1.06	\$0.99	\$1.11	\$1.24	\$1.39	\$1.56
Tier 3	18-50	51+	\$1.49	\$0.62	\$0.69	\$0.77	\$0.86	\$0.96
Tier 4	51+		\$0.62	—	—	—	—	—

Agriculture

SERVICE CHARGE							
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
1"	\$34.86	\$43.28	\$48.47	\$54.29	\$60.80	\$68.10	
1-1/2"	\$63.66	\$86.56	\$96.95	\$108.58	\$121.61	\$136.20	
2"	\$98.22	\$138.50	\$155.12	\$173.73	\$194.58	\$217.93	
2-1/2"	\$150.05	\$230.84	\$258.54	\$289.56	\$324.31	\$363.23	
3"	\$207.65	\$302.97	\$339.33	\$380.05	\$425.66	\$476.74	
4"	\$368.92	\$545.35	\$610.79	\$684.08	\$766.17	\$858.11	
6"	\$812.42	\$1,125.33	\$1,260.37	\$1,411.61	\$1,581.00	\$1,770.72	
VOLUMETRIC RATES (PUMPED)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$0.90	\$1.09	\$1.22	\$1.37	\$1.53	\$1.71	
VOLUMETRIC RATES (GRAVITY)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$0.62	\$0.62	\$0.69	\$0.77	\$0.86	\$0.96	

Commercial

SERVICE CHARGE							
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
5/8"-3/4"	\$23.34	\$22.97	\$25.73	\$28.82	\$32.28	\$36.15	
1"	\$34.86	\$38.28	\$42.87	\$48.01	\$53.77	\$60.22	
1-1/2"	\$63.66	\$76.56	\$85.75	\$96.04	\$107.56	\$120.47	
2"	\$98.22	\$122.50	\$137.20	\$153.66	\$172.10	\$192.75	
2-1/2"	\$150.05	\$204.16	\$228.66	\$256.10	\$286.83	\$321.25	
3"	\$207.65	\$267.96	\$300.12	\$336.13	\$376.47	\$421.65	
4"	\$368.92	\$482.33	\$540.21	\$605.04	\$677.64	\$758.96	
6"	\$812.42	\$995.29	\$1,114.72	\$1,248.49	\$1,398.31	\$1,566.11	
VOLUMETRIC RATES (PUMPED)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$1.62	\$1.46	\$1.64	\$1.84	\$2.06	\$2.31	
VOLUMETRIC RATES (GRAVITY)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$1.34	\$0.99	\$1.11	\$1.24	\$1.39	\$1.56	

Resale

SERVICE CHARGE							
Meter Size	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
5/8"-3/4"	\$23.34	\$25.27	\$28.30	\$31.70	\$35.50	\$39.76	
1"	\$34.86	\$42.12	\$47.17	\$52.83	\$59.17	\$66.27	
1-1/2"	\$63.66	\$84.24	\$94.35	\$105.67	\$118.35	\$132.55	
2"	\$98.22	\$134.78	\$150.95	\$169.06	\$189.35	\$212.07	
2-1/2"	\$150.05	\$224.63	\$251.59	\$281.78	\$315.59	\$353.46	
3"	\$207.65	\$294.83	\$330.21	\$369.84	\$414.22	\$463.93	
4"	\$368.92	\$530.70	\$594.38	\$665.71	\$745.60	\$835.07	
6"	\$812.42	\$1,095.09	\$1,226.50	\$1,373.68	\$1,538.52	\$1,723.14	
12"	\$13,741.69	\$6,469.48	\$7,245.82	\$8,115.32	\$9,089.16	\$10,179.86	
18"	\$23,561.61	\$12,026.38	\$13,469.55	\$15,085.90	\$16,896.21	\$18,923.76	
VOLUMETRIC RATES (PUMPED)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$1.49	\$1.46	\$1.64	\$1.84	\$2.06	\$2.31	
VOLUMETRIC RATES (GRAVITY)							
Rate	Current	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Uniform Rate	\$0.83	\$0.99	\$1.11	\$1.24	\$1.39	\$1.56	

How can I participate?

We want you to join in the conversation and make your voice heard, as part of a collaborative process between the District and its water users to determine the best way forward.



Call or Visit. The Water Rate Study and other information on the proposed adjustments and increases are available for review at Casitas' office and on our website: www.casitaswater.org. If you have additional questions, please call the District office and ask for Ron Merckling, Public Affairs Manager at (805) 649-2251 Extension 118.

Write. Written protests may be mailed or delivered in-person to Casitas Municipal Water District, Attn: Clerk to the Board, 1055 Ventura Avenue, California 93022 using the form below:

First Name:	Last Name:	
Street Address:	City:	Zip Code:
Water Account #	Or, APN #	

Please check one:

I am the property owner I am the customer of record

I oppose Casitas Municipal Water District's proposed water rate/charge increase.

I declare under penalty of perjury under the laws of the State of California that the foregoing information is true and accurate and contains no omissions of materials or facts.

Signature:	Date:
Name (Printed—must be legible):	

Emailed or other electronically sent protests will not be classified as formal written protests. All written protests must be received prior to the conclusions of the public hearing. There will be only one protest per parcel allowed.



Attend the Public Hearing. Written protests may also be submitted at the Public Hearing **May 10, 2017, at 3:00 p.m.** in the **gymnasium at the Oak View Resource Center at 555 Mahoney Avenue, Oak View, California.** All members of the public will have an opportunity to speak and give testimony regarding the proposed water and rate adjustments at the Public Hearing; however, only written protests will count toward a majority protest. Written protests must be received before the conclusion of the Public Hearing.

Public Hearing Process. At the time of the Public Hearing, the Board will hear and consider all protests and objections to the proposed increases. **Protests submitted by email or other electronic means do not count as formal written protests; oral comments do not qualify as a formal protest unless accompanied by a written protest.** Upon conclusion of the hearing, the Board will evaluate the protests and consider the adoption of the proposed rates and charges. The Board is authorized to adopt proposed rates and charges if written protests against the proposed rates and charges, as outlined above, do not represent at least a majority of owners or customers of identified parcels impacted by proposed rates and charges. If adopted as proposed, the increased rates and charges become effective on **July 1, 2017, July 1, 2018, July 1, 2019, July 1, 2020 and July 1, 2021.**

Public Hearing Notification and Proof of Publication



NOTICE OF PUBLIC HEARING

Casitas Municipal Water District will hold a Public Hearing on Wednesday, June 23, 2021 at 5:00 p.m. via conference call and Zoom meeting on the Water Shortage Contingency Plan and 2020 Urban Water Management Plan. At the same meeting, the Board will also consider adoption of these two documents in compliance with Water Code Section 10642. Call-in information will be posted on the District's website for the Regular Board meeting at: <https://www.casitaswater.org/about-us/board-of-directors/-folder-125>

The Water Shortage Contingency Plan is included in Section 8 of the 2020 Urban Water Management Plan, which is available to review on the District's website at: <https://www.casitaswater.org/about-us/engineering/engineering-reports-and-master-plans>

Comments or questions may be directed to Julia Aranda, PE, Engineering Manager at jaranda@casitaswater.com or 805.649.2251 x107.

PROOF OF PUBLICATION
(SECTION 2015.5 CCP)

STATE OF CALIFORNIA
COUNTY OF VENTURA

I am a citizen of the United States and a resident of the aforesaid County; I am over the age of eighteen, and not interested in the above entitled matter. I am now, and at all times embraced in the publication herein mentioned, was a principal clerk of the printers and publishers of THE OJAI VALLEY NEWS, a newspaper of general circulation, printed and published every Friday at Ojai in the above-named County and State; that the Legal Advertisement

LEGAL NOTICE

of which the annexed clipping is a true printed copy, was published in the above-named newspaper, and not in any supplement thereof, on the following dates, to-wit:

June 4, 11, 2021

that said newspaper was duly and regularly ascertained and established newspaper of general circulation by Decree entered in the Superior Court of the County of Ventura, State of California, on February 14, 1958, under the provision of Chapter 1, Division 7, Title 1 of the California Code of the State of California. I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Tori Behar
Ojai Valley News



Dated this 11th Day of June
2021 at Ojai Valley News, Ventura County, California

OVN06-01-2021
Published Ojai Valley News
June 4, 11, 2021

NOTICE OF PUBLIC HEARING
Casitas Municipal Water District will hold a Public Hearing on Wednesday, June 23, 2021 at 5:00 p.m. via conference call and Zoom meeting on the Water Shortage Contingency Plan and 2020 Urban Water Management Plan. At the same meeting, the Board will also consider adoption of these two documents in compliance with Water Code Section 10642. Call-in information will be posted on the District's website for the Regular Board meeting at: <https://www.casitaswater.org/about-us/board-of-directors/-folder-125>
The Water Shortage Contingency Plan is included in Section 8 of the 2020 Urban Water Management Plan, which is available to review on the District's website starting June 4, 2021 at: <https://www.casitaswater.org/about-us/engineering/engineering-reports-and-master-plans>
Comments or questions may be directed to Julia Aranda, PE, Engineering Manager at jaranda@casitaswater.com or 805.649.2251 x107.

VENTURA COUNTY
STAR
PART OF THE USA TODAY NETWORK

JUN 15 2021

CASITAS MUNICIPAL PR INT
1055 N VENTURA AVE

OAK VIEW, CA 93022

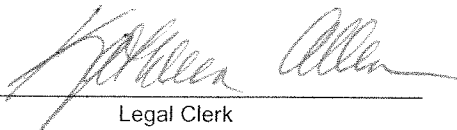
State of California)
))
County of Ventura)

I hereby certify that the Ventura County Star Newspaper has been adjudged a newspaper of general circulation by the Superior Court of California, County of Ventura within the provisions of the Government Code of the State of California, printed in the City of Camarillo, for circulation in the County of Ventura, State of California; that I am a clerk of the printer of said paper; that the annexed clipping is a true printed copy and publishing in said newspaper on the following dates to wit:

06/04/2021, 06/11/2021

I certify under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

Dated this June 11, 2021; in Green Bay, Wisconsin, County of Brown



Legal Clerk

NOTICE OF PUBLIC HEARING

Casitas Municipal Water District will hold a Public Hearing on Wednesday, June 23, 2021 at 5:00 p.m. via conference call and Zoom meeting on the Water Shortage Contingency Plan and 2020 Urban Water Management Plan. At the same meeting, the Board will also consider adoption of these two documents in compliance with Water Code Section 10642. Call-in information will be posted on the District's website for the Regular Board meeting at: <https://www.casitaswater.org/about-us/board-of-directors/-folder-125>

The Water Shortage Contingency Plan is included in Section 8 of the 2020 Urban Water Management Plan, which is available to review on the District's website starting June 4, 2021 at: <https://www.casitaswater.org/about-us/engineering/engineering-reports-and-master-plans>

Comments or questions may be directed to Julia Aranda, PE, Engineering Manager at jaranda@casitaswater.com or 805.649.2251 x107. Publish June 4, 11, 2021 AD#4760068

Publication Cost: \$276.20
Ad No: 0004760068
Customer No: 304044
PO #:

of Affidavits 1



Water Shortage Contingency Plan and
Draft 2020 Urban Water Management Plan

Board of Directors
June 23, 2021

Agenda

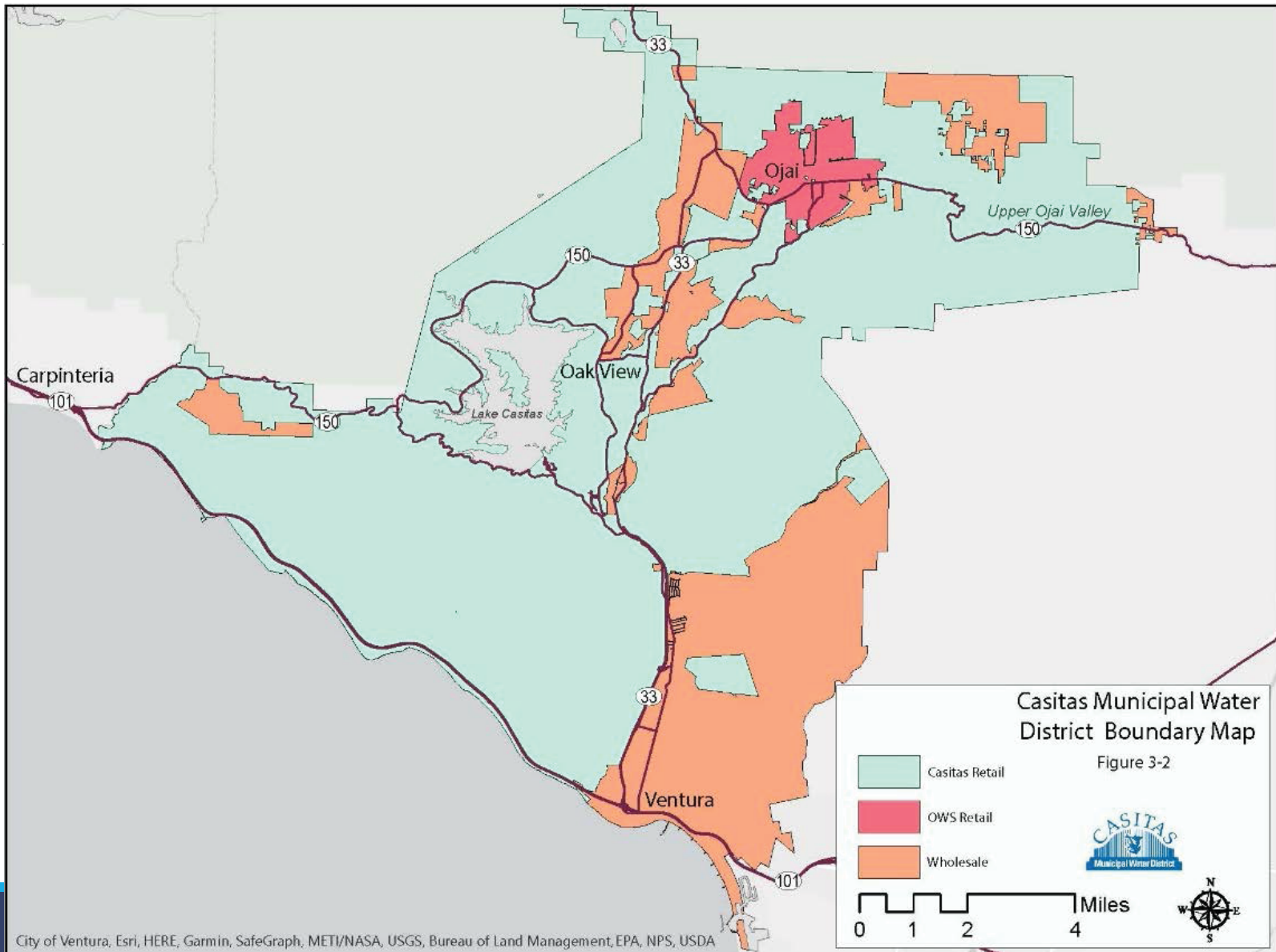
- Population
- 2020 Actual Demands
- Projected Supplies and Demands
- SB X7-7 Compliance
- Water Shortage Contingency Plan Levels





POPULATION





POPULATION

Population - Current and Projected

	2020	2025	2030	2035	2040
Casitas Wholesale	45,964	46,828	47,709	48,606	49,520
Casitas Retail	11,042	11,101	11,161	11,221	11,281
Ojai Retail	6,712	6,773	6,834	6,895	6,957
TOTAL	63,718	64,702	65,704	66,722	67,758





2020 ACTUAL AND PROJECTED DEMANDS



SUMMARY OF DEMANDS

	2020 Actual	2025-2040 Projected
Casitas Wholesale	3,095	4,356
Casitas Retail	7,705	10,169
Ojai Retail	1,708	1,850
Ojai Demands from Casitas System	(369)	(461)
TOTAL	12,139	15,914





PROJECTED SUPPLIES



PROJECTED WATER SUPPLY – Casitas Wholesale and Retail

Description	Source	Reasonably Available Volume Casitas Wholesale	Reasonably Available Volume Casitas Retail	TOTAL
Surface water	Lake Casitas	4,460	10,405	14,865
Groundwater	Mira Monte Well	43	102	145
Purchased or Imported Water	Ven-SB County	600	1,400	2,000
	TOTAL	5,103	11,907	17,010



PROJECTED WATER SUPPLY – Ojai Retail

Description	Source	Reasonably Available Volume
Groundwater	Ojai Wellfield	2,300
Surface Water	Lake Casitas	461
TOTAL		2,761



CASITAS WHOLESALE – Normal Year Supply and Demand

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison, Casitas

	2025	2030	2035	2040
Supply totals	5,103	5,103	5,103	5,103
Demand totals	4,356	4,356	4,356	4,356
Difference	747	747	747	747



CASITAS WHOLESALE – Single Dry Year

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison, Casitas

	2025	2030	2035	2040
Supply totals	5,103	5,103	5,103	5,103
Demand totals	4,356	4,356	4,356	4,356
Difference	747	747	747	747



CASITAS WHOLESALE – Multiple Dry Years

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040
First year	Supply totals	5,103	5,103	5,103	5,103
	Demand totals	4,356	4,356	4,356	4,356
	Difference	747	747	747	747
Second year	Supply totals	5,103	5,103	5,103	5,103
	Demand totals	4,356	4,356	4,356	4,356
	Difference	747	747	747	747
Third year	Supply totals	5,028	5,028	5,028	5,028
	Demand totals	4,356	4,356	4,356	4,356
	Difference	672	672	672	672
Fourth year	Supply totals	4,578	4,578	4,578	4,578
	Demand totals	4,356	4,356	4,356	4,356
	Difference	222	222	222	222
Fifth year	Supply totals	4,803	4,803	4,803	4,803
	Demand totals	3,485	3,485	3,485	3,485
	Difference	1,318	1,318	1,318	1,318



CASITAS RETAIL – Normal Year Supply and Demand

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison, Casitas Retail

	2025	2030	2035	2040
Supply totals	11,907	11,907	11,907	11,907
Demand totals	10,169	10,169	10,169	10,169
Difference	1,738	1,738	1,738	1,738



CASITAS RETAIL – Single Dry Year

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison, Casitas Retail

	2025	2030	2035	2040
Supply totals	11,907	11,907	11,907	11,907
Demand totals	10,169	10,169	10,169	10,169
Difference	1,738	1,738	1,738	1,738



CASITAS RETAIL – Multiple Dry Years

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Casitas Retail

		2025	2030	2035	2040
First year	Supply totals	11,907	11,907	11,907	11,907
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,738	1,738	1,738	1,738
Second year	Supply totals	11,907	11,907	11,907	11,907
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,738	1,738	1,738	1,738
Third year	Supply totals	11,732	11,732	11,732	11,732
	Demand totals	10,169	10,169	10,169	10,169
	Difference	1,563	1,563	1,563	1,563
Fourth year	Supply totals	10,682	10,682	10,682	10,682
	Demand totals	10,169	10,169	10,169	10,169
	Difference	513	513	513	513
Fifth year	Supply totals	11,207	11,207	11,207	11,207
	Demand totals	8,135	8,135	8,135	8,135
	Difference	3,072	3,072	3,072	3,072



OJAI RETAIL – Normal Year Supply and Demand

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison, Ojai Retail

	2025	2030	2035	2040
Supply totals	2,761	2,761	2,761	2,761
Demand totals	1,850	1,850	1,850	1,850
Difference	911	911	911	911



OJAI RETAIL – Single Dry Year

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison, Ojai Retail

	2025	2030	2035	2040
Supply totals	2,761	2,761	2,761	2,761
Demand totals	1,850	1,850	1,850	1,850
Difference	911	911	911	911



OJAI RETAIL – Multiple Dry Years

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison, Ojai Retail

		2025	2030	2035	2040
First year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Second year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Third year	Supply totals	2,761	2,761	2,761	2,761
	Demand totals	1,850	1,850	1,850	1,850
	Difference	911	911	911	911
Fourth year	Supply totals	2,169	2,169	2,169	2,169
	Demand totals	1,850	1,850	1,850	1,850
	Difference	319	319	319	319
Fifth year	Supply totals	2,169	2,169	2,169	2,169
	Demand totals	1,480	1,480	1,480	1,480
	Difference	689	689	689	689





SB X7-7 COMPLIANCE



SB X7-7 BASELINES

Casitas System				
Baseline Period	Start Year	End Year	Average baseline, GPCD	Confirmed Target, GPCD
10 year	1999	2008	369	295
5 year	2005	2009	355	
Ojai System				
Baseline Period	Start Year	End Year	Average baseline, GPCD	Confirmed Target, GPCD
10 year	1999	2008	322	257
5 year	2004	2008	316	



SB X7-7 COMPLIANCE

	2020 Confirmed Target GPCD	2020 Actual GPCD
Casitas System	295	195
Ojai System	257	209





WATER SHORTAGE CONTINGENCY PLAN (WSCP)



Submittal Table 8-1 Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Water Conservation: Voluntary conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP
2	Up to 20%	Water Shortage Warning: Mandatory conservation measures to reduce water usage by up to 20%. Follow recommended response actions in most recently adopted WEAP
3	Up to 30%	Water Shortage Eminent: Mandatory conservation measures to reduce water usage by up to 30%. Follow recommended response actions in most recently adopted WEAP
4	Up to 40%	Severe Water Shortage: Mandatory conservation measures to reduce water usage by up to 40%. Follow recommended response actions in most recently adopted WEAP
5	Up to 50%	Critical Water Shortage: Mandatory conservation measures to reduce water usage by up to 50%. Follow recommended response actions in most recently adopted WEAP
6	>50%	Catastrophic Water System Emergency: Limited to no water can be supplied due to infrastructure damage or failure. Follow recommended response actions in most recently adopted Emergency Response Plan.

ACTION ITEMS

- Hold public hearing on WSCP and 2020 UWMP
- Adopt WSCP and 2020 UWMP (Resolution) (as prepared or as modified)
- Upload 2020 UWMP to DWR portal no later than 7/1/21
- Send hardcopies to Cities, County, and California State Library within 30 days of adoption
- Upload 2020 UWMP to District website



QUESTIONS?



Stage 3 Drought - What does it mean for you?

Casitas Municipal Water District's Board of Directors declared Stage 3 water supply conditions on April 27, 2016, in response to five years of historic drought conditions.

Western Ventura County relies exclusively on local water supplies and is in the grip of one of the driest periods in recorded history. In January of 2019, Lake Casitas level hit a historic low at 30% of its capacity. The storms that marched through since then have added a boost to Lake Casitas' volume. As of June 2019, Lake Casitas stands at approximately 45% of its capacity.

Stage 3 drought condition remains in effect and the following demand measures are in place:

- All residential landscape irrigation is restricted to: before 10:00AM and after 6:00PM
 - Note: Exceptions to the irrigation restriction times include using greywater/rainwater or hand watering using a hose with a shut-off nozzle
- Water waste is prohibited, such as:
 - Irrigation run-off from the property or onto hard surfaces
 - Irrigation during non-designated times

All customers' individual allocations are reduced by 10%

- Note: The 10% reduction in allocations for residential customers applies only to their non-essential outdoor allocation. Residential essential allocations for indoor usage will continue to be 10 units per month for all residents.
- The 10% reduction in non-essential customer allocations, assists Casitas to meet the 30% Water Use Reduction Response Goal associated with a Stage 3 drought condition. Stage 3 is a 30% reduction from historical usage.

Casitas encourages constituents throughout the District to use their water wisely through an active water conservation campaign, offering water-saving workshops, rebates, and free residential, commercial, and agricultural water surveys. Anyone interested in finding out more about these programs is encouraged to explore our [water conservation page](#) or to call Kiran at (805) 649-2251 Extension 128.



**Guidelines for Energy Project
Applications Requiring CEQA Compliance:
*Pre-filing and Proponent's Environmental Assessments***

November 2019

Version 1.0

Energy Division
Infrastructure Permitting and CEQA Unit
California Public Utilities Commission



Guidelines for Energy Project Applications Requiring CEQA Compliance:

Pre-filing and Proponent’s Environmental Assessments

Contents

CONTENTS	I
FOREWORD	I
PRE-FILING GUIDELINES	1
PROPONENT’S ENVIRONMENTAL ASSESSMENT CHECKLIST	4
FORMATTING AND BASIC PEA DATA NEEDS, INCLUDING GIS DATA	4
COVER	5
TABLE OF CONTENTS	7
<i>Sections</i>	7
<i>Required PEA Appendices and Supporting Materials</i>	8
<i>Potentially Required Appendices and Supporting Materials</i>	8
1 EXECUTIVE SUMMARY	10
2 INTRODUCTION	11
2.1 PROJECT BACKGROUND	11
2.2 PRE-FILING CONSULTATION AND PUBLIC OUTREACH	12
2.3 ENVIRONMENTAL REVIEW PROCESS	13
2.4 DOCUMENT ORGANIZATION	13
3 PROPOSED PROJECT DESCRIPTION	14
3.1 PROJECT OVERVIEW	14
3.2 EXISTING AND PROPOSED SYSTEM	14
3.3 PROJECT COMPONENTS	15
3.4 LAND OWNERSHIP, RIGHTS-OF-WAY, AND EASEMENTS	19
3.5 CONSTRUCTION	20
3.6 CONSTRUCTION WORKFORCE, EQUIPMENT, TRAFFIC, AND SCHEDULE	31
3.7 POST-CONSTRUCTION	32
3.8 OPERATION AND MAINTENANCE	33
3.9 DECOMMISSIONING	34
3.10 ANTICIPATED PERMITS AND APPROVALS	34
3.11 APPLICANT PROPOSED MEASURES	34
3.12 PROJECT DESCRIPTION GRAPHICS, MAPBOOK, AND GIS REQUIREMENTS	38
4 DESCRIPTION OF ALTERNATIVES	40
5 ENVIRONMENTAL ANALYSIS	42
5.1 AESTHETICS	43
5.2 AGRICULTURE AND FORESTRY RESOURCES	46
5.3 AIR QUALITY	47
5.4 BIOLOGICAL RESOURCES	49
5.5 CULTURAL RESOURCES	52
5.6 ENERGY	53
5.7 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES	54
5.8 GREENHOUSE GAS EMISSIONS	56
5.9 HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY	57
5.10 HYDROLOGY AND WATER QUALITY	59
5.11 LAND USE AND PLANNING	61

5.12	MINERAL RESOURCES	62
5.13	NOISE	62
5.14	POPULATION AND HOUSING.....	64
5.15	PUBLIC SERVICES.....	65
5.16	RECREATION.....	66
5.17	TRANSPORTATION	67
5.18	TRIBAL CULTURAL RESOURCES	70
5.19	UTILITIES AND SERVICE SYSTEMS	71
5.20	WILDFIRE	73
5.21	MANDATORY FINDINGS OF SIGNIFICANCE	75
6	COMPARISON OF ALTERNATIVES	75
7	CUMULATIVE AND OTHER CEQA CONSIDERATIONS	76
8	LIST OF PREPARERS	77
9	REFERENCES.....	77
 PEA CHECKLIST ATTACHMENTS		
	ATTACHMENT 1: GIS DATA REQUIREMENTS	78
	ATTACHMENT 2: BIOLOGICAL RESOURCE TECHNICAL REPORT STANDARDS	79
	DEFINITIONS.....	79
	<i>Sensitive Vegetation Communities and Habitats</i>	79
	<i>Special-Status Species</i>	79
	BIOLOGICAL RESOURCE TECHNICAL REPORT MINIMUM REQUIREMENTS	80
	<i>Report Contents</i>	80
	<i>Mapping and GIS Data</i>	80
	ATTACHMENT 3: CULTURAL RESOURCE TECHNICAL REPORT STANDARDS	81
	CULTURAL RESOURCE INVENTORY REPORT	81
	CULTURAL RESOURCE EVALUATION REPORT	81
	ATTACHMENT 4: CPUC DRAFT ENVIRONMENTAL MEASURES	81

Foreword

November 12, 2019

To: Applicants Filing Proponent’s Environmental Assessments for Energy Infrastructure Projects at the California Public Utilities Commission (CPUC or Commission)

From: Merideth Sterkel (Program Manager, Infrastructure Planning and Permitting) and Mary Jo Borak and Lon Maier, Supervisors, Infrastructure Permitting and California Environmental Quality Act, Energy Division, CPUC

Subject: Introducing revisions to the Pre-filing Guidelines for Energy Infrastructure Projects and a Unified and Updated Electric and Gas PEA Checklist

We are pleased to release a 2019 revision to the California Environmental Quality Act (CEQA) Proponent’s Environmental Assessments (PEA) Checklist. This substantially revised document is now entitled “Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent’s Environmental Assessments” (Guidelines). Future updates to this document will be made as determined necessary. The CPUC’s Rules of Practice and Procedure Sections 2.4 provide that all applications to the CPUC for authority to undertake projects that are not statutorily or categorically exempt from CEQA requirements shall include an Applicant-prepared PEA.

Updates Overview

Prior versions of the Working Draft PEA Checklist were published in 2008 and 2012. For this 2019 update, extensive revisions were made to all sections based on our experience with the prior checklist versions. All electric and natural gas projects are now addressed in a single PEA Checklist, and the following updates were made:

- **CEQA Statute and Guidelines 2019 Updates:** The PEA Checklist is updated pursuant to the 2019 CEQA Statutes and Guidelines, including new energy and wildfire resource areas.
- **Pre-filing Consultation Guidelines:** Pre-filing guidelines are now provided since the pre-filing and PEA development processes are intertwined.
- **Unified PEA Checklist for Energy Projects:** All electric and natural gas projects are now addressed in a single PEA Checklist.
- **Additional CEQA Impact Questions:** Questions are included for the following PEA Checklist sections: 5.4, Biological Resources; 5.6, Energy; 5.9, Hazards, Hazardous Materials, and Public Safety; 5.16, Recreation; 5.17, Transportation; and 5.19, Utilities and Service Systems.
- **CPUC Draft Environmental Measures:** Draft measures are provided in PEA Checklist Attachment 4 for Aesthetics, Air Quality, Cultural Resources, Greenhouse Gas Emissions, Utilities and Service Systems and Wildfire.

Purpose of the Guidelines Document

The purpose and objective of the PEA Checklist included within this Guidelines document has not changed, which is to provide project Proponents (Applicants) with detailed guidance about information our CEQA Unit Staff expect in sufficient PEAs. The document details the information Applicants must provide the CPUC to complete environmental reviews that satisfy CEQA requirements. Specifically, the Pre-filing Consultation Guidelines and PEA Checklist, together, are intended to achieve the following objectives:

1. Provide useful guidance to Applicants, CPUC staff, and outside consultants regarding the type and detail of information needed to quickly and efficiently deem an application complete;

2. Ensure PEAs provide reviewers with a detailed project description and associated information sufficient to deem an application complete, avoid lengthy review periods and numerous data requests for the purpose of augmenting a PEA, and avoid unnecessary PEA production costs;
3. Increase the level of consistency between PEAs submitted and provide for more consistent review by CPUC CEQA Unit Staff and outside consultants; and
4. Promote transparency and reduce the potential for conflicts between utility and CPUC Staff about the types, scope, and thoroughness of data expected for data adequacy purposes.

The Guidelines document provides detailed instructions to Applicants for use during the Pre-filing process and PEA development. The document is intended to fully inform Applicants and focus the role of outside consultants, thus, enabling Applicants to submit more complete, useful, and immediately data-adequate PEAs.

Benefits of High Quality and Complete PEAs

CPUC CEQA Unit Staff seek to complete the environmental review process required under CEQA as quickly and efficiently as possible. Table 1 shows the average duration in months of CPUC applications that require CEQA documents. While there are tensions between speed and quality in all project management, the achievement of expeditious environmental reviews can result in lower project costs to ratepayers. Our staff have reviewed the timelines for 108 past CPUC applications that required review pursuant to CEQA and determined that the average length of time from application filing to PEA deemed complete is four months, regardless of the type of CEQA document. The goal for our agency is to deem PEAs complete within 30 days. The faster PEAs are deemed complete, the sooner staff can prepare the CEQA document. With each delay to PEA completeness, the fundamental project purpose and need and baseline circumstances may shift, requiring refreshing of the data. The Guidelines document will improve the initial accuracy of PEAs and reduce the time required to deem PEAs complete. Once an application is formally filed, the Applicant will receive a notification letter from CPUC CEQA Unit Staff when the PEA is deemed complete.

Table 1. Average Duration in Months of CPUC Applications that Require CEQA Documents (1996–2019)

	I: Application Filed to PEA Deemed Complete	II: PEA Deemed Complete to Draft Environmental Document Circulated	III: Draft Environmental Document to Final Released	IV: Final Released to Proposed Decision	V: Proposed Decision to Final Decision (with Certification of CEQA Document)	I-V: Overall Duration ⁽¹⁾
Environmental Impact Report (EIR; n=49)	5	13	7	5	2	29
Initial Study/ Mitigated Negative Declaration (IS/MND; n=56)	4	8	3	4	1	19
All Document Types (n=108)	4	8	4	5	2	23
Range: All Document Types	1-9	5-18	2-10	1-7	1-2	12-38

Note:

(1) The overall duration is not a sum of the average durations for each step. The overall duration was calculated using “n,” the number of applications with data available for the date of application filing and final decision date. Not all projects had data available for each step. The data include several instances where the CEQA document was developed in conjunction with a NEPA document, e.g., an EIR/Environmental Impact Statement or IS/MND/Environmental Assessment/Finding of No Significant Impact was prepared instead of an EIR or MND, respectively. The above data is not inclusive of projects that had averages and ranges that are statistically abnormal.

Lessons Learned about the PEA Process

In the past, Applicants have filed PEAs using the checklist to ensure the correct information was provided but have not followed the format and organization of the PEA checklist and sometimes chose not to engage in Pre-filing activities with our staff. To achieve the objectives and benefits listed above, Applicants will file all future PEAs in the same organizational format as the updated checklist and adhere to the Pre-filing Consultation Guidelines in coordination with CPUC CEQA Unit Staff.

The Guidelines document describes the level effort required for the assessments necessary to not only finalize a CEQA document but ensure its legal defensibility. While final design and survey information is preferred, the PEA may incorporate preliminary design and survey data as appropriate and in consultation with CEQA Unit Staff during Pre-filing. We recognize that projects are fact specific, and deviations from the Pre-filing Consultation Guidelines and PEA Checklist are inevitable but providing concise and accurate information as soon as possible is paramount. Any deviations from these Guidelines must include clear justification and should be discussed and submitted during the Pre-filing Consultation process to avoid subsequent delays.

The PEA Checklist is written with the assumption that an Environmental Impact Report will be prepared, however, a Mitigated Negative Declaration or other form of CEQA document (e.g., exemption) may be appropriate. This determination, however, must be made in consultation with CPUC CEQA Unit Staff during Pre-filing and prior to submittal of the Draft PEA.

Future Modifications and Improvements

Like the predecessor PEA checklists, this is a working document that will be modified over time based on experience and changes to the CEQA Statute and Guidelines. To meet the above stated objectives and maintain consistency with CEQA. We expect Applicants, their consultants, CPUC consultants, and the CPUC to engage in a regular and ongoing dialogue about specific improvements to the CEQA process overall, and these Guidelines in particular.

We look forward to working with Applicants during the Pre-filing Consultation process to ensure that the level of effort that goes into preparing PEAs can be effectively and efficiently transferred into the CEQA document prepared by CPUC Staff and consultants. Applicants are invited to debrief with our staff about the efficacy of these Guidelines.

Merideth Sterkel

/s/

Program Manager, Infrastructure Planning and Permitting
California Public Utilities Commission

Mary Jo Borak

/s/

Supervisor, Infrastructure Permitting and CEQA Unit
California Public Utilities Commission

Lonn Maier

/s/

Supervisor, Infrastructure Permitting and CEQA Unit
California Public Utilities Commission

Pre-Filing Consultation Guidelines

The following Pre-filing Consultation Guidelines apply to all PEAs filed with applications to the CPUC and outline a process for Applicants to engage with CPUC CEQA Unit Staff about upcoming projects that will require environmental review pursuant to CEQA. The CPUC is typically the Lead Agency for large projects by investor-owned gas and electric utilities. The CPUC's CEQA Unit Staff are experienced with developing robust CEQA documents for long, linear energy projects. The PEA Checklist, starting in the next section, is based upon that experience.

Pre-filing Consultation Process

During Pre-filing Consultation, Applicants and CPUC Staff meet to discuss the upcoming application. Successful projects will commence Pre-filing Consultation no less than six months prior to application filing at the CPUC. When the application is formally filed at the CPUC, the Application and the PEA are submitted to the CPUC Docket Office.

1. Meetings with CPUC Staff

To initiate Pre-filing Consultation, Applicants will request and attend a meeting with CPUC CEQA Unit Staff at least six months prior to application filing.

- a. Applicants can request a Pre-Filing Consultation meeting via email or letter. Initial contact via telephone may occur, but staff request written documentation of Pre-filing Consultation commencement.
- b. For the initial meeting, Applicants will provide staff with a summary of the proposed project including maps and basic GIS data at least one week prior to the meeting.
- c. Applicants will receive initial feedback on the scope of the proposed project and PEA. Staff will work with Applicants to establish a schedule for subsequent Pre-filing meetings and milestones.

2. Consultant Resources

CPUC CEQA Unit Staff will initiate the consultant contract immediately following the initial Pre-filing Consultation meeting. CPUC's consultant contract resources will be executed prior to Applicant filing of the Draft PEA. The consultant contract is critical to the Pre-filing Consultation process. Applicants are encouraged to request updates about the status of the contract. The CPUC may use its on-call consulting resources contract for these purposes. If CEQA Unit Staff determine that their on-call consulting resources are not appropriate due to the anticipated project scope, staff may initiate a request for proposals process to engage consulting resources, and the resulting contracting process will be completed and consultant contract in place prior to Draft PEA filing.

3. Draft PEA Provided Prior to PEA Filing

A complete Draft PEA will be filed at least three months prior to application filing. CPUC CEQA Unit Staff and the CPUC consultant team will review and provide comments on the Draft PEA to the Applicant early in the three-month period to allow time for Applicant revisions to the PEA.

4. Project Site Visits

One or more site visits will be scheduled with CPUC CEQA Unit Staff and their consultant at the time of Draft PEA filing (or prior). Appropriate federal, state, and local agencies will also be engaged at this time.

5. Consultation with Public Agencies

The Applicant and CPUC CEQA Unit Staff will jointly reach out and conduct consultation meetings with public agencies and other interested parties in the project area. CPUC CEQA Unit Staff may also choose to conduct separate consultation meetings if needed.

If a federal agency will be a co-lead pursuant to the National Environmental Policy Act and coordinating with the CPUC during the environmental review process, the Applicant and CPUC CEQA Unit Staff will ensure that the agency has the opportunity to comment on the Draft PEA and participate jointly with the CPUC throughout the application review process. Applicant and Commission CEQA Unit Staff coordination with the federal agency (if applicable) will likely need to occur more than six months in advance of application filing.

6. Alternatives Development

PEAs will be drafted with the assumption that an Environmental Impact Report (EIR) will be prepared. Applicants will include a reasonable range of alternatives in the PEA (even though a Mitigated Negative Declaration [MND] may ultimately be prepared), including sufficient information about each alternative. In some situations, CPUC CEQA Unit Staff and project Applicants may agree during Pre-filing Consultation that an MND is likely and a reasonable range of alternatives is not required for the PEA. This determination, however, must be made in consultation with CEQA Unit Staff during Pre-filing and is not final. The type of document to be prepared may change based on public scoping results and other findings during the environmental review process.

CEQA Unit Staff will provide feedback on the range of alternatives prior to Draft PEA filing (if possible) based on their review of the Draft PEA. It is critical that Applicants receive feedback from CEQA Unit Staff about the range of alternatives prior to filing the PEA. Applicants will ensure that each alternative is described and evaluated in the PEA with an equal level of detail as the proposed project unless otherwise instructed in writing by CEQA Unit Staff.

7. Format of PEA Submittal

Each PEA submittal will include the completed PEA Checklist tables. Each PEA submittal will be formatted and organized as shown in the Example PEA Table of Contents provided in the PEA Checklist unless otherwise directed by CPUC CEQA Unit Staff in writing prior to application filing. The example PEA Table of Contents is modeled after typical CPUC EIRs.

8. Transmission and Distribution System Information

A key component of CEQA projects analyzed during CPUC environmental reviews is the context of the project within the larger transmission and distribution system. Detailed descriptions of the regional transmission system, including GIS data, to which the proposed project would interconnect are required. The required level of detail about interconnecting systems is project specific and will be specified by CEQA Unit Staff in writing during Pre-filing Consultation. Detailed distribution system information may also be required.

9. Data and Technical Adequacy

Applicants will focus PEA development efforts on providing thorough, up-to-date data and technical reports required for CPUC CEQA Unit Staff to complete the environmental document and alternatives analysis.

The Applicant-drafted PEA Executive Summary, Introduction, Project Description, Description of Alternatives, and other chapters typically found in past CPUC EIRs and Initial Study/MNDs will be *thorough*—emulate the level of detail provided in typical CPUC EIRs. The setting sections provided for

PEA Chapter 5, Environmental Analysis, will also be thorough. Applicants will ensure that the PEA text, graphics, and file formats can be efficiently converted into CPUC's CEQA document with minimal revision, reformatting, and redevelopment by CPUC Staff and consultants.

The impact analyses and determinations provided for Chapter 5, Environmental Analysis, and Chapter 6, Comparison of Alternatives, need not be as thorough as those to be prepared by the CPUC for its CEQA document. These two sections are expected to be revised and redeveloped by CPUC Staff and consultants. Other sections of the CEQA document will only be revised and redeveloped by CPUC Staff and consultants if determined to be necessary after PEA filing.

10. Applicant Proposed Measures

The Pre-filing Consultation process can support the development Applicant Proposed Measures (APMs); measures that Applicants incorporate into the PEA project description to avoid or reduce what otherwise may be considered significant impacts. APMs that use phrases, such as, "as practicable," "as needed," or other conditional language will be superseded by Mitigation Measures if required to avoid or reduce a potentially significant impact. CPUC CEQA Unit Staff and their consultant team may review and provide comments on the Draft PEA APMs during Pre-filing Consultation.

Applicants will carefully consider each CPUC Draft Environmental Measure identified in Chapter 5 of this PEA Checklist. The measures may be applied to the proposed project if appropriate and may be subject to modification by the CPUC during its environmental review.¹

11. PEA Checklist Deviations

CPUC CEQA Unit Staff understand that the PEA Checklist requires Applicants to develop a significant quantity of information. There are times when it is appropriate to deviate from the PEA Checklist. Deviations to the Pre-Filing Consultation Guidelines or the PEA Checklist contents may be approved by the CPUC's CEQA Unit Staff. Staff approval will be in writing and will occur prior to Applicant filing of the Draft PEA. Note that any deviations approved in writing by staff during the Pre-filing period may be reversed or modified after application and PEA filing and at any time throughout the environmental review period at the discretion of CPUC CEQA Unit Staff.

12. Submittal of Confidential Information

CPUC Staff are available during Pre-filing Consultation to discuss concerns that Applicants may have about confidentiality. However, the CEQA process requires public disclosure about projects, and such disclosure can often appear to conflict with Applicant requests for confidentiality. CPUC CEQA Unit Staff will rely on CPUC adopted confidentiality procedures to resolve confidentiality concerns. Applicants that expect aspects of a PEA filing to be confidential must follow CPUC confidentiality procedures. Applicants may mark information as confidential if allowed pursuant to General Order 66 or latest applicable Commission rule (e.g., see Public Records Act Proceeding Rulemaking (R.14-11-001)).

13. Additional CEQA Impact Questions

Additional CEQA Impact Questions that are specific to the types of projects evaluated by the Commission's CEQA Unit are identified in the PEA Checklist to be considered in addition to the checklist items in CEQA Guidelines Appendix G.

The next section of this Guidelines document provides the PEA Checklist for all energy project applications that require CEQA compliance.

¹ At this time, the CPUC environmental measures are in draft format, see PEA Checklist Attachment 4. They may be formally incorporated into Chapter 5 of future versions of the PEA Checklist.

Proponent's Environmental Assessment (PEA) Checklist

The PEA Checklist provides project Applicants (e.g., projects involving electric transmission lines, electric substations or switching stations, natural gas transmission pipelines, and underground natural gas storage facilities) with detailed guidance regarding the level of detail CPUC CEQA Unit Staff expect to deem PEAs complete. Applicants will prepare their PEAs using the same section headers and numbering as provided in the PEA Checklist. Applicants will also provide supporting data that is specific to each item within the PEA Checklist. As noted in the Pre-Filing Consultation Guidelines, the PEA Checklist is written with the assumption that an EIR will be prepared. PEA contents may not need to support the development of an EIR, but this determination can only be made in consultation with CPUC CEQA Unit Staff as described in the Pre-Filing Consultation Guidelines.

Formatting and Basic PEA Data Needs, Including GIS Data

1. Provide **editable and fully functional source files** in electronic format for all PDF files, hardcopies, maps, images, and diagrams. Files will be provided in their original file format as well as the output file format. All Excel and other spreadsheet files or modeling files will include all underlying formulas/modeling details. All modeling files must be fully functional.
2. Details about the types of **GIS data and maps** to be submitted are provided in Attachment 1. GIS data not specified in this checklist may also be requested depending on the Proposed Project and alternatives.
3. The Applicant is responsible for ensuring that all project features, including project components and temporary and permanent work areas, are included within all **survey boundaries** (e.g., biological and cultural resources).
4. Excel spreadsheets with **emissions calculations** will be provided that are complete with all project assumptions, values, and formulas used to prepare emissions calculations in the PEA. Accompanying PDF files with the same information will be provided as Appendix B to the PEA (see List of Appendices below).
5. Applicants will provide in an Excel spreadsheet a comprehensive **mailing list** that includes the names and addresses of all affected landowners and residents, including unit numbers for multi-unit properties for both the proposed project and alternatives.
 - a. An affected resident or landowner is defined as one whose place of residence or property is:
 - i. Crossed by or abuts any component of the proposed project or an alternative including any permanent or temporary disturbance area (either above or below ground) and any extra work area (e.g., staging or parking area); or
 - ii. Located within approximately 1,000 feet² of the edge of any construction work area.
 - b. Include in the following information for each resident in a spreadsheet, at minimum: parcel APN number, owner name and mailing address, and parcel physical address. If individual occupant names, facility names, or business names are available, also provide these names and addresses in the spreadsheet. A sample mailing list format is provided in Table 2.

² Notice to all property owners within 300 feet of a Proposed Project is required at the time of application filing under GO 131-D. Commission notices of CEQA document preparation may be mailed to residents and property owners greater than 300 feet from a Proposed Project to ensure adequate notification (e.g., 1,000 feet) and the extent of notification will be determined on a project specific basis. Appropriate notice expectations will be discussed during Pre-filing (e.g., with respect to visual impact areas and other types of impacts specific to the Proposed Project and its study area).

Table 2. Sample Project Mailing List

Category	Company/ Agency	Name	Mailing Address	Phone Number	Email	APN	Source
State Agency	California Resources Agency	John Doe	1234 California Street City, CA 98765	(333) 456-7899	john.doe@email.com	123-456-789	County Assessor
Individual	n/a	Jane Doe	222 Main Street City, CA 97531	(909) 876-5432	jane.doe@email.com	101-202-303	Public meeting on Month, Day 2019

6. **PEA Organization:** This PEA Checklist is organized to include each of the chapters and sections found in typical CPUC EIRs. The following sections will serve as the outline for all Draft PEAs submitted during Pre-filing and all PEAs filed with the CPUC Docket Office. PEAs will include each chapter and section identified (in matching numerical order) unless otherwise directed by CPUC CEQA Unit Staff in writing prior to filing.

Cover

A single sheet with the following information:	Applicant Notes, Comments
Title "Proponent's Environmental Assessment" and filing date	
Proponent Name (the Applicant)	
Name of the proposed project ³	
Technical subheading summarizing the type of project and its major components, in one sentence or about 40 words, for example: A new 1,120 MVA, 500/115kV substation, 10 miles of new singled-circuit 500kV transmission lines, 25 miles of new and replaced double-circuit 115kV power lines, and upgrades at three existing substations are proposed.	
Location of the proposed project (all counties and municipalities or map figure for the cover that shows the areas crossed)	
Proceeding for which the PEA was prepared and CPUC Docket number (if known) or simply leave a blank where the Docket number would go	
Primary Contact's name, address, telephone number, and email address for both the project Applicant(s) and entities that prepared the PEA	
See example PEA cover in Figure 1.	

³ If approved by the California Independent System Operator (CAISO), the project name listed will match the name specified in the CAISO approval. If multiple names apply, list all versions.

Figure 1. Example PEA Cover



Proponent's Environmental Assessment for California Utility Company's Evergreen Electric Substation and Transmission Line Project

May 1, 2019 (PEA filing date)

A new 230 kV substation, 10 miles of new single-circuit 230kV transmission lines, and upgrades at two existing substations are proposed.

The Proposed Project would be located primarily in __ County but would also cross __ and __ counties and areas within the City of __.

Application A.19-05-01 to the California Public Utilities Commission

*Prepared by California Environmental
Consulting
1234 Avenue
City, CA Zip Code
Primary Contact's Name
Position
Phone Number
Email*

*Prepared for California Utility Company
1234 Avenue
City, CA Zip Code
Primary Contact's Name
Position
Phone Number
Email*

Table of Contents

Sections

Order	The format of the PEA will be organized as follows:	Applicant Notes, Comments
--	Cover	
--	Table of Contents, List of Tables, List of Figures, List of Appendices	
1	Executive Summary	
2	Introduction	
3	Proposed Project Description	
4	Description of Alternatives	
5	Environmental Analysis	
5.1	Aesthetics	
5.2	Agriculture and Forestry	
5.3	Air Quality	
5.4	Biological Resources	
5.5	Cultural Resources	
5.6	Energy	
5.7	Geology, Soils, and Paleontological Resources	
5.8	Greenhouse Gas Emissions	
5.9	Hazards, Hazardous Materials, and Public Safety	
5.10	Hydrology and Water Quality	
5.11	Land Use and Planning	
5.12	Mineral Resources	
5.13	Noise	
5.14	Population and Housing	
5.15	Public Services	
5.16	Recreation	
5.17	Transportation	
5.18	Tribal Cultural Resources	
5.19	Utilities and Service Systems	
5.20	Wildfire	
5.21	Mandatory Findings of Significance	
6	Comparison of Alternatives	

7	Cumulative Impacts and Other CEQA Considerations	
8	List of Preparers	
9	References ⁴	
--	Appendices	

Required PEA Appendices and Supporting Materials

Order	Title	Applicant Notes, Comments
Appendix A	Detailed Maps and Design Drawings	
Appendix B	Emissions Calculations	
Appendix C	Biological Resources Technical Reports (see Attachment 2)	
Appendix D	Cultural Resources Studies (see Attachment 3)	
Appendix E	Detailed Tribal Consultation Report ⁵	
Appendix F	Environmental Data Resources Report, Phase I Environmental Site Assessment, or similar hazardous materials report	
Appendix G	Agency Consultation and Public Outreach Report and Records of Correspondence	
Appendix H	Construction Fire Prevention Plan ⁶	

Potentially Required⁷ Appendices and Supporting Materials

Order	Title	Applicant Notes, Comments
Appendix I	Noise Technical Studies	
Appendix J	Traffic Studies	
Appendix K	Geotechnical Investigations (may preliminary at time of PEA filing)	
Appendix L	Hazardous Substance Control and Emergency Response Plan / Hazardous Waste and Spill Prevention Plan	

⁴ References will be organized by section but contained in a single chapter called, "References."

⁵ Include summary and timing of all correspondence to and from any Tribes and the State Historic Preservation Office/Native American Heritage Commission, including Sacred Lands File search results, and full description of any issues identified by Tribes in their interactions with the Applicant.

⁶ The Construction Fire Prevention Plan will be provided to federal, state, and local fire agencies for review and comment as applicable to where components of the proposed project would be located. CPUC will approve the final Construction Fire Prevention Plan. Record of the request for review and comment and any comments received from these agencies will be provided to CPUC CEQA Unit Staff.

⁷ Anticipated Appendix and study requirements should be discussed with CPUC CEQA Unit Staff during Pre-filing.

Appendix M	Erosion and Sedimentation Control Best Management Practice Plan / Draft Storm Water Pollution Prevention Plan (may be preliminary at time of PEA filing)	
Appendix N	FAA Notice and Criteria Tool Results	
Appendix O	Revegetation or Site Restoration Plan	
Appendix P	Health and Safety Plan	
Appendix Q	Existing Easements ⁸	
Appendix R	Blasting Plan (may be preliminary at time of PEA filing)	
Appendix S	Traffic Control/Management Plan (may be preliminary at time of PEA filing)	
Appendix T	Worker Environmental Awareness Program (may preliminary at time of PEA filing)	
Appendix U	Helicopter Use and Safety Plan (may be preliminary at time of PEA filing)	
Appendix V	Electric and Magnetic Fields Management Plan (may be part of the Application rather than the PEA)	

⁸ Easements should be provided military lands, conservation easements, or other lands where the real estate agreement specifies the range of activities that can be conducted

1 Executive Summary

This section will include, but is not limited to, the following:	PEA Section and Page Number ⁹	Applicant Notes, Comments
1.1: Proposed Project Summary. Provide a summary of the proposed project and its underlying purpose and basic objectives.		
1.2: Land Ownership and Right-of-Way Requirements. Provide a summary of the existing and proposed land ownership and rights-of-way for the proposed project.		
1.3: Areas of Controversy. Identify areas of anticipated controversy and public concern regarding the project.		
1.4: Summary of Impacts <ul style="list-style-type: none"> a) Identify all impacts expected by the Applicant to be potentially significant. Identify and discuss Applicant Proposed Measures here and provide a reference to the full listing of Applicant Proposed Measures provided in the table described in Section 3.11 of this PEA Checklist. b) Identify any significant and unavoidable impacts that may occur. 		
1.5: Summary of Alternatives. Summarize alternatives that were considered by the Applicant and the process and criteria that were used to select the proposed project.		
1.6: Pre-filing Consultation and Public Outreach Summary. Briefly summarize Pre-filing consultation and public outreach efforts that occurred and identify any significant outcomes that were incorporated into the proposed project.		
1.7: Conclusions. Provide a summary of the major PEA conclusions.		
1.8: Remaining Issues. Describe any major issues that must still be resolved.		

⁹ The *PEA Section and Page Number* column and *Applicant Notes, Comments* column are intended to be filled out and provided with PEA submittals. The PEA Checklist is provided in Word to all Applicants to allow column resizing as appropriate to reduce PEA checklist length when completed for submittal. Landscape formatting may also be appropriate for completed PEA Checklist tables.

2 Introduction

2.1 Project Background

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>2.1.1: Purpose and Need</p> <ul style="list-style-type: none"> a) Explain why the proposed project is needed. b) Describe localities the proposed project would serve and how the project would fit into the local and regional utility system. c) If the proposed project was identified by the California Independent System Operator (CAISO), thoroughly describe the CAISO's consideration of the proposed project and provide the following information: <ul style="list-style-type: none"> i. Include references to all CAISO Transmission Planning Processes that considered the proposed project. ii. Explain if the proposed project is considered an economic, reliability, or policy-driven project or a combination thereof. iii. Identify whether and how the Participating Transmission Owner recommended the project in response to a CAISO identified need, if applicable. iv. Identify if the CAISO approved the original scope of the project or an alternative and the rationale for their approval either for the original scope or an alternative. v. Identify how and whether the proposed project would exceed, combine, or modify in any way the CAISO identified project need. vi. If the Applicant was selected as part of a competitive bid process, identify the factors that contributed to the selection and CAISO's requirements for in-service date. d) If the project was not considered by the CAISO, explain why. 		
<p>(Natural Gas Storage Only)</p> <ul style="list-style-type: none"> e) Provide storage capacity or storage capacity increase in billion cubic feet. If the project does not increase capacity, make this statement. f) Describe how existing storage facilities will work in conjunction with the proposed project. Describe the purchasing process (injection, etc.) and transportation arrangements this facility will have with its customers. 		
<p>2.1.2: Project Objectives</p> <ul style="list-style-type: none"> a) Identify and describe the basic project objectives.¹⁰ The objectives will include reasons for constructing the project based on its 		

¹⁰ Tangential project goals should not be included as basic project objectives, such as, minimizing environmental impacts, using existing ROWs and disturbed land to the maximum extent feasible, ensuring safety during construction and operation, building on property already controlled by the Applicant/existing site control. Goals of this type do not describe the underlying purpose or basic objectives but, rather, are good general practices for all projects.

<p>purpose and need (i.e., address a specific reliability issue). The description of the project objectives will be sufficiently detailed to permit CPUC to independently evaluate the project need and benefits to accurately consider them in light of the potential environmental impacts. The basic project objectives will be used to guide the alternatives screening process, when applicable.</p> <p>b) Explain how implementing the project will achieve the basic project objectives and underlying purpose and need.</p> <p>c) Discuss the reasons why attainment of each basic objective is necessary or desirable.</p>		
<p>2.1.3: Project Applicant(s). Identify the project Applicant(s) and ownership of each component of the proposed project. Describe each Applicant’s utility services and their local and regional service territories.</p>		

2.2 Pre-filing Consultation and Public Outreach¹¹

<p>This section will include, but is not limited to, the following:</p>	<p>PEA Section and Page Number</p>	<p>Applicant Notes, Comments</p>
<p>2.2.1: Pre-filing Consultation and Public Outreach</p> <p>a) Describe all Pre-filing consultation and public outreach that occurred, such as, but not limited to:</p> <ul style="list-style-type: none"> i. CAISO ii. Public agencies with jurisdiction over project areas or resources that may occur in the project area iii. Native American tribes affiliated with the project area iv. Private landowners and homeowner associations v. Developers for large housing or commercial projects near the project area vi. Other utility owners and operators vii. Federal, state, and local fire management agencies <p>b) Provide meeting dates, attendees, and discussion summaries, including any preliminary concerns and how they were addressed and any project alternatives that were suggested.</p> <p>c) Clearly identify any significant outcomes of consultation that were incorporated into the proposed project.</p> <p>d) Clearly identify any developments that could coincide or conflict with project activities (i.e., developments within or adjacent to a proposed ROW).</p>		
<p>2.2.2: Records of Consultation and Public Outreach. Provide contact information, notification materials, meeting dates and materials, meeting notes, and records of communication organized by entity as an Appendix to the PEA (Appendix G).</p>		

¹¹ CPUC CEQA Unit Staff request that consultation and public outreach that occurs during the Pre-filing period and throughout environmental review include the assigned CPUC Staff person and CPUC consultant.

2.3 Environmental Review Process

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
2.3.1: Environmental Review Process. Provide a summary of the anticipated environmental review process and schedule.		
<p>2.3.2: CEQA Review</p> <ul style="list-style-type: none"> a) Explain why CPUC is the appropriate CEQA Lead agency. b) Identify other state agencies and any federal agencies that may have discretionary permitting authority over any aspect of the proposed project. c) Identify all potential involvement by federal, state, and local agencies not expected to have discretionary permitting authority (i.e., ministerial actions). d) Summarize the results of any preliminary outreach with these agencies as well as future plans for outreach. 		
2.3.3: NEPA Review (if applicable). If review according to the National Environmental Policy Act (NEPA) is expected, explain the portions of the project that will require the NEPA review process. Discuss which agency is anticipated to be the NEPA Lead agency if discretionary approval by more than one federal agency is required.		
2.3.4: Pre-filing CEQA and NEPA Coordination. Describe the results of Pre-filing coordination with CEQA and NEPA review agencies (refer to CPUC’s Pre-Filing Consultation Guidelines). Identify major outcomes of the Pre-filing coordination process and how the information was incorporated into the PEA, including suggestions on the type of environmental documents and joint or separate processes based on discussions with agency staff.		

2.4 Document Organization

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
2.4: PEA Organization. Summarize the contents of the PEA and provide an annotated list of its sections.		

3 Proposed Project Description¹²

3.1 Project Overview

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.1: Project Overview</p> <ul style="list-style-type: none"> a) Provide a concise summary of the proposed project and components in a few paragraphs. b) Described the geographical location of the proposed project (i.e., county, city, etc.). c) Provide an overview map of the proposed project location. 		

3.2 Existing and Proposed System

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.2.1: Existing System</p> <ul style="list-style-type: none"> a) Identify and describe the existing utility system that would be modified by the proposed project, including connected facilities to provide context. Include detailed information about substations, transmission lines, distribution lines, compressor stations, metering stations, valve stations, nearby renewable generation and energy storage facilities, telecommunications facilities, control systems, SCADA systems, etc. b) Provide information on users and the area served by the existing system features. c) Explain how the proposed project would fit into the existing local and regional systems. d) Provide a schematic diagram of the existing system features. e) Provide detailed maps and associated GIS data for existing facilities that would be modified by the proposed project. 		
<p>3.2.2: Proposed Project System</p> <ul style="list-style-type: none"> a) Describe the whole of the proposed project by component, including all new facilities and any modifications, upgrades, or expansions to existing facilities and any interrelated activities that are part of the whole of the action. b) Clearly identify system features that would be added, modified, removed, disconnected and left in place, etc. c) Identify the expected capacities of the proposed facilities, highlighting any changes from the existing system. If the project would not change existing capacities, make this statement. For electrical projects, provide the anticipated capacity increase in amps or megawatts or in the typical units for the types of facilities proposed. For gas projects, provide the total volume of gas to be 		

¹² Applicant review of the Administrative Draft Project Description or sections of the Administrative Draft Project Description prepared for the CEQA document may be requested by CPUC CEQA Unit Staff to ensure technical accuracy.

<p>delivered by the proposed facilities, anticipated system capacity increase (typically in million cubic feet per day), expected customers, delivery points and corresponding volumes, and the anticipated maximum allowable operating pressure(s).</p> <p>d) Describe the initial buildout and eventual full buildout of the proposed project facilities. For example, if an electrical substation or gas compressor station would be installed to accommodate additional demand in the future, then include the designs for both the initial construction based on current demand and the design for all infrastructure that could ultimately be installed within the planned footprint of an electric substation or compressor station.</p> <p>e) Explain whether the electric line or gas pipeline will create a second system tie or loop for reliability.</p> <p>f) Provide information on users and the area served by the proposed system features, highlighting any differences from the existing system.</p> <p>g) Provide a schematic diagram of the proposed system features.</p> <p>h) Provide detailed maps and associated GIS data for proposed facilities that would be installed, modified, or relocated by the proposed project.</p>		
<p>3.2.3: System Reliability. Explain whether the electric line or gas pipeline will create a second system tie or loop for reliability. Clearly explain and show how the proposed project relates to and supports the existing utility systems.</p>		
<p>3.2.4: Planning Area. Describe the system planning area served or to be served by the project. Clearly define the Applicant’s term for the planning area (e.g., Electrical Needs Area or Distribution Planning Area).</p>		

3.3 Project Components

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
Required for all Project Types		
3.3.1: Preliminary Design and Engineering		
<p>a) Provide preliminary design and engineering information for all above-ground and below-ground facilities for the proposed project. The approximate locations, maximum dimensions of facilities, and limits of areas that would be needed to construction and operate the facilities should be clearly defined.¹³</p> <p>b) Provide preliminary design drawings for project features and explain the level of completeness (i.e., percentage).</p> <p>c) Provide detailed project maps (approximately 1:3,000 scale) and associated GIS data of all facility locations and boundaries with attributes and spatial geometry that corresponds to information in the Project Description.</p>		

¹³ Refer to Attachment 1 for mapping and GIS data requirements for the project layout and design.

<p>3.3.2: Segments, Components, and Phases</p> <ul style="list-style-type: none"> a) Define all project segments, components, and phases for the proposed project. b) Provide the length/area of each segment or component, and the timing of each development phase. c) Provide an overview map showing each segment and provide associated GIS data (may be combined with other mapping efforts). 		
<p>3.3.3: Existing Facilities</p> <ul style="list-style-type: none"> a) Identify the types of existing facilities that would be removed or modified by the proposed project (i.e., conductor/cable, poles/towers, substations, switching stations, gas storage facilities, gas pipelines, service buildings, communication systems, etc.). b) Describe the existing facilities by project segment and/or component, and provide information regarding existing dimensions, areas/footprints, quantities, locations, spans, etc. c) Distinguish between above-ground and below-ground facilities and provide both depth and height ranges for each type of facility. For poles/towers, provide the installation method (i.e., foundation type or direct bury), and maximum above-ground heights and below-ground depths. d) Explain what would happen to the existing facilities. Would they be replaced, completely removed, modified, or abandoned? Explain why. e) Identify the names, types, materials, and capacity/volumes ranges (i.e., minimum and maximum) of existing facilities that would be installed or modified by the proposed project. f) Provide diagrams with dimensions representing existing facilities to provide context on how the proposed facilities would be different. g) Briefly describe the surface colors, textures, light reflectivity, and any lighting of existing facilities. 		
<p>3.3.4: Proposed Facilities</p> <ul style="list-style-type: none"> a) Identify the types of proposed facilities to be installed or modified by the proposed project (e.g., conductor/cable, poles/towers, substations, switching stations, gas storage facilities, gas pipelines, service buildings, communication systems). b) Describe the proposed facilities by project segment and/or component, and provide information regarding maximum dimensions, areas/footprints, quantities, locations, spans, etc. c) Distinguish between above-ground and below-ground facilities and provide both depth and height ranges for each type of facility. For poles/towers, provide the installation method (i.e., foundation type or direct bury), and maximum above-ground heights and below-ground depths. 		

<ul style="list-style-type: none"> d) Identify where facilities would be different (e.g., where unique or larger poles would be located, large guy supports or snub poles). e) Provide details about civil engineering requirements (i.e., permanent roads, foundations, pads, drainage systems, detention basins, spill containment, etc.). f) Distinguish between permanent facilities and any temporary facilities (i.e., poles, shoo-fly lines, mobile substations, mobile compressors, transformers, capacitors, switch racks, compressors, valves, driveways, and lighting). g) Identify the names, types, materials, and capacity/volumes ranges (i.e., minimum and maximum) of proposed facilities that would be installed or modified by the proposed project. h) Provide diagrams with dimensions representing existing facilities. i) Briefly describe the surface colors, textures, light reflectivity, and any lighting of proposed facilities. 		
3.3.5: Other Potentially Required Facilities		
<ul style="list-style-type: none"> a) Identify and describe in detail any other actions or facilities that may be required to complete the project. For example, consider the following questions: <ul style="list-style-type: none"> i. Could the project require the relocation (temporary or permanent), modification, or replacement of unconnected utilities or other types of infrastructure by the Applicant or any other entity? ii. Could the project require aviation lighting and/or marking? iii. Could the project require additional civil engineering requirements to address site conditions or slope stabilization issues, such as pads and retaining walls, etc.? b) Provide the location of each facility and a description of the facility. 		
3.3.6: Future Expansions and Equipment Lifespans		
<ul style="list-style-type: none"> a) Provide detailed information about the current and reasonably foreseeable plans for expansion and future phases of development. b) Provide the expected usable life of all facilities. c) Describe all reasonably foreseeable consequences of the proposed project (e.g., future ability to upgrade gas compressor station to match added pipeline capacity). 		
Required for Certain Project Types		
3.3.7: Below-ground Conductor/Cable Installations (as Applicable)		
<ul style="list-style-type: none"> a) Describe the type of line to be installed (e.g., single circuit cross-linked polyethylene-insulated solid-dielectric, copper-conductor cables). b) Describe the type of casing the cable would be installed in (e.g., concrete-encased duct bank system) and provide the dimensions of the casing. 		

<p>c) Describe the types of infrastructure would likely be installed within the duct bank (e.g., transmission, fiber optics, etc.).</p>		
<p>3.3.8: Electric Substations and Switching Stations (as Applicable)</p> <p>a) Provide the number of transformer banks that will be added at initial and full buildout of the substation. Identify the transformer voltage and number of each transformer type.</p> <p>b) Identify any gas insulated switchgear that will be installed within the substation.</p> <p>c) Describe any operation and maintenance facilities, telecommunications equipment, and SCADA equipment that would be installed within the substation.</p>		
<p>3.3.9: Gas Pipelines (as Applicable). For each segment:</p> <p>a) Identify pipe diameter, number and length of exposed sections, classes and types of pipe to be installed, pressure of pipe, and cathodic protection for each linear segment.</p> <p>b) Describe new and existing inspection facilities (e.g., pig launcher sites).</p> <p>c) Describe system cross ties and laterals/taps.</p> <p>d) Identify the spacing between each valve station.</p> <p>e) Describe the compressor station, if needed, for any new or existing pipeline.</p> <p>f) Describe all pipelines and interconnections with existing and proposed facilities:</p> <ul style="list-style-type: none"> i. Number of interconnections and locations and sizes; ii. All below-ground and above-ground installations; and iii. All remote facility locations for metering, telemetry, control. 		
<p>3.3.10: Gas Storage Facilities – Background and Resource Information (as Applicable)</p> <p>a) Provide detailed background information on the natural gas formation contributing to the existing or proposed natural gas facility, including the following:</p> <ul style="list-style-type: none"> i. Description of overlying stratigraphy, especially caps ii. Description of production, injection, and intervening strata iii. Types of rock iv. Description of types of rocks in formation, including permeability or fractures v. Thickness of strata <p>b) Provide a graphic and/or table showing formation thicknesses.</p> <p>c) Identify and describe any potential gas migration pathways, such as faults, permeable contacts, abandoned wells, underground water or other pipelines.</p> <p>d) Provide a summary and detailed cross-section diagrams of the geologic formations and structures of the oil/gas field or area.</p> <p>e) Provide the first well drilling and production history, abandonment procedures, inspections, etc.</p> <p>f) Describe production zones, including depth, types of formations, and characteristics of field/area.</p>		

<p>g) Describe the existing and proposed storage capacity and limiting factors, such as injection or withdrawal capacities.</p> <p>h) Describe existing simulation studies that were used to predict the reservoir pressure response under gas injection and withdrawal operations, and simulation studies for how the system would change as proposed. Provide the studies as a PEA Appendix.</p> <p>i) Provide the history of the oil/gas field or area.</p>		
<p>3.3.11: Gas Storage Facilities – Well-Head Sites (as Applicable). Describe the location, depth, size and completion information for all existing, abandoned, proposed production and injection, monitoring, and test wells.</p>		
<p>3.3.12: Gas Storage Facilities – Production and Injection (as Applicable)</p> <p>a) Provide the proposed storage capacity of production and injection wells.</p> <p>b) Provide production and injection pressures, depths, and rates.</p> <p>c) Provide production and injection cycles by day, week, and year.</p> <p>d) Describe existing and proposed withdrawal/production wells (i.e., size, depth, formations, etc.).</p> <p>e) Describe existing and proposed cushion gas requirements.</p> <p>f) Describe any cushion gas injection—formation the well is completed in (cushion gas formation), and injection information.</p>		
<p>3.3.13: Gas Storage Facilities – Electrical Energy (as Applicable). Describe all existing and proposed electric lines, telecommunications facilities, and other utilities/facilities (e.g., administrative offices, service buildings, and non-hazardous storage), and chemical storage associated with the proposed project.</p>		
<p>3.3.14: Telecommunication Lines (as Applicable)</p> <p>a) Identify the type of cable that is proposed and length in linear miles by segment.</p> <p>b) Identify any antenna and node facilities that are part of the project.</p> <p>c) For below-ground telecommunication lines, provide the depth of cable and type of conduit.</p> <p>d) For above-ground telecommunication lines, provide:</p> <ul style="list-style-type: none"> i. Types of poles that will be installed (if new poles are required) ii. Where existing poles will be used iii. Any additional infrastructure (e.g., guy wires) or pole changes required to support the additional cable on existing poles 		

3.4 Land Ownership, Rights-of-Way, and Easements

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.4.1: Land Ownership. Describe existing land ownership where each project component would be located. State whether the proposed</p>		

project would be located on property(ies) owned by the Applicant or if additional property would be required.		
<p>3.4.2: Existing Rights-of-Way or Easements</p> <p>a) Identify and describe existing rights-of-way (ROWs) or easements where project components would be located. Provide the approximately lengths and widths in each project area.</p> <p>b) Clearly state if project facilities would be replaced, modified, or relocated within existing ROWs or easements.</p>		
<p>3.4.3: New or Modified Rights-of-Way or Easements</p> <p>a) Describe new permanent or modified ROWs or easements that would be required. Provide the approximately lengths and widths in each project area.</p> <p>b) Describe how any new permanent or modified ROWs or easements would be acquired.</p> <p>c) Provide site plans identifying all properties/parcels and partial properties/parcels that may require acquisition and the anticipated ROWs or easements. Provide associated GIS data.</p> <p>d) Describe any development restrictions within new ROWs or easements, e.g., building clearances and height restrictions, etc.</p> <p>e) Describe any relocation or demolition of commercial or residential property/structures that may be necessary.</p>		
<p>3.4.4: Temporary Rights-of-Way or Easements</p> <p>f) Describe temporary ROWs or easements that would be required to access project areas, including ROWs or easements for temporary construction areas (i.e., staging areas or landing zones).</p> <p>g) Explain where temporary construction areas would be located with existing ROWs or easements for the project or otherwise available to the Applicant without a temporary ROW or easement.</p> <p>h) Describe how any temporary ROWs or easements would be acquired.</p>		

3.5 Construction

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
3.5.1 Construction Access (All Projects)		
<p>3.5.1.1: Existing Access Roads</p> <p>a) Provide the lengths, widths, ownership details (both public and private roads), and surface characteristics (i.e., paved, graveled, bare soil) of existing access roads that would be used during construction. Provide the area of existing roads that would be used (see example in Table 3 below).</p> <p>b) Describe any road modifications or stabilization that would be required prior to construction, including on the adjacent road</p>		

shoulders or slopes. Identify any roads that would be expanded and provide the proposed width increases. c) Describe any procedures to address incidental road damage cause by project activities following construction. d) Provide detailed maps and associated GIS data for all existing access roads.		
---	--	--

Table 3. Access Roads

Type of Road	Description	Area Proposed Project
Existing Dirt Road	Typically double track. May have been graded previously. No other preparation required, although a few sections may need to be re-graded and crushed rock applied in very limited areas for traction.	_____ acres
New Permanent	Would be xx feet wide, bladed. No other preparation required although crushed rock may need to be applied in very limited areas for traction.	_____ acres
Overland Access	No preparation required. Typically grassy areas that are relatively flat. No restoration would be necessary.	_____ acres

<p>3.5.1.2: New Access Roads</p> a) Identify any new access roads that would be developed for project construction purposes, such as where any blading, grading, or gravel placement could occur to provide equipment access outside of a designated workspace. ¹⁴ b) Provide lengths, widths, and development methods for new access roads. c) Identify any temporary or permanent gates that would be installed. d) Clearly identify any roads that would be temporary and fully restored following construction. Otherwise it will be assumed the new access road is a permanent feature. e) Provide detailed maps and associated GIS data for all new access roads.		
<p>3.5.1.3: Overland Access Routes</p> a) Identify any overland access routes that would be used during construction, such as where vehicles and equipment would travel over existing vegetation and where blading, grading, or gravel placement would occur. b) Provide lengths and widths for new access roads. c) Provide detailed maps and associated GIS data for all overland access routes.		
<p>3.5.1.4: Watercourse Crossings</p> a) Identify all temporary watercourse crossings that would be required during construction. Provide specific methods and procedures for temporary watercourse crossings.		

¹⁴ Temporary roads that would not require these activities should be considered an overland route.

<ul style="list-style-type: none"> b) Describe any bridges or culverts that replacement or installation of would be required for construction access. c) Provide details about the location, design and construction methods. 		
<p>3.5.1.5: Helicopter Access. If helicopters would be used during construction:</p> <ul style="list-style-type: none"> a) Describe the types and quantities of helicopters that would be used during construction (e.g., light, medium, heavy, or sky crane), and a description of the activities that each helicopter would be used for. b) Identify areas for helicopter takeoff and landing. c) Describe helicopter refueling procedures and locations. d) Describe flight paths, payloads, and expected hours and durations of helicopter operation. e) Describe any safety procedures or requirements unique to helicopter operations, such as but not limited to obtaining a Congested Area Plan from the Federal Aviation Administration (FAA). 		
<p>3.5.2 Staging Areas (All Projects)</p>		
<p>3.5.2.1: Staging Area Locations</p> <ul style="list-style-type: none"> a) Identify the locations of all staging area(s). Provide a map and GIS data for each.¹⁵ b) Provide the size (in acres) for each staging area and the total staging area requirements for the project. 		
<p>3.5.2.2: Staging Area Preparation</p> <ul style="list-style-type: none"> a) Describe any site preparation required, if known, or generally describe what might be required (i.e., vegetation removal, new access road, installation of rock base, etc.). b) Describe what the staging area would be used for (i.e., material and equipment storage, field office, reporting location for workers, parking area for vehicles and equipment, etc.). c) Describe how the staging area would be secured. Would a fence be installed? If so, describe the type and extent of the fencing. d) Describe how power to the site would be provided if required (i.e., tap into existing distribution, use of diesel generators, etc.). e) Describe any temporary lightning facilities for the site. f) Describe any grading activities and/or slope stabilization issues. 		

¹⁵ While not all potential local site staging areas will be known prior to selection of a contractor, it is expected that approximate area and likely locations of staging areas be disclosed. The identification of extra or optional staging areas should be considered to reduce the risk of changes after project approval that could necessitate further CEQA review.

3.5.3 Construction Work Areas (All Projects)		
3.5.3.1: Construction Work Areas		
<p>a) Describe known work areas that may be required for specific construction activities (e.g., pole assembly, hillside construction)¹⁶</p> <p>b) Describe the types of activities that would be performed at each work area. Work areas may include but are not necessarily limited to:</p> <ul style="list-style-type: none"> i. Helicopter landing zones and touchdown areas ii. Vehicle and equipment parking, passing, or turnaround areas iii. Railroad, bridge, or watercourse crossings iv. Temporary work pads for facility installation, modification, or removal v. Excavations and associated equipment work areas vi. Temporary guard structures vii. Pull-and-tension/stringing sites viii. Jack and bore pits, drilling areas and pull-back areas for horizontal directional drills ix. Retaining walls 		
3.5.3.2 Work Area Disturbance		
<p>a) Provide the dimensions of each work area including the maximum area that would be disturbed during construction (e.g., 100 feet by 200 feet) (see example in Table 4 below).</p> <p>b) Provide a table with temporary and permanent disturbance at each work area (in square feet or acres), and the total area of temporary and permanent disturbance for the entire project (in acres).</p>		
3.5.3.3: Temporary Power. Identify how power would be provided at work area (i.e., tap into existing distribution, use of diesel generators, etc.). Provide the disturbance area for any temporary power lines.		
3.5.4 Site Preparation (All Projects)		
3.5.4.1: Surveying and Staking. Describe initial surveying and staking procedures for site preparation and access.		
3.5.4.2: Utilities		
<p>a) Describe the process for identifying any underground utilities prior to construction (i.e., underground service alerts, etc.).</p> <p>b) Describe the process for relocating any existing overhead or underground utilities that aren't directly connected to the project system.</p> <p>c) Describe the process for installing any temporary power or other utility lines for construction.</p>		

¹⁶ Understanding that each specific work area may not be determined until the final work plan is submitted by the construction contractor, estimate total area likely to be disturbed.

Table 4. Work Areas

Proposed Project (approximate metrics)	
Pole Diameter:	
• Wood	_____ inches
• Self-Supporting Steel	_____ inches
Lattice Tower Base Dimension:	
• Self-Supporting Lattice Structure	_____ feet
Auger Hole Depth:	
• Wood	_____ to _____ feet
• Self-Supporting Steel	_____ to _____ feet
Permanent Footprint per Pole/Tower:	
• Wood	_____ sq. feet
• Self-Supporting Steel	_____ sq. feet
• Self-Supporting Steel Tower	_____ sq. feet
Number of Poles/Towers:	
• Wood	_____
• Self-Supporting Steel	_____
• Self-Supporting Steel Tower	_____
Average Work Area around Pole/Towers (e.g., for old pole removal and new pole installation):	
• Tangent structure work areas	_____ sq. feet
• Dead End / Angle structure work areas	_____ sq. feet
Total Permanent Footprint for Poles/Towers	
	Approximately _____ acres

<p>3.5.4.3: Vegetation Clearing</p> <p>a) Describe what types of vegetation clearing may be required (e.g., tree removal, brush removal, flammable fuels removal) and why (e.g., to provide access, etc.).</p> <p>b) Provide calculations of temporary and permanent disturbance of each vegetation community and include all areas of vegetation removal in the GIS database. Distinguish between disturbance that would occur in previously developed areas (i.e., paved, graveled, or otherwise urbanized), and naturally vegetated areas.</p> <p>c) Describe how each type of vegetation removal would be accomplished.</p> <p>d) Describe the types of equipment that would be used for vegetation removal.</p>		
<p>3.5.4.4: Tree Trimming Removal</p> <p>a) For electrical projects, distinguish between tree trimming as required under CPUC General Order 95-D and tree removal.</p> <p>b) Identify the types, locations, approximate numbers, and sizes of trees that may need to be removed or trimmed substantially.</p> <p>c) Identify potentially protected trees that may be removed or substantially trimmed, such as but not limited to riparian trees, oaks trees, Joshua trees, or palm trees.</p>		

<p>d) Describe the types of equipment that would typically be used for tree removal.</p>		
<p>3.5.4.5: Work Area Stabilization. Describe the processes to stabilize temporary work areas and access roads including the materials that would be used (e.g., gravel).</p>		
<p>3.5.4.6: Grading</p> <p>a) Describe any earth moving or substantial grading activities (i.e., grading below a 6-inch depth) that would be required and identify locations where it would occur.</p> <p>b) Provide estimated volumes of grading (in cubic yards) including total cut, total fill, cut that would be reused, cut that would be hauled away, and clean fill that would be hauled to the site.</p>		
<p>3.5.5 Transmission Line Construction (Above Ground)</p>		
<p>3.5.5.1: Poles/Towers</p> <p>a) Describe the process and equipment for removing poles, towers, and associated foundations for the proposed project (where applicable). Describe how they would be disconnected, demolished, and removed from the site. Describe backfilling procedures and where the material would be obtained.</p> <p>b) Describe the process and equipment for installing or otherwise modifying poles and towers for the proposed project. Describe how they would be put into place and connected to the system. Identify any special construction methods (e.g., helicopter installation) at specific locations or specific types of poles/towers.</p> <p>c) Describe how foundations, if any, would be installed. Provide a description of the construction method(s), approximate average depth and diameter of excavation, approximate volume of soil to be excavated, approximate volume of concrete or other backfill required, etc. for foundations. Describe what would be done with soil removed from a hole/foundation site.</p> <p>d) Describe how the poles/towers and associated hardware would be delivered to the site and assembled.</p> <p>e) Describe any pole topping procedures that would occur, identify specific locations and reasons, and describe how each facility would be modified. Describe any special methods that would be required to top poles that may be difficult to access.</p>		
<p>3.5.5.2: Aboveground and Underground Conductor/Cable</p> <p>a) Provide a process-based description of how new conductor/cable would be installed and how old conductor/cable would be removed, if applicable.</p> <p>b) Identify where conductor/cable stringing/installation activities would occur.</p> <p>c) Provide a diagram of the general sequencing and equipment that would be used.</p> <p>d) Describe the conductor/cable splicing process.</p>		

<p>e) Provide the general or average distance between pull-and-tension sites. Describe the approximate dimensions and where pull-and-tension sites would generally be required (as indicated by the designated work areas), such as the approximate distance to pole/tower height ratio, at set distances, or at significant direction changes. Describe the equipment that would be required at these sites.</p> <p>f) For underground conductor/cable installations, describe all specialized construction methods that would be used for installing underground conductor or cable. If vaults are required, provide their dimensions and location/spacing along the alignment. Provide a detailed description for how the vaults would be delivered to the site and installed.</p> <p>g) Describe any safety precautions or areas where special methodology would be required (e.g., crossing roadways, stream crossing).</p>		
<p>3.5.5.3: Telecommunications. Identify the procedures for installation of proposed telecommunication cables and associated infrastructure.</p>		
<p>3.5.5.4: Guard Structures. Identify the types of guard structures that would be used at crossings of utility lines, roads, railroads, highways, etc. Describe the different types of guard structures or methods that may be used (i.e., buried poles and netting, poles secured to a weighted object, bucket trucks, etc.). Describe any pole installation and removal procedures associated with guard structures. Describe guard structure installation and removal process and duration that guard structures would remain in place.</p>		
<p>3.5.5.5: Blasting</p> <p>a) Describe any blasting that may be required to construct the project.</p> <p>b) If blasting may be required, provide a Blasting Plan that identifies the blasting locations; types and amounts of blasting agent to be used at each location; estimated impact radii; and, noise estimates. The Blasting Plan should be provided as an Appendix to the PEA.</p> <p>c) Provide a map identifying the locations where blasting may be required with estimated impact radii. Provide associated GIS data.</p>		
<p>3.5.6 Transmission Line Construction (Below Ground)</p>		
<p>3.5.6.1: Trenching</p> <p>a) Describe the approximate dimensions of the trench (e.g., depth, width).</p> <p>b) Provide the total approximate volume of material to be removed from the trench, the amount to be used as backfill, and any amount to subsequently be removed/disposed of offsite in cubic yards.</p> <p>c) Describe the methods used for making the trench (e.g., saw cutter to cut the pavement, backhoe to remove, etc.).</p> <p>d) Provide off-site disposal location, if known, or describe possible option(s).</p> <p>e) Describe if dewatering would be anticipated and if so, how the trench would be dewatered, the anticipated flows of the water,</p>		

<p>whether there would be treatment, and how the water would be disposed of.</p> <ul style="list-style-type: none"> f) Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants that could be exposed from trenching operations. g) If a pre-existing hazardous waste were encountered, describe the process of removal and disposal. h) Describe the state of the ground surface after backfilling the trench. i) Describe standard Best Management Practices to be implemented. 		
<p>3.5.6.2: Trenchless Techniques (Microtunnel, Jack and Bore, Horizontal Directional Drilling)</p>		
<ul style="list-style-type: none"> a) Identify any locations/features for which the Applicant expects to use a trenchless (i.e., microtunneling, jack and bore, horizontal directional drilling) crossing method and which method is planned for each crossing. b) Describe the methodology of the trenchless technique. c) Provide the approximate location and dimensions of the sending and receiving pits. d) Describe the methodology of excavating and shoring the pits. e) Provide the total volume of material to be removed from the pits, the amount to be used as backfill, and the amount subsequently to be removed/disposed of offsite in cubic yards. f) Describe process for safe handling of drilling mud and bore lubricants. g) Describe the process for detecting and avoiding “fracturing-out” during horizontal directional drilling operations. h) Describe the process for avoiding contact between drilling mud/lubricants and stream beds. i) If engineered fill would be used as backfill, indicate the type of engineered backfill and the amount that would be typically used (e.g., the top 2 feet would be filled with thermal-select backfill). j) Describe if dewatering is anticipated and, if so, how the pits would be dewatered, the anticipated flows of the water, whether there would be treatment, and how the water would be disposed of. k) Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants. Describe the process of disposing of any pre-existing hazardous waste that is encountered during excavation. l) Describe any standard BMPs that would be implemented for trenchless construction. 		
<p>3.5.7 Substation, Switching Stations, Gas Compressor Stations</p>		
<p>3.5.7.1: Installation or Facility Modification. Describe the process and equipment for removing, installing, or modifying any substations, switching stations, or compressor stations including:</p> <ul style="list-style-type: none"> a) Transformers/ electric components b) Gas components c) Control and operation buildings d) Driveways 		

<ul style="list-style-type: none"> e) Fences f) Gates g) Communication systems (SCADA) h) Grounding systems 		
<p>3.5.7.2: Civil Works. Describe the process and equipment required to construct any slope stabilization, drainage, retention basins, and spill containment required for the facility.</p>		
<p>3.5.8 Gas Pipelines</p>		
<p>3.5.8.1: Gas Pipeline Construction. Describe the process for proposed pipeline construction including site development, trenching and trenchless techniques, pipe installation, and backfilling.</p>		
<p>3.5.8.2: Water Crossings. Describe water feature crossings that will occur during trenching, the method of trenching through stream crossings, and the process for avoiding impacts to the water features required for pipeline construction. Identify all locations where the pipeline will cross water features. Cite to any associated geotechnical or hydrological investigations completed and provide a full copy of each report as an Appendix to the PEA.¹⁷</p>		
<p>3.5.8.3: Gas Pipeline Other Requirements</p> <ul style="list-style-type: none"> a) Describe hydrostatic testing process including pressures, timing, source of flushing water, discharge of water. b) Describe energy dissipation basin, and the size and length of segments to be tested. c) Describe pig launching locations and any inline inspection techniques used during or immediately post construction. 		
<p>3.5.9 Gas Storage Facilities</p>		
<p>3.5.9.1: Gas Storage Construction</p> <ul style="list-style-type: none"> a) Describe the process for constructing the gas storage facility including constructing well pads and drilling wells. b) Describe the specific construction equipment that would be used, such as the type of drill rig (i.e., size, diesel, electric, etc.), depth of drilling, well-drilling schedule and equipment. 		
<p>3.5.9.2: Drilling Muds and Fluids. Describe the use of any drilling muds, fluids, and other drilling materials. Provided estimated types and quantities.</p>		
<p>3.5.10 Public Safety and Traffic Control (All Projects)</p>		
<p>3.5.10.1: Public Safety</p> <ul style="list-style-type: none"> a) Describe specific public safety considerations during construction and best management practices to appropriately manage public safety. Clearly state when and where they each safety measure would be applied. 		

¹⁷ If a geotechnical study is not available at the time of PEA filing, provide the best information available.

<p>b) Identify procedures for managing work sites in urban areas, covering open excavations securely, installing barriers, installing guard structures, etc.</p> <p>c) Identify specific project areas where public access may be restricted for safety purposes and provide the approximate durations and timing of restricted access at each location.</p>		
3.5.10.2: Traffic Control		
<p>a) Describe traffic control procedures that would be implemented during construction.</p> <p>b) Identify the locations, process, and timing for closing any sidewalks, lanes, roads, trails, paths, or driveways to manage public access.</p> <p>c) Identify temporary detour routes and locations.</p> <p>d) Provide a preliminary Traffic Control Plan(s) for the project.</p>		
<p>3.5.10.3: Security. Describe any security measures, such as fencing, lighting, alarms, etc. that may be required. State if security personnel will be stationed at project areas and anticipated duration of security.</p>		
<p>3.5.10.4: Livestock. Describe any livestock fencing or guards that may be necessary to prevent livestock from entering project areas. State if the fencing would be electrified and if so, how it would be powered.</p>		
3.5.11 Dust, Erosion, and Runoff Controls (All Projects)		
<p>3.5.11.1: Dust. Describe specific best management practices that would be implemented to manage fugitive dust.</p>		
<p>3.5.11.2: Erosion. Describe specific best management practices that would be implemented to manage erosion.</p>		
<p>3.5.11.3: Runoff. Describe specific best management practices that would be implemented to manage stormwater runoff and sediment.</p>		
3.5.12 Water Use and Dewatering (All Projects)		
<p>3.5.12.1: Water Use. Describe the estimated volumes of water that would be used by construction activity (e.g., dust control, compaction, etc.). State if recycled or reclaimed water would be used and provide estimated volumes. Identify the anticipated sources where the water would be acquired or purchased. Identify if the source of water is groundwater and the quantity of groundwater that could be used.</p>		
<p>3.5.12.2: Dewatering</p> <p>a) Describe dewatering procedures during construction, including pumping, storing, testing, permitted discharging, and disposal requirements that would be followed.</p> <p>b) Describe the types of equipment and workspace considerations to be used to dewater, store, transport, or discharge extracted water.</p>		
3.5.13 Hazardous Materials and Management (All Projects)		
3.5.13.1: Hazardous Materials		
<p>a) Describe the types, uses, and volumes of all hazardous materials that would be used during construction.</p> <p>b) State if herbicides or pesticides may be used during construction.</p>		

<p>c) If a pre-existing hazardous waste were encountered, describe the process of removal and disposal.</p>		
<p>3.5.13.2: Hazardous Materials Management</p>		
<p>a) Identify specific best management practices that would be followed for transporting, storing, and handling hazardous materials. b) Identify specific best management practices that would be followed in the event of an incidental leak or spill of hazardous materials. c) Provide a Hazardous Substance Control and Emergency Response Plan / Hazardous Waste and Spill Prevention Plan as an Appendix to the PEA, if appropriate.</p>		
<p>3.5.14 Waste Generation and Management (All Projects)</p>		
<p>3.5.14.1: Solid Waste</p>		
<p>a) Describe solid waste streams from existing and proposed facilities during construction. b) Identify procedures to be implemented to manage solid waste, including collection, containment, storage, treatment, and disposal. c) Provide estimated total volumes of solid waste by construction activity or project component. d) Describe the recycling potential of solid waste materials and provide estimated volumes of recyclable materials by construction activity or project component. e) Identify the locations of appropriate disposal and recycling facilities where solid wastes would be transported.</p>		
<p>3.5.14.2: Liquid Waste</p>		
<p>a) Describe liquid waste streams during construction (i.e., sanitary waste, drilling fluids, contaminated water, etc.) b) Describe procedures to be implemented to manage liquid waste, including collection, containment, storage, treatment, and disposal. c) Provide estimated volumes of liquid waste generated by construction activity or project component. d) Identify the locations of appropriate disposal facilities where liquid wastes would be transported.</p>		
<p>3.5.14.3: Hazardous Waste</p>		
<p>a) Describe potentially hazardous waste streams during construction and procedures to be implemented to manage hazardous wastes, including collection, containment, storage, treatment, and disposal. b) If large volumes of hazardous waste are anticipated, such as from a pre-existing contaminant in the soil that must be collected and disposed of, provide estimated volumes of hazardous waste that would be generated by construction activity or project component. c) Identify the locations of appropriate disposal facilities where hazardous wastes would be transported.</p>		
<p>3.5.15 Fire Prevention and Response (All Projects)</p>		
<p>3.5.15.1: Fire Prevention and Response Procedures. Describe fire prevention and response procedures that would be implemented during</p>		

construction. Provide a Construction Fire Prevention Plan or specific procedures as an Appendix to the PEA.		
3.5.15.2: Fire Breaks. Identify any fire breaks (i.e., vegetation clearance) requirements around specific project activities (i.e., hot work). Ensure that such clearance buffers are included in the limits of the defined work areas, and the vegetation removal in that area is attributed to Fire Prevention and Response (refer to 3.5.4.3: Vegetation Clearing).		

3.6 Construction Workforce, Equipment, Traffic, and Schedule

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.6.1: Construction Workforce</p> <p>a) Provide the estimated number of construction crew members. In the absence of project-specific data, provide estimates based on past projects of a similar size and type.</p> <p>b) Describe the crew deployment. Would crews work concurrently (i.e., multiple crews at different sites); would they be phased? How many crews could be working at the same time and where?</p> <p>c) Describe the different types of activities to be undertaken during construction, the number of crew members for each activity (i.e. trenching, grading, etc.), and number and types of equipment expected to be used for the activity. Include a written description of the activity. See example in Table 5.</p>		
<p>3.6.2: Construction Equipment. Provide a tabular list of the types of equipment expected to be used during construction of the proposed project including the horsepower. Define the equipment that would be used by each phase as shown in the example table below (Table 5).</p>		

Table 5. Construction Equipment and Workforce

Work Activity				Activity Production				
Equipment Description	Estimated Horse-power	Probable Fuel Type	Equipment Quantity	Estimated Workforce	Estimated Start Date	Estimated End Date	Duration of Use (Hrs./Day)	Estimated Production
Survey				4	January 2020	December 2020		358 Miles
1-Ton Truck, 4x4	300	Diesel	2		January 2020	December 2020	10	1 Mile/Day
Staging Yards				5	DOP			
1-Ton Truck, 4x4	300	Diesel	1		Duration of Project			4
R/T Forklift	350	Diesel	1					5
Boom/Crane Truck	350	Diesel	1					5
Water Truck	300	Diesel	2					10
Jet A Fuel Truck	300	Diesel	1					4
Truck, Semi-Tractor	500	Diesel	1					6
Road Work				6	January 2020	March 2020		426 Miles
1-Ton Truck, 4x4	300	Diesel	2		January 2020	March 2020	5	
Backhoe/Front Loader	350	Diesel	1		January 2020	March 2020	7	
Track Type Dozer	350	Diesel	1		January 2020	March 2020	7	
Motor Grader	350	Diesel	1		January 2020	March 2020	5	
Water Truck	300	Diesel	2		January 2020	March 2020	10	
Drum Type Compactor	250	Diesel	1		January 2020	March 2020	5	
Excavator	300	Diesel	1		January 2020	February 2020	7	
Lowboy Truck/Trailer	500	Diesel	1		January 2020	February 2020	4	

<p>3.6.3: Construction Traffic</p> <ul style="list-style-type: none"> a) Describe how the construction crews and their equipment would be transported to and from the proposed project site. b) Provide vehicle type, number of vehicles, and estimated hours of operation per day, week, and month for each construction activity and phase. c) Provide estimated vehicle trips and vehicles miles traveled (VMT) for each construction activity and phase. Provide separate values for construction crews commuting, haul trips, and other types of construction traffic. 		
<p>3.6.4: Construction Schedule</p> <ul style="list-style-type: none"> a) Provide the proposed construction schedule (e.g., month and year) for each segment or project component, and for each construction activity and phase. b) Provide and explain the sequencing of construction activities, and if they would or would not occur concurrently. c) Provide the total duration of each construction activity and phase in days or weeks. d) Identify seasonal considerations that may affect the construction schedule, such as weather or anticipated wildlife restrictions, etc. The proposed construction should account for such factors. 		
<p>3.6.5: Work Schedule</p> <ul style="list-style-type: none"> a) Describe the anticipated work schedule, including the days of the week and hours of the day when work would occur. Clearly state if work would occur at night or on weekends and identify when and where this could occur. b) Provide the estimated number of days or weeks that construction activities would occur at each type of work area. For example, construction at a stationary facility or staging area may occur for the entire duration of construction, but construction at individual work areas along a linear project would be limited to a few hours, days or weeks, and only a fraction of the total construction period. 		

3.7 Post-Construction

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.7.1: Configuring and Testing. Describe the process and duration for post-construction configuring and testing of facilities. Describe the number of personnel and types of equipment that would be involved.</p>		
<p>3.7.2: Landscaping. Describe any landscaping that would be installed. Provide a conceptual landscape plan that identifies the locations and types of plantings that will be used. Identify whether plantings will include container plants or seeds. Include any water required for landscaping in the description of water use above.</p>		

3.7.3 Demobilization and Site Restoration		
3.7.3.1: Demobilization. Describe the process for demobilization after construction activities, but prior to leaving the work site. For example, describe final processes for removing stationary equipment and materials, etc.		
3.7.3.2: Site Restoration. Describe how cleanup and post-construction restoration would be performed (i.e., personnel, equipment, and methods) on all project ROWs, sites, and extra work areas. Things to consider include, but are not limited to, restoration of the following: <ul style="list-style-type: none"> a) Restoring natural drainage patterns b) Recontouring disturbed soil c) Removing construction debris d) Vegetation e) Permanent and semi-permanent erosion control measures f) Restoration of all disturbed areas and access roads, including restoration of any public trails that are used as access, as well as any damaged sidewalks, agricultural infrastructure, or landscaping, etc. g) Road repaving and striping, including proposed timing of road restoration for underground construction within public roadways 		

3.8 Operation and Maintenance

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
3.8.1: Regulations and Standards <ul style="list-style-type: none"> a) Identify and describe all regulations and standards applicable to operation and maintenance of project facilities. b) Provide a copy of any applicable Wildfire Management Plan and describe any special procedures for wildfire management. 		
3.8.2: System Controls and Operation Staff <ul style="list-style-type: none"> a) Describe the systems and methods that the Applicant would use for monitoring and control of project facilities (e.g., on-site control rooms, remote facilities, standard monitoring and protection equipment, pressure sensors, automatic shut-off valves, and site and equipment specific for monitoring and control such as at natural gas well pads). b) If new full-time staff would be required for operation and/or maintenance, provide the number of positions and purpose. 		
3.8.3: Inspection Programs <ul style="list-style-type: none"> a) Describe the existing and proposed inspection programs for each project component, including the type, frequency, and timing of scheduled inspections (i.e., aerial inspection, ground inspection, pipeline inline inspections). b) Describe any enhanced inspections, such as within any High Fire Threat Districts consistent with applicable Wildfire Management Plan requirements. 		

<p>c) Describe the inspection processes, such as the methods, number of crew members, and how access would occur (i.e., walk, vehicle, all-terrain vehicle, helicopter, drone, etc.). If new access would be required, describe any restoration that would be provided for the access roads.</p>		
<p>3.8.4: Maintenance Programs</p> <p>a) Describe the existing and proposed maintenance programs for each project component.</p> <p>b) Describe scheduled maintenance or facility replacement after the designated lifespan of the equipment.</p> <p>c) Identify typical parts and materials that require regular maintenance and describe the repair procedures.</p> <p>d) Describe any access road maintenance that would occur.</p> <p>e) Describe maintenance for surface or color treatment.</p> <p>f) Describe cathodic protection maintenance that would occur.</p> <p>g) Describe ongoing landscaping maintenance that would occur.</p>		
<p>3.8.5: Vegetation Management Programs</p> <p>a) Describe vegetation management programs within and surrounding project facilities. Distinguish between any different types of vegetation management.</p> <p>b) Describe any enhanced vegetation management, such as within any High Fire Threat Districts consistent with any applicable Wildfire Management Plan requirements. Identify the areas where enhanced vegetation management would be conducted.</p>		

3.9 Decommissioning

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.9.1: Decommissioning. Provide detailed information about the current and reasonably foreseeable plans for the disposal, recycling, or future abandonment of all project facilities.</p>		

3.10 Anticipated Permits and Approvals

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.10.1: Anticipated Permits and Approvals. Identify all necessary federal, state, regional, and local permits that may be required for the project. For each permit, list the responsible agency and district/office representative with contact information, type of permit or approval, and status of each permit with date filed or planned to file. For example:</p> <p>a) Federal Permits and Approvals</p> <ul style="list-style-type: none"> i. U.S. Fish and Wildlife Service ii. U.S. Army Corps of Engineers iii. Federal Aviation Administration iv. U.S. Forest Service 		

<ul style="list-style-type: none"> v. U.S. Department of Transportation – Office of Pipeline Safety vi. U.S. Environmental Protection Agency (Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act) <p>b) State and Regional Permits</p> <ul style="list-style-type: none"> i. California Department of Fish and Wildlife ii. California Department of Transportation iii. California State Lands Commission iv. California Coastal Commission v. State Historic Preservation Office, Native American Heritage Commission vi. State Water Resources Control Board vii. California Division of Oil, Gas and Geothermal Resources viii. Regional Air Quality Management District ix. Regional Water Quality Control Board (National Pollutant Discharge Elimination System General Industrial Storm Water Discharge Permit) x. Habitat Conservation Plan Authority (if applicable) <p>See also Table 6 of example permitting requirements and processes.</p>		
<p>3.10.2: Rights-of-Way or Easement Applications. Demonstrate that applications for ROWs or other proposed land use have been or soon will be filed with federal, state, or other land-managing agencies that have jurisdiction over land that would be affected by the project (if any). Discuss permitting plans and timeframes and provide the contact information at the federal agency(ies) approached.</p>		

3.11 Applicant Proposed Measures

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.11 Applicant Proposed Measures</p> <ul style="list-style-type: none"> a) Provide a table with the full text of any Applicant Proposed Measure. Where applicable, provide a copy of Applicant procedures, plans, and standards referenced in the Applicant Proposed Measures. b) Within Chapter 5, describe the basis for selecting a particular Applicant Proposed Measure and how the Applicant Proposed Measure would reduce the impacts of the project.¹⁸ c) Carefully consider each CPUC Draft Environmental Measure identified in Chapter 5 of this PEA Checklist. The CPUC Draft Environmental Measures will be applied to the proposed project where applicable. 		

¹⁸ Applicant Proposed Measures that use phrases, such as, “as practicable” or other conditional language are not acceptable and will be superseded by Mitigation Measures if required to avoid or reduce a potentially significant impact.

Table 6. Example Permitting Requirements and Processes

Note: In addition to the CPCN or PTC, the applicant may also be required to secure resource agency permits for the project.

Disclaimer: Below is a general list of permits required for transmission projects. Permit requirements for individual projects may vary slightly depending on project conditions.

Agency	Permit	Regulation	Protected Resource	Trigger	Application Process	Timing
<i>Federal</i>						
Army Corps of Engineers	404 Permit	Clean Water Act	Waters of the United States (including wetlands)	Placement of dredge or fill material into waters of the U.S., including wetlands. If project impacts less than 0.5 acres a nationalwide permit (NWP) is typically issued	NWP: prepare a preconstruction notification (PCN) along with the draft Corps's application (Engineer Form 4345). Information in the PCN includes, but is not limited to: results of wetland delineation including areas of waters of the U.S.; temporary and permanent impacts to waters of the U.S. and discussion of avoidance; construction techniques, timeline, and equipment that would be used; special status species that potentially occur in the project area, and discussion of mitigation (if applicable) to replace wetlands	NWP: takes approximately nine months from the date of application submittal (depending on level of impacts and level of consultation required by other agencies). Initial review is 30 days after which application is deemed complete or additional information is requested.
				If project would impact more than 0.5 acres a regional or individual permit may be required.	Regional or Individual Permit: Same requirements as NWP as well as preparation and submittal of 404(b)(1) Alternatives analysis which identifies the Least Environmentally Damaging Practicable Alternative (LEDPA). Public notice also required	Regional or Individual Permit: An additional three to six months may be required on top of the nine months expected for an NWP. A 30 day public notice is also required to inform the public about the project before the Corps issues the permit.
USFWS	Section 7 Consultation	Federal Endangered Species Act	Federally Listed Species	Potential impact to a federally listed threatened or endangered species	Biological Assessment (BA) prepared and submitted to Corps. BA contains information on each species and describes potential for "take" of species and/or habitat.	The timeline for processing and receiving a formal Biological Opinion (BO) from USFWS can be six months to a year from when the Corps has initiated consultation and depending on the level of impact to listed species. The typical timeline for issuance of a BO is no less than 135 days after acceptance of the BA as complete.
US Department of Agriculture, Forest Service	Special Use Authorization	National Forest Management Act/NEPA	National Forest lands	Use of federal lands managed by the USDA Forest Service for a transmission line. Typically constitutes a Major Federal Action which in turn triggers NEPA analysis.	Special Use Authorization Application: prepare a special use application for consideration by the Forest Service. Prior to submitting a proposal, applicant is required to arrange a preapplication meeting at the local Forest Service office. Application typically includes project plan, operating plans, liability insurance, licenses/registrations and other documents. If it is determined that NEPA is required either an EA or EIS would be prepared. The NEPA document may be prepared jointly with the CEQA document.	Review of Special Use Authorization applications is often dependent upon what level of NEPA analysis is required. An EA is typically 9-12 months, and EIS is generally 18 months. NEPA process may occur concurrently with CEQA process.
US Department of the Interior, Bureau of Land Management	Right-of-Way Grant	Federal Land Policy and Management Act/NEPA	Federal Lands	Use of federal lands managed by the BLM for a transmission line. Typically constitutes a Major Federal Action which in turn triggers NEPA analysis.	Right-of-Way Application: Contact the BLM office with management responsibility. Obtain an application form "Application for Transportation and Utility Systems and Facilities on Federal Lands". Arrange a pre-application meeting with a BLM Realty Specialist or appropriate staff member. Submit completed application to the appropriate BLM office. If it is determined that NEPA is required either an EA or EIS would be prepared. The NEPA document may be prepared jointly with the CEQA document.	BLM attempts to review completed applications within 60 days of submittal. Full timing is often dependent upon what level of NEPA analysis is required. An EA is typically 9-12 months, and EIS is generally 18 months. NEPA process may occur concurrently with CEQA process.

Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and PEAs
November 12, 2019

Agency	Permit	Regulation	Protected Resource	Trigger	Application Process	Timing
<i>State (continued)</i>						
State Historic Preservation Officer (SHPO)	Section 106 National Historic Preservation Act (NHPA)	National Historic Preservation Act	Cultural and/or historical resources	Required if there are potential impacts to cultural and/or historical resources that are listed or eligible for listing on the National Register of Historic Places.	Information on cultural and historical resources gathered during the draft CEQA document preparation is included in a 106 Technical Report and submitted to the Corps along with the Area of Potential Effect (APE) map. The information is then evaluated by the Corps' cultural resources evaluator for potential adverse effects within the APE. Depending upon the level of potential adverse effect, the Corps then forwards its finding to SHPO for concurrence or begins the process for a Memorandum of Agreement (MOA). Native American consultation is also mandatory for the 106 process but can begin during preparation of the environmental document. All letters and correspondence for the Native American consultation must be provided to the Corps. Consultation with federally-recognized tribes may require a more extensive consultation.	Once SHPO has received the Corps' determination, it has approximately 60 days to agree or request additional information. However, SHPO has recently become more involved in projects and this timeframe is only an estimate and if a potential adverse effect to cultural or historical resources could occur, the SHPO process can take up to a year or more. Depending on the level of impacts to cultural resources, the Corps may determine no effect and issue the permit before receiving concurrence from SHPO.
California State Lands Commission (CSLC)	Right of Way Lease Agreement	Division 6 of the California Public Resources Code	California Sovereign Lands	May be triggered if the transmission line crosses state lands under the jurisdiction of the CSLC, which includes the beds of 1) more than 120 rivers, streams and sloughs; 2) nearly 40 non-tidal navigable lakes, such as Lake Tahoe and Clear Lake; 3) the tidal navigable bays and lagoons; and 4) the tide and submerged lands adjacent to the entire coast and offshore islands of the State from the mean high tide line to three nautical miles offshore.	Leases or permits may be issued to qualified applicants and the Commission shall have broad discretion in all aspects of leasing including category of lease or permit and which use, method or amount of rental is most appropriate, whether competitive bidding should be used in awarding a lease, what term should apply, how rental should be adjusted during the term, whether bonding and insurance should be required and in what amounts, whether an applicant is qualified based on what it deems to be in the best interest of the State.	Most coordination should be done concurrently with the CEQA process to ensure that any CSLC-required issues are addressed under CEQA. Once a final route/alternative is selected, the lease process may take two to three months for final Commission approval.
<i>Local / Other</i>						
Air Quality Management District or Air Pollution Control District	Permit to Construct	Federal Clean Air Act	Air Quality	Depends on the air district involved; may not be required for most transmission projects. Some air districts have a trigger level based on disturbed acreage.	Application forms need to be prepared and submitted to the local AQMD or APCD	Typically 30 to 90 days after submittal of a complete application.

¹⁹ Permitting is project specific. This table is provided for discussion purposes.

3.12 Project Description Graphics, Mapbook, and GIS Requirements

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>3.12.1: Graphics. Provide diagrams of the following as applicable:</p> <ul style="list-style-type: none"> a) All pole, tower, pipe, vault, conduit, and retaining wall types b) For poles, provide typical drawings with approximate diameter at the base and tip; for towers, estimate the width at base and top. c) A typical detail for any proposed underground duct banks and vaults d) All substation, switchyard, building, and facility layouts e) Trenching, drilling, pole installation, pipe installation, vault installation, roadway construction, facility removal, helicopter uses, conductor installation, traffic control, and other construction activities where a diagram would assist the reader in visualizing the work area and construction approach f) Typical profile views of proposed aboveground facilities and existing facilities to be modified within the existing and proposed ROW (e.g., typical cross-section of existing and proposed facilities by project segment). g) Photos of representative existing and proposed structures 		
<p>3.12.2: Mapbook. Provide a detailed mapbook on an aerial imagery basemap at a scale between 1:3000 and 1:6000 (or as appropriate and legible) that show mileposts, roadways, and all project components and work areas including:</p> <ul style="list-style-type: none"> a) All proposed above-ground and underground structure/facility locations (e.g., poles, conductor, substations, compressor stations, telecommunication lines, vaults, duct bank, lighting, markers, etc.) b) All existing structures/facilities that would be modified or removed c) Identify by milepost where existing ROW will be used and where new ROW or land acquisition will be required. d) All permanent work areas including permanent facility access e) All access roads including, existing, temporary, and new permanent access f) All temporary work areas including staging, material storage, field offices, material laydown, temporary work areas for above ground (e.g., pole installation) and underground facility construction (e.g., trenching and duct banks), helicopter landing zones, pull and tension sites, guard structures, shoo flies etc. g) Areas where special construction methods (e.g., jack and bore, HDD, blasting, retaining walls etc.) may need to be employed 		

<ul style="list-style-type: none"> h) Areas where vegetation removal may occur i) Areas to be heavily graded and where slope stabilization measures would be employed including any retaining walls 		
<p>3.12.3: GIS Data. Provide GIS data for all features and ROW shown on the detailed mapbook.</p>		
<p>3.12.4: GIS Requirements. Provide the following information for each pole/tower that would be installed and for each pole/tower that would be removed:</p> <ul style="list-style-type: none"> a) Unique ID number and type of pole (e.g., wood, steel, etc.) or tower (e.g., self-supporting lattice) both in a table and in the attributes of the GIS data provided b) Identify pole/tower heights and conductor sizes in the attributes of the GIS data provided. 		
<p>3.12.5: Natural Gas Facilities GIS Data. For natural gas facilities, provide GIS data for system cross ties and all laterals/taps, valve stations, and new and existing inspection facilities (e.g., pig launcher sites).</p>		

4 Description of Alternatives

All Applicants will assume that alternatives will be required for the environmental analysis and that an EIR will be prepared unless otherwise instructed by CPUC CEQA Unit Staff in writing prior to application filing. See PEA Requirements at the beginning of this checklist document. The consideration and discussion of alternatives will adhere to CEQA Guidelines Section 15126.6. The description of alternatives will be provided in this chapter of the PEA, and the comparison of each alternative to the proposed project is provided in PEA Chapter 6. The amount of detail required for the description of various alternatives to the proposed project and what may be considered a reasonable range of alternatives will be discussed with CPUC during Pre-filing.

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>4.1 Alternatives Considered. Identify alternatives to the proposed project.²⁰ Include the following:</p> <ul style="list-style-type: none"> a) All alternatives to the proposed project that were suggested, considered, or studied by the CAISO or by CAISO stakeholders b) Alternatives suggested by the public or agencies during public outreach efforts conducted by the Applicant c) Reduced footprint alternatives, including, e.g., smaller diameter pipelines and space for fewer electric transformers d) Project phasing options (e.g., evaluate the full build out for environmental clearance but consider an initial, smaller buildout that would only be expanded [in phases] if needed) e) Alternative facility and construction activity sites (e.g., substation, compressor station, drilling sites, well-head sites, staging areas) f) Renewable, energy conservation, energy efficiency, demand response, distributed energy resources, and energy storage alternatives g) Alternatives that would avoid or limit the construction of new transmission-voltage facilities or new gas transmission pipelines h) Other technological alternatives (e.g., conductor type) i) Route alternatives and route variations j) Alternative engineering or technological approaches (e.g., alternative types of facilities, or materials, or configurations) k) Assign an identification label and brief, descriptive title to each alternative described in this PEA chapter (e.g., Alternative A: No Project; Alternative B: Reduced Footprint 500/115-kV Substation; Alternative C: Ringo Hills 16-inch Pipeline Alignment; Alternative D1: Lincoln Street Route Variation; etc.). Each alternative will be easily identifiable by reading the brief title. <p>Provide a description of each alternative. The description of each alternative will discuss to what extent it would be potentially feasible,</p>		

²⁰ Reduced footprint alternatives; siting alternatives; renewable, energy conservation, energy efficiency, demand response, distributed energy resources, and energy storage alternatives; and non-wires alternatives (electric projects only) are typically required. For linear projects, route alternatives and route variations are typically required as well.

<p>meet the project’s underlying purpose, meet most of the basic project objectives, and avoid or reduce one or more potentially significant impacts. If the Applicant believes that an alternative is infeasible or the implementation is remote and speculative (CEQA Guidelines Section 15126.6(f)(3), clearly explain why.</p> <p>If significant environmental effects are possible without mitigation, alternatives will be provided in the PEA that are capable of avoiding or reducing any potentially significant environmental effects, even if the alternative(s) substantially impede the attainment of some project objectives or are costlier.²¹</p>		
<p>4.2 No Project Alternative. Include a thorough description of the No Project Alternative. The No Project Alternative needs to describe the range of actions that are reasonably foreseeable if the proposed project is not approved. The No Project Alternative will be described to meet the requirements of CEQA Guidelines Section 15126.6(e).</p>		
<p>4.3 Rejected Alternatives. Provide a detailed discussion of all alternatives considered by the Applicant that were not selected by the Applicant for a full description in the PEA and analysis in PEA Chapter 5. The detailed discussion will include the following:</p> <ul style="list-style-type: none"> a) Description of the alternative and its components b) Map of any alternative sites or routes c) Discussion about the extent to which the alternative would meet the underlying purpose of the project and its basic objectives d) Discussion about the feasibility of implementing the alternative e) Discussion of whether the alternative would reduce or avoid any significant environmental impacts of the proposed project f) Discussion of any new significant impacts that could occur from implementation of the alternative g) Description of why the alternative was rejected h) Any comments from the public or agencies about the alternative during PEA preparation 		
<p>For Natural Gas Storage Projects:</p>		
<p>4.4 Natural Gas Storage Alternatives. In addition to the requirements included above, alternatives to be considered for proposed natural gas storage projects include the following, where applicable:</p> <ul style="list-style-type: none"> a) Alternative reservoir locations considered for gas storage including other field locations and other potential storage areas b) Alternative pipelines, road, and utility siting c) Alternative suction gas requirements, and injection/withdrawal options 		

²¹ CPUC CEQA Unit Staff will determine whether an alternative could *substantially* reduce one or more potentially significant impacts of the proposed project (CEQA Guidelines Section 15125.5). Applicants are strongly advised to provide more rather than less alternatives for CPUC’s consideration or as determined during Pre-filing.

5 Environmental Analysis

Include a description of the environmental setting, regulatory setting, and impact analysis for each resource area. The resource areas addressed will include each environmental factor (resource area) identified in the most recent adopted version of the CEQA Guidelines Appendix G checklist and any additional relevant resource areas and impact questions that are defined in this PEA checklist.

1. Environmental Setting
 - a. For each resource area, the PEA will include a detailed description of the natural and built environment in the vicinity of the proposed project area (e.g., topography, land use patterns, biological environment, etc.) as applicable to the resource area. Both regional and local environmental setting information will be provided.
 - b. All setting information provided will relate in some way to the impacts of the proposed project discussed in the PEA's impacts analysis, however CPUC's impacts analysis may be more thorough, which may necessitate additional setting information than the Applicant might otherwise provide.
2. Regulatory Setting
 - a. Organized by federal, State, regional, and local sections
 - b. Describe the policy or regulation and briefly explain why it is applicable to the proposed project.
 - i. Identify in the setting all laws, regulations, and policies that would be applicable for CPUC's exclusive jurisdiction over the siting and design of electric and gas facilities. Public utilities under CPUC's jurisdiction are expected to consult with local agencies regarding land use matters. Local laws, regulations, and policies will be considered for the consideration of potential impacts during CPUC's CEQA review (e.g., encroachment, grading, erosion control, scenic corridors, overhead line undergrounding, tree removal, fire protection, permanent and temporary noise limits, zoning requirements, general plan polices, and all local and regional laws, regulations, and policies).
3. Impact Questions
 - a. Includes all impact questions in the current version of CEQA Guidelines, Appendix G.
 - b. Additional impact questions that are frequently relevant to utility projects are provided in Attachment 4, CPUC Draft Environmental Measures.
4. Impact Analyses
 - a. Discussion organized by CEQA Guidelines, Appendix G impact items and any Additional CEQA Impact Questions in the PEA Checklist. Assess all potential environmental impacts and make determinations, such as, No Impact, Less than Significant, Less than Significant with Mitigation, Significant and Unavoidable, or Beneficial Impact with respect to construction, operations, and maintenance activities.
 - b. The impact analyses provided in PEA Chapter 5, Environmental Analysis, need not be as thorough as those to be prepared by CPUC for the CEQA environmental document. A preliminary determination will be provided but with only brief justification unless otherwise directed by CPUC Staff in writing during Pre-filing.
5. CPUC Draft Environmental Measures
 - a. CPUC Draft Environmental Measures are provided for some of the resource areas in Attachment 4, CPUC Draft Environmental Measures. The measures may be applied to the proposed project as written or modified by the CPUC during its environmental review if the measure would avoid or reduce a potentially significant impact.

- b. The CPUC Draft Environmental Measures should be discussed with the CPUC’s CEQA Unit Staff during Pre-filing, especially with respect to the development of Applicant Proposed Measures.
- c. In general, impact avoidance is preferred to the reduction of potentially significant impacts.

Additional requirements specific to each resource area are identified in the following sections.

5.1 Aesthetics

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.1.1 Environmental Setting		
5.1.1.1: Landscape Setting. Briefly described the regional and local landscape setting.		
5.1.1.2: Scenic Resources. Identify and describe any vistas, scenic highways, national scenic areas, or other scenic resources within and surrounding the project area (approximately 5-mile buffer but may be greater if necessary). Scenic resources may also include but are not limited to historic structures, trees, or other resources that contribute to the scenic values where the project would be located.		
<p>5.1.1.3: Viewshed Analysis</p> <ul style="list-style-type: none"> a) Conduct a viewshed analysis for the project area (approximately 5-mile buffer but may be greater if necessary). b) Describe the project viewshed, including important visibility characteristics for the project site, such as viewing distance, viewing angle, and intervening topography, vegetation, or structures. c) Provide a supporting map (or maps) showing project area, landscape units, topography (i.e., hillshade), and the results of the viewshed analysis. Provide associated GIS data. 		
5.1.1.4: Landscape Units. Identify and describe landscape units (geographic zones) within and surrounding the project area (approximately 5-mile buffer but may be greater if necessary) that categorizes different landscape types and visual characteristics, with consideration to topography, vegetation, and existing land uses. Landscape units should be developed based on the existing landscape characteristics rather than the project’s features or segments.		
5.1.1.5: Viewers and Viewer Sensitivity. Identify and described the types of viewers expected within the viewshed and landscape units. Describe visual sensitivity to general visual change based on viewing conditions, use of the area, feedback from the public about the project, and landscape characteristics.		

<p>5.1.1.6: Representative Viewpoints</p> <p>a) Identify representative viewpoints from publicly accessible locations (up to approximately 5-mile buffer but may be greater if appropriate). The number and location of the viewpoints must represent a range of views of the project site from major roads, highways, trails, parks, vistas, landmarks, and other scenic resources near the project site. Multiple viewpoints should be included where the project site would be visible from sensitive scenic resources to provide context on different viewing distances, perspectives, and directions.</p> <p>b) Provide the following information for each viewpoint:</p> <ul style="list-style-type: none"> i. Number, title, and brief description of the location ii. Types of viewers iii. Viewing direction(s) and distance(s) to the nearest proposed project features iv. Description of the existing visual conditions and visibility of the project site as seen from the viewpoint and shown in the representative photographs <p>c) Provide a supporting map (or maps) showing project features and representative viewpoints with arrows indicating the viewing direction(s). Provide associated GIS data (may be combined with GIS data request below for representative photographs).</p>		
<p>5.1.1.7: Representative Photographs</p> <p>a) Provide high resolution photographs taken from the representative viewpoints in the directions of all proposed project features.²² Multiple photographs should be provided where project features may be visible in different viewing directions from the same location.</p> <p>b) Provide the following information for each photograph:</p> <ul style="list-style-type: none"> i. Capture time and date ii. Camera body and lens model iii. Lens focal length and camera height when taken <p>c) Provide GIS data associated with each photograph location that includes coordinates (<1 meter resolution), elevations, and viewing directions, as well as the associated viewpoint.</p>		
<p>5.1.1.8: Visual Resource Management Areas</p> <p>a) Identify any visual resource management areas within and surrounding the project area (approximately 5-mile buffer).</p> <p>b) Describe any project areas within visual resource management areas.</p>		

²² All representative photographs should be taken using a digital single-lens reflex camera with standard 50-millimeter lens equivalent, which represents an approximately 40-degree horizontal view angle. The precise photograph coordinates and elevations should be collected using a high accuracy GPS unit.

c) Provide a supporting map (or maps) showing project features and visual resource management areas. Provide associated GIS data.		
5.1.2 Regulatory Setting		
5.1.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding aesthetics and visual resource management.		
5.1.3 Impact Questions		
5.1.3.1: Impact Questions. The impact questions include all aesthetic impact questions in the current version of CEQA Guidelines, Appendix G. 5.1.3.2: Additional CEQA Impact Questions: None.		
5.1.4 Impact Analysis		
5.1.4.1: Visual Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.		
The following information will be included in the PEA or a technical Appendix to support the aesthetic impact analysis:		
5.1.4.2: Analysis of Selected Viewpoints. Identify the methodology and assumptions that were applied in selecting key observation points for visual simulation. It is recommended that viewpoints are selected where viewers may be sensitive to visual change (public views) and in areas that are visually sensitive, or heavily trafficked or visited. ²³		
5.1.4.3: Visual Simulation		
a) Identify methodology and assumptions for completing the visual simulations. The simulations should include photorealistic 3-D models of project features and any land changes within the KOP view. The visual simulations should depict conditions: <ul style="list-style-type: none"> i. Immediately following construction, and ii. After vegetation establishment in all areas of temporary impact to illustrate the visual impact from vegetation removal. b) Provide high resolution images for the visual simulations.		
5.1.4.4: Analysis of Visual Change		
a) Identify the methodology and assumptions for completing the visual change analysis. ²⁴ The methodology should be consistent with applicable visual resource management criteria. b) Provide a description of the visual change for each selected viewpoint. Describe any conditions that would change over time, such as vegetation growth.		

²³ The KOP selection process should be discussed with CPUC during Pre-filing

²⁴ The visual impact assessment methodology should be discussed with CPUC during Pre-filing

c) Describe the effects of visual change that would result in the entire project area, as indicated by the selected viewpoints that were simulated and analyzed.		
5.1.4.5: Lighting and Marking. Identify all new sources of permanent lighting. Identify any proposed structures or lines that could require FAA notification. Identify any structures or line segments that could require lighting and marking based on flight patterns and FAA or military requirements. Provide supporting documentation in an Appendix (e.g., FAA notice and criteria tool results).		
5.1.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.2 Agriculture and Forestry Resources

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.2.1 Environmental Setting		
5.2.1.1: Agricultural Resources and GIS		
a) Identify all agricultural resources that occur within the project area including: <ul style="list-style-type: none"> i. Areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance ii. Areas under Williamson Act contracts and provide information on the status of the Williamson Act contract iii. Any areas zoned for agricultural use in local plans iv. Areas subject to active agricultural use b) Provide GIS data for agricultural resources within the proposed project area.		
5.2.1.2: Forestry Resources and GIS		
a) Identify all forestry resources within the project area including: <ul style="list-style-type: none"> i. Forest land as defined in Public Resources Code 12220(g)25 ii. Timberland as defined in Public Resource Code section 4526 iii. Timberland zoned Timberland Production as defined in Government Code section 51104(g) b) Provide GIS data for all forestry resources within the proposed project area.		
5.2.2 Regulatory Setting		
5.2.2: Agriculture and Forestry Regulations. Identify all federal, state, and local policies for protection of agricultural and forestry resources that apply to the proposed project.		

²⁵ Forest land is defined in Public Resources Code as, “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.”

5.2.3 Impact Questions		
5.2.3.1: Agriculture and Forestry Impact Questions. The impact questions include all agriculture and forestry impact questions in the current version of CEQA Guidelines, Appendix G.		
5.2.3.2: Additional CEQA Impact Questions: None.		
5.2.4 Impact Analyses		
5.2.4.1: Agriculture and Forestry Impacts. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.		
Incorporate the following discussions into the analysis of impacts:		
5.2.4.2: Prime Farmland Soil Impacts. Calculate the acreage of Prime Farmland soils that would be affected by construction and operation and maintenance.		
5.2.4.3. Williamson Act Impacts. Describe the approach to resolve potential conflicts with Williamson Act contract (if applicable)		
5.2.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.3 Air Quality

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.3.1 Environmental Setting		
5.3.1.1: Air Quality Plans Identify and describe all applicable air quality plans and attainment areas. Identify the air basin(s) for the project area. If the project is located in more than one attainment area and/or air basin, provide the extent in each attainment area and air basin.		
5.3.1.2: Air Quality. Describe existing air quality in the project area. a) Identify existing air quality exceedance of National Ambient Air Quality Standards and California Ambient Air Quality Standards in the air basin. b) Provide the number of days that air quality in the area exceeds state and federal air standards for each criteria pollutant that where air quality standards are exceeded. c) Provide air quality data from the nearest representative air monitoring station(s).		
5.3.1.3: Sensitive Receptor Locations. Identify the location and types of each sensitive receptor locations ²⁶ within 1,000 feet of the project area. Provide GIS data for sensitive receptor locations.		

²⁶ Sensitive Receptor locations may include hospitals, schools, and day care centers, and such other locations as the air district board or California Air Resources Board may determine (California Health and Safety Code § 42705.5(a)(5)).

5.3.2 Regulatory Setting		
5.3.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding aesthetics and visual resource management.		
5.3.2.2: Air Permits. Identify and list all necessary air permits.		
5.3.3 Impact Questions		
5.3.3.1: Impact Questions. The impact questions include all air quality impact questions in the current version of CEQA Guidelines, Appendix G.		
5.3.3.2: Additional CEQA Impact Questions: None.		
5.3.4 Impact Analysis		
5.3.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.		
The following information will be presented in the PEA or a technical Appendix to support the air quality impact analysis:		
5.3.4.2: Air Quality Emissions Modeling. Model project emissions using the most recent version of CalEEMod and/or a current version of other applicable modeling program. Provide all model input and output data sheets in Microsoft Excel format to allow CPUC to evaluate whether project data was entered into the modeling program accurately. The assumptions used in the air quality modeling must be consistent with all PEA information about the project’s schedule, workforce, and equipment. The following information will be addressed in the emissions modeling, Air Quality Appendix, and PEA:		
<ul style="list-style-type: none"> a) Quantify the expected emissions of criteria pollutants from all project-related sources. Quantify emissions for both construction and operation (e.g., compressor equipment). b) Identify manufacturer’s specifications for all proposed new emission sources. For proposed new, additional, or modified compressor units, include the horsepower, type, and energy source. c) Describe any emission control systems that are included in the air quality analysis (e.g., installation of filters, use of EPA Tier II, III, or IV equipment, use of electric engines, etc.). d) When multiple air basins may be affected by the project, model air emissions within each air basin and provide a narrative (supported by calculations) that clearly describes the assumptions around the project activities considered for each air basin. Provide modeled emissions by attainment area or air basin (supported by calculations). 		

5.3.4.3: Air Quality Emissions Summary. Provide a table summarizing the air quality emissions for the project and applicable thresholds for each applicable attainment area. Include a summary of uncontrolled emissions (prior to application of any APMs) and controlled emissions (after application of APMs). Clearly identify the assumptions that were applied in the controlled emissions estimates.		
5.3.4.4: Health Risk Assessment. Complete a Health Risk Assessment when air quality emissions have the potential to lead to human health impacts ²⁷ . If health impacts are not anticipated from project emissions, the analysis should clearly describe why emissions would not lead to health impacts.		
5.3.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.4 Biological Resources

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.4.1 Environmental Setting		
5.4.1.1: Biological Resources Technical Report. Provide a Biological Resources Technical Report as an Appendix to the PEA that includes all information specified in Attachment 2.		
The following biological resources information will be presented in the PEA:		
5.4.1.2: Survey Area (Local Setting). Identify and describe the biological resources survey area as documented in the Biological Resources Technical Report. All temporary and permanent project areas must be within the survey area.		
5.4.1.3: Vegetation Communities and Land Cover a) Identify, describe, and quantify vegetation communities and land cover types within the biological resources survey area. b) Clearly identify any sensitive natural vegetation communities that meet the definition of a biological resource under CEQA (i.e., rare, designated, or otherwise protected), such as, but not limited to, riparian habitat. c) Provide a supporting map (or maps) showing project features and vegetation communities and land cover type.		

²⁷ Refer to Office of Environmental Health Hazard Assessment (OEHHA) most recent guidance for preparation of Health Risk Assessments to determine whether a Health Risk Assessment is required for the project. The need for an HRA should also be discussed with CPUC during Pre-filing.

<p>5.4.1.4: Aquatic Features</p> <ul style="list-style-type: none"> a) Identify, describe, and quantify aquatic features within the biological resources survey area that may provide potentially suitable aquatic habitat for rare and special-status species. b) Identify and quantify potentially jurisdictional aquatic features and delineated wetlands, according to the Wetland Delineation Report and Biological Resources Technical Report. c) Provide a supporting map (or maps) showing project features and aquatic resources. 		
<p>5.4.1.5: Habitat Assessment. Identify rare and special-status species with potential to occur in the project region (approximately a 5-mile buffer but may be larger if necessary). For each species, provide the following information:</p> <ul style="list-style-type: none"> a) Common and scientific name b) Status and/or rank c) Habitat characteristics (i.e., vegetation communities, elevations, seasonal changes, etc.) d) Blooming characteristics for plants e) Breeding and other dispersal (range) behavior for wildlife f) Potential to occur within the survey area (i.e., Present, High Potential, Moderate Potential, Low Potential, or Not Expected), with justification based on the results of the records search, survey findings, and presence of potentially suitable habitat g) Specific types and locations of potentially suitable habitat that correspond to the vegetation communities and land cover and aquatic features 		
<p>5.4.1.6: Critical Habitat</p> <ul style="list-style-type: none"> a) Identify and describe any critical habitat for rare or special-status species within and surrounding the project area (approximately a 5-mile buffer). b) Provide a supporting map (or maps) showing project features and critical habitat. 		
<p>5.4.1.7: Native Wildlife Corridors and Nursery Sites</p> <ul style="list-style-type: none"> a) Identify and describe regional and local wildlife corridors within and surrounding the project area (approximately a 5-mile buffer), including but not limited to, landscape and aquatic features that connect suitable habitat in regions otherwise fragmented by terrain, changes in vegetation, or human development. b) Identify and describe regional and local native wildlife nursery sites within and surrounding the project area (approximately a 5-mile buffer), as identified through the records search, surveys, and habitat assessment. 		

c) Provide a supporting map (or maps) showing project features, native wildlife corridors, and native nursery sites.		
5.4.1.8: Biological Resource Management Areas		
<p>a) Identify any biological resource management areas (i.e., conservation or mitigation areas, HCP or NCCP boundaries, etc.) within and surrounding the project area (approximately 5-mile buffer).</p> <p>b) Identify and quantify any project areas within biological resource management areas.</p> <p>c) Provide a supporting map (or maps) showing project features and biological resource management areas.</p>		
5.4.2 Regulatory Setting		
5.4.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding biological resources.		
5.4.2.2: Habitat Conservation Plan. Provide a copy of any relevant Habitat Conservation Plan.		
5.4.3 Impact Questions		
<p>5.4.3.1: Impact Questions. The impact questions include all biological resource impact questions in the current version of CEQA Guidelines, Appendix G.</p> <p>5.4.3.2: Additional CEQA Impact Question:</p> <p>Would the project create a substantial collision or electrocution risk for birds or bats?</p>		
5.4.4 Impact Analysis		
5.4.4.1: Impact Analysis Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for Biological Resources and any additional impact questions listed above.		
The following information will be included in the impact analysis:		
<p>5.4.4.2: Quantify Habitat Impacts. Provide the area of impact in acres by each habitat type. Quantify temporary and permanent impacts. For all temporary impacts provide the following:</p> <p>a) Description of the restoration and revegetation approach</p> <p>b) Vegetation species that would be planted within the area of temporary disturbance</p> <p>c) Procedures to reduce invasive weed encroachment within areas of temporary disturbance</p> <p>d) Expected timeframe for restoration of the site</p>		
5.4.4.3: Special-Status Species Impacts. Identify anticipated impacts on special-status species. Identify any take permits that are anticipated for the project. If an existing habitat conservation plan (HCP) or natural communities conservation plan (NCCP) would be used for the project, provide current accounting of take coverage included in the HCP/NCCP		

to demonstrate that there is sufficient habitat coverage remaining under the existing permit.		
<p>5.4.4.4: Wetland Impacts. Quantify the area (in acres) of temporary and permanent impacts on wetlands. Include the following details:</p> <ul style="list-style-type: none"> a) Provide a table identifying all wetlands, by milepost and length, crossed by the project and the total acreage of each wetland type that would be affected by construction. b) Discuss construction and restoration methods proposed for crossing wetlands. c) If wetlands would be filled or permanently lost, describe proposed measures to compensate for permanent wetland losses. d) If forested wetlands would be affected, describe proposed measures to restore forested wetlands following construction. 		
<p>5.4.4.5: Avian Impacts. Describe avian obstructions and risk of electrocution from the project. Describe any standards that will be implemented as part of the project to reduce the risk of collision and electrocution.</p>		
5.4.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.5 Cultural Resources²⁸

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.5.1 Environmental Setting		
<p>5.5.1.1: Cultural Resource Reports. Provide a cultural resource inventory and evaluation report that addresses the technical requirement provided in Attachment 3.</p>		
<p>5.5.1.2: Cultural Resources Summary. Summarize cultural resource survey and inventory results and survey methods. Do not provide any confidential cultural resource information within the PEA chapter.</p>		
<p>5.5.1.3: Cultural Resource Survey Boundaries. Provide a map with mileposts showing the boundaries of all survey areas in the report. Provide the GIS data for the survey area. Provide confidential GIS data for the resource locations and boundaries separately under confidential cover.</p>		
5.5.2 Regulatory Setting		
<p>5.5.2.1: Regulatory Setting. Identify applicable federal and state regulations for protection of cultural resources.</p>		

²⁸ For a description and evaluation of cultural resources specific to Tribes, see Section 5.18, Tribal Cultural Resources.

5.5.3 Impact Questions		
5.5.3.1: Impact Questions. The impact questions include all cultural resource impact questions in the current version of CEQA Guidelines, Appendix G.		
5.5.3.2: Additional CEQA Impact Questions: None.		
5.5.4 Impact Analysis		
5.5.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis		
5.5.4.2: Human Remains. Describe the potential for encountering human remains or grave goods during the trenching or any other phase of construction. Describe the procedures that would be used if human remains are encountered.		
5.5.4.3: Resource Avoidance. Describe avoidance procedures that would be implemented to avoid known resources.		
5.5.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.6 Energy

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.6.1 Environmental Setting		
5.6.1.1: Existing Energy Use. Identify energy use of existing infrastructure if the proposed project would replace or upgrade an existing facility.		
5.6.2 Regulatory Setting		
5.6.2.1: Regulatory Setting. Identify applicable federal, state, or local regulations or policies applicable to energy use for the proposed project.		
5.6.3 Impact Questions		
5.6.3.1: Impact Questions: The impact questions include all energy impact questions in the current version of CEQA Guidelines, Appendix G.		
5.6.3.2: Additional CEQA Impact Question: Would the project add capacity for the purpose of serving a non-renewable energy resource?		

5.6.4 Impact Analysis		
5.6.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.6.4.2: Nonrenewable Energy. Identify renewable and non-renewable energy projects that may interconnected to or be supplied by the proposed project.		
5.6.4.3: Fuels and Energy Use		
<ul style="list-style-type: none"> a) Provide an estimation of the amount of fuels (gasoline, diesel, helicopter fuel, etc.) that would be used during construction and operation and maintenance of the project. Fuel estimates should be consistent with Air Quality calculations supporting the PEA. b) Provide the following information on energy use: <ul style="list-style-type: none"> i. Total energy requirements of the project by fuel type and end use ii. Energy conservation equipment and design features iii. Identification of energy supplies that would serve the project 		
5.6.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.7 Geology, Soils, and Paleontological Resources

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.7.1 Environmental Setting		
5.7.1.1: Regional and Local Geologic Setting. Briefly describe the regional and local physiography, topography, and geologic setting in the project area.		
5.7.1.2: Seismic Hazards		
<ul style="list-style-type: none"> a) Provide the following information on potential seismic hazards in the project area: <ul style="list-style-type: none"> i. Identify and describe regional and local seismic risk including any active faults within and surrounding the project area (will be a 10-mile buffer unless otherwise instructed in writing by CEQA Unit Staff during Pre-filing) ii. Identify any areas that are prone to seismic-induced landslides iii. Provide the liquefaction potential for the project area b) Provide a supporting map (or maps) showing project features and major faults, areas of landslide risk, and areas at high risk of liquefaction. Provide GIS data for all faults, landslides, and areas of high liquefaction potential. 		

<p>5.7.1.3: Geologic Units. Identify and describe the types of geologic units in the project area. Include the following information for each geologic unit:</p> <ul style="list-style-type: none"> a) Summarize the geologic units within the project area. b) Identify any previous landslides in the area and any areas that are at risk of landslide. c) Identify any unstable geologic units. d) Provide a supporting map (or maps) showing project features and geologic units. Clearly identify any areas with potentially hazardous geologic conditions. Provide associated GIS data. 		
<p>5.7.1.4: Soils. Identify and describe the types of soils in the project area.</p> <ul style="list-style-type: none"> a) Summarize the soils within the project area. b) Clearly identify any soils types that could be unstable (e.g., at risk of lateral spreading, subsidence, liquefaction, or collapse). c) Provide information on erosion susceptibility for each soil type that occurs in the project area. d) Provide a supporting map (or maps) showing project features and soils. Provide associated GIS data. 		
<p>5.7.1.5: Paleontological Report. Provide a paleontological report that includes the following:</p> <ul style="list-style-type: none"> a) Information on any documented fossil collection localities within the project area and a 500-foot buffer. b) A paleontological resource sensitivity analysis based on published geological mapping and the resource sensitivity of each rock type. c) Supporting maps and GIS data. 		
<p>5.7.2 Regulatory Setting</p>		
<p>5.7.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding geology, soils, and paleontological resources.</p>		
<p>5.7.3 Impact Questions</p>		
<p>5.7.3.1: Impact Questions. The impact questions include all geology, soils, and paleontological resource impact questions in the current version of CEQA Guidelines, Appendix G.</p> <p>5.7.3.2: Additional CEQA Impact Questions: None.</p>		
<p>5.7.4 Impact Analysis</p>		
<p>5.7.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.</p>		
<p>Include the following information in the impact analysis:</p>		

5.7.4.2: Geotechnical Requirements. Identify any geotechnical requirements that would be implemented to address effects from unstable geologic units or soils. Describe how the recommendation would be applied (i.e., when and where).		
5.7.4.3: Paleontological Resources. Identify the potential to disturb paleontological resources based on the depth of proposed excavation and paleontological sensitivity of geologic units within the project area.		
5.7.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.8 Greenhouse Gas Emissions

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.8.1 Environmental Setting		
5.8.1.1: GHG Setting. Provide a description of the setting for greenhouse gases (GHGs). The setting should consider any GHG emissions from existing infrastructure that would be upgraded or replaced by the proposed project.		
5.8.2 Regulatory Setting		
5.8.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for greenhouse gases.		
5.8.3 Impact Questions		
5.8.3.1 Impact Questions. The impact questions include all greenhouse gas impact questions in the current version of CEQA Guidelines, Appendix G.		
5.8.3.2: Additional CEQA Impact Questions: None.		
5.8.4 Impact Analysis		
5.8.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.8.4.2: GHG Emissions. Provide a quantitative assessment of GHG emissions for construction and operation and maintenance of the proposed project. Provide model results and all model files. Modeling will be conducted using the latest version of the emissions model at the time of application filing (e.g., most recent version of CalEEMod). GHG emissions will be provided for the following conditions: <ul style="list-style-type: none"> a) Uncontrolled emissions (before APMs are applied) b) Controlled emissions considering application of APMs <ul style="list-style-type: none"> i. Based on the modeled GHG emissions, quantify the project’s contribution to and analyze the project’s effect on 		

<p>climate change. Identify and provide justification for the timeframe considered in the analysis.</p> <p>ii. Discuss any programs already in place to reduce GHG emissions on a system-wide level. This includes the Applicant’s voluntary compliance with the EPA SF6 reduction program, reductions from energy efficiency, demand response, LTPP, etc.</p> <p>iii. For any significant impacts, identify potential strategies that could be employed by the project to reduce GHGs during construction or operation and maintenance consistent with OPR Advisory on CEQA and Climate Change.</p>		
Natural Gas Storage		
5.8.4.3: Natural Gas Storage Accident Conditions. In addition to the requirements above, identify the potential GHG emissions that could result in the event of a gas leak.		
5.8.4.4: Monitoring and Contingency Plan. Provide a comprehensive monitoring plan that would be implemented during project operation to monitor for gas leaks. The plan should identify a monitoring schedule, description of monitoring activities, and actions to be implemented if gas leaks are observed.		
5.8.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.9 Hazards, Hazardous Materials, and Public Safety²⁹

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.9.1 Environmental Setting		
5.9.1.1: Hazardous Materials Report. Provide a Phase I Environmental Site Assessment or similar hazards report for the proposed project area. Describe any known hazardous materials locations within the project area and the status of the site.		
5.9.1.2: Airport Land Use Plan. Identify any airport land use plan(s) within the project area.		
5.9.1.3: Fire Hazard. Identify if the project occurs within federal, state, or local fire responsibility areas and identify the fire hazard severity rating for all project areas, including temporary work areas and access roads.		
5.9.1.4: Metallic Objects. For electrical projects, identify any metallic pipelines or cables within 25 feet of the project.		

²⁹ For fire risk specific to state responsibility areas or lands classified as very high fire hazard severity zones, see Section 5.20, Wildfire.

<p>5.9.1.5: Pipeline History (for Natural Gas Projects). Provide a narrative describing the history of the pipeline system(s) to which the project would connect, list of previous owner and operators, and detailed summary of the pipeline systems’ safety and inspection history.</p>		
<p>5.9.2 Regulatory Setting</p>		
<p>5.9.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for hazards, hazardous materials, and public safety.</p>		
<p>5.9.2.2: Touch Thresholds. Identify applicable standards for protection of workers and the public from shock hazards.</p>		
<p>5.9.3 Impact Questions</p>		
<p>5.9.3.1: Impact Questions. The impact questions include all hazards and hazardous materials impact questions in the current version of CEQA Guidelines, Appendix G.</p> <p>5.9.3.2: Additional CEQA Impact Questions:</p> <ul style="list-style-type: none"> a) Would the project create a significant hazard to air traffic from the installation of new power lines and structures? b) Would the project create a significant hazard to the public or environment through the transport of heavy materials using helicopters? c) Would the project expose people to a significant risk of injury or death involving unexploded ordnance? d) Would the project expose workers or the public to excessive shock hazards? 		
<p>5.9.4 Impact Analysis</p>		
<p>5.9.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines Appendix G for this resource area and any additional impact questions listed above.</p>		
<p>Include the following information in the impact analysis:</p>		
<p>5.9.4.2: Hazardous Materials. Identify the hazardous materials (i.e., chemicals, solvents, lubricants, and fuels) that would be used during construction and operation of the project. Estimate the quantity of each hazardous material that would be stored on site during construction and operation.</p>		
<p>5.9.4.3: Air Traffic Hazards. If the project involves construction of above-ground structures (including structure replacement) within the airport land use plan area, provide a discussion of how the project would or would not conflict with height restrictions identified in the airport land use plan and how the project would comply with any FAA or military requirements for the above ground facilities.</p>		
<p>5.9.4.4: Accident or Upset Conditions. Describe how the project facilities would be designed, constructed, operated, and maintained to</p>		

minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes.		
5.9.4.5: Shock Hazard. For electricity projects, identify infrastructure that may be susceptible to induced current from the proposed project. Describe strategies (e.g., cathodic protection) that the project would employ to reduce shock hazards and avoid electrocution of workers or the public.		
For Natural Gas and Gas Storage:		
5.9.4.6: Health and Safety Plan. Include in the Health and Safety Plan, plans for addressing gas leaks, fires, etc. Identify sensitive receptors, methods of evacuation, and protection measures. The Plan will be provided as an Appendix to the PEA.		
5.9.4.7: Health Risk Assessment. Provide a Health Risk Assessment including risk from potential gas leaks, fires, etc. Identify sensitive receptors that would be affected and potential impacts on them if there is a gas release. ³⁰		
5.9.4.8: Gas Migration. Describe potential for and effects of gas migration through natural and manmade pathways. a) Provide Applicant Proposed Measures for avoiding gas emissions at the surface from gas migration pathways. b) Provide Applicant Proposed Measures for avoiding emissions of mercaptan and/or other odorizing agents.		
5.9.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.10 Hydrology and Water Quality

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.10.1 Environmental Setting		
5.10.1.1: Waterbodies. Identify by milepost all ephemeral, intermittent, and perennial surface waterbodies crossed by the project. For each, list its water quality classification, if applicable.		
5.10.1.2: Water Quality. Identify any downstream waters that are on the state 303(d) list and identify whether a total maximum daily load (TMDL) has been adopted or the date for adoption of a TMDL. Identify existing sources of impairment for downstream waters. Describe any management plans that are in place for downstream waters.		
5.10.1.3: Groundwater Basin. Identify all known EPA and state groundwater basins and aquifers crossed by the project.		

³⁰Refer to the requirements for Health Risk Assessments in Section 5.3.4.4.

<p>5.10.1.4: Groundwater Wells and Springs. Identify the locations of all known public and private groundwater supply wells and springs within 150 feet of the project area.</p>		
<p>5.10.1.5: Groundwater Management. Identify the groundwater management status of any groundwater resources in the project area and any groundwater resources that may be used by the project. Describe if groundwater resources in the basin have been adjudicated. Identify any sustainable groundwater management plan that has been adopted for groundwater resources in the project area or describe the status of groundwater management planning in the area.</p>		
<p>5.10.2 Regulatory Setting</p>		
<p>5.10.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding hydrologic and water quality.</p>		
<p>5.10.3 Impact Questions</p>		
<p>5.10.3.1: Impact Questions. The impact questions include all hydrology and water quality impact questions in the current version of CEQA Guidelines, Appendix G.</p>		
<p>5.10.3.2: Additional CEQA Impact Questions: None.</p>		
<p>5.10.4 Impact Analysis</p>		
<p>5.10.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in the current version of CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.</p>		
<p>Include the following information in the impact analysis:</p>		
<p>5.10.4.2: Hydrostatic Testing. Identify all potential sources of hydrostatic test water, quantity of water required, withdrawal methods, treatment of discharge, and any waste products generated.</p>		
<p>5.10.4.3: Water Quality Impacts. Describe impacts to surface water quality, including the potential for accelerated soil erosion, downstream sedimentation, and reduced surface water quality.</p>		
<p>5.10.4.4: Impermeable Surfaces. Describe increased run-off and impacts on groundwater recharge due to construction of impermeable surfaces. Provide the acreage of new impermeable surfaces that will be created as a result of the project.</p>		
<p>5.10.4.5: Waterbody Crossings. Identify by milepost all waterbody crossings. Provide the following information for crossing:</p> <ul style="list-style-type: none"> a) Identify whether the waterbody has contaminated waters or sediments. b) Describe the waterbody crossing method and any approaches to avoid the waterbody. c) Describe typical additional work area and staging area requirements at waterbody and wetland crossings. 		

d) Describe any dewatering or water diversion that will be required during construction near the waterbody. Identify treatment methods for any dewatering.		
e) Describe any proposed restoration methods for work near or within the waterbody.		
5.10.4.6: Groundwater Impacts. If water would be obtained from groundwater supplies, evaluate the project’s consistency with any applicable sustainable groundwater management plan.		
5.10.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.11 Land Use and Planning

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.11.1 Environmental Setting		
5.11.1.1: Land Use. Provide a description of land uses within the area traversed by the project route as designated in the local General Plan (e.g., residential, commercial, agricultural, open space, etc.).		
5.11.1.2: Special Land Uses. Identify by milepost and segment all special land uses within the project area including: a) All land administered by federal, state, or local agencies, or private conservation organizations b) Any designated coastal zone management areas c) Any designated or proposed candidate National or State Wild and Scenic Rivers crossed by the project d) Any national landmarks		
5.11.1.3: Habitat Conservation Plan. Provide a copy of any Habitat Conservation Plan applicable to the project area or proposed project. Also required for Section 5.4, Biological Resources.		
5.11.2 Regulatory Setting		
5.11.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for land use and planning.		
5.11.3 Impact Questions		
5.11.3.1: Impact Questions. The impact questions include all land use questions in the current version of CEQA Guidelines, Appendix G.		
5.11.3.2: Additional CEQA Impact Questions: None.		
5.11.4 Impact Analysis		
5.11.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		

5.11.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.12 Mineral Resources

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.12.1 Environmental Setting		
5.12.1.1: Mineral Resources. Provide information on the following mineral resources within 0.5 mile of the proposed project area: a) Known mineral resources b) Active mining claims c) Active mines d) Resource recovery sites		
5.12.2 Regulatory Setting		
5.12.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for minerals.		
5.12.3 Impact Questions		
5.12.3.1: Impact Questions. The impact questions include all mineral resource impact questions in the current version of CEQA Guidelines, Appendix G. 5.12.3.2: Additional CEQA Impact Questions: None.		
5.12.4 Impact Analysis		
5.12.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
5.12.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.13 Noise

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.13.1 Environmental Setting		
5.13.1.1: Noise Sensitive Land Uses. Identify all noise sensitive land uses within 1,000 feet of the proposed project. Provide GIS data for sensitive receptors within 1,000 feet of the project.		
5.13.1.2: Noise Setting. Provide the existing noise levels (Lmax, Lmin, Leq, and Ldn sound level and other applicable noise parameters) at noise sensitive areas near the proposed project. All noise measurement data and the methodology for collecting the data will be provided in a noise study as an Appendix to the PEA.		

5.13.2 Regulatory Setting		
5.13.2.1: Regulatory Setting. Identify applicable state, and local laws, policies, and standards for noise.		
5.13.3 Impact Questions		
5.13.3.1 Impact Questions. The impact questions include all noise questions in the current version of CEQA Guidelines, Appendix G.		
5.13.3.2: Additional CEQA Impact Questions: None.		
5.13.4 Impact Analysis		
5.13.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.13.4.2: Noise Levels		
<ul style="list-style-type: none"> a) Identify noise levels for each piece of equipment that could be used during construction. b) Provide a table that identifies each phase of construction, the equipment used in each construction phase, and the length of each phase at any single location (see example in Table 7 below). c) Estimate cumulative equipment noise levels for each phase of construction. d) Include phases of operation if noise levels during operation have the potential to frequently exceed pre-project existing conditions. e) Identify manufacturer’s specifications for equipment and describe approaches to reduce impacts from noise. 		

Table 7. Construction Noise Levels

Equipment Required	Equipment Noise Levels (Leq; 50 feet)	Phase Noise Level (Leq; 50 feet)	Phase Duration at Each Location	Receptor Nearest to Construction Phase	Noise Level at Nearest Receptor (Leq)	Exceeds Noise Standard at Nearest Receptor?	Distance to Not Exceed Standard
Site Preparation/Grading							
Dozer	78 dBA	82 dBA	5 days	Residence on Main Street; 100 feet from Substation Site	76 dBA	Yes	112 feet
Gradall	79 dBA						
Dump Truck	73 dBA						
Construct Tower Foundation							
Auger Rig	77 dBA	82 dBA	11 days	School on Education Avenue; 130 feet from Tower A12	73 dBA	No	N/A
Dump Truck	73 dBA						
Excavator	77 dBA						
Concrete Truck	75 dBA						

For Natural Gas:		
5.13.4.3: Compressor Station Noise. Provide site plans of compressor stations or other noisy, permanent equipment, showing the location of the nearest noise sensitive areas within 1 mile of the proposed ROW. If new compressor station sites are proposed, measure or estimate the existing ambient sound environment based on current land uses and		

activities. For existing compressor stations (operated at full load), include the results of a sound level survey at the site property line and nearby noise-sensitive areas. Include a plot plan that identifies the locations and duration of noise measurements.		
5.13.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.14 Population and Housing

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.14.1 Environmental Setting		
5.14.1.1: Population Estimates. Identify population trends for the areas (county, city, town, census designated place) where the project would take place.		
5.14.1.2: Housing Estimates. Identify housing estimates and projections in areas where the project would take place.		
5.14.1.3: Approved Housing Developments a) Provide the following information for all housing development projects within 1 mile of the proposed project that have been recently approved or may be approved around the PEA and application filing date: <ul style="list-style-type: none"> i. Project name ii. Location iii. Number of units and estimated population increase iv. Approval date and construction status v. Contact information for developer (provided in the public outreach Appendix) b) Ensure that the project information provided above is consistent with the PEA analysis of cumulative project impacts.		
5.14.2 Regulatory Setting		
5.14.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations that apply to the project.		
5.14.3 Impact Questions		
5.14.3.1: Impact Questions. The impact questions include all population and housing impact questions in the current version of CEQA Guidelines, Appendix G.		
5.14.3.2: Additional CEQA Impact Questions: None.		
5.14.4 Impact Analysis		
5.14.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		

Include the following information in the impact analysis:		
5.14.4.2: Impacts to Housing. Identify if any existing or proposed homes occur within the footprint of any proposed project elements or right-of-way. Describe housing impacts (e.g., demolition and relocation of residents) that may occur as a result of the proposed project.		
5.14.4.3: Workforce Impacts. Describe on-site manpower requirements, including the number of construction personnel who currently reside within the impact area, who would commute daily to the site from outside the impact area or would relocate temporarily within the impact area. Chapter 4 of this document can be referenced as applicable. Identify any permanent employment opportunities that would be create by the project and the workforce conditions in the area that the jobs would be created.		
5.14.4.4: Population Growth Inducing. Provide information on the project’s growth inducing impacts, if any. The information will include, but is not necessarily limited to, the following: a) Any economic or population growth in the surrounding environment that will directly or indirectly result from the project b) Any obstacles to population growth that the project would remove c) Any other activities directly or indirectly encouraged or facilitated by the project that would cause population growth leading to a significant effect on the environment, either individually or cumulatively		
5.14.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.15 Public Services

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.15.1 Environmental Setting		
5.15.1.1 Service Providers a) Identify the following service providers that serve the project area and provide a map showing the service facilities that could serve the project: i. Police ii. Fire (identify service providers within local and state responsibility areas) iii. Schools iv. Parks v. Hospitals		

b) Provide the documented performance objectives and data on existing emergency response times for service providers in the area (e.g., police or fire department response times).		
5.15.2 Regulatory Setting		
5.15.2.1 Regulatory Setting. Identify any applicable federal, state or local laws or regulations for public services that apply to the project.		
5.15.3 Impact Questions		
5.15.3.1: Impact Questions. The impact questions include all public services impact questions in the current version of CEQA Guidelines, Appendix G.		
5.15.3.2: Additional CEQA Impact Questions: None.		
5.15.4 Impact Analysis		
5.15.4.1 Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.15.4.2: Emergency Response Times		
<ul style="list-style-type: none"> a) Describe whether the project would impede ingress and egress of emergency vehicles during construction and operation. b) Include an analysis of impacts on emergency response times during project construction and operation, including impacts during any temporary road closures. Describe approaches to address impacts on emergency response times. 		
5.15.4.3: Displaced Population. If the project would create permanent employment or displace people, evaluate the impact of the new employment or relocated people on governmental facilities and services and describe plans to reduce the impact on public services.		
5.15.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.16 Recreation

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.16.1 Environmental Setting		
5.16.1.1: Recreational Setting		
<ul style="list-style-type: none"> a) Describe the regional and local recreation setting in the project area including: <ul style="list-style-type: none"> i. Any recreational facilities or areas within and surrounding the project area (approximately 0.5-mile buffer) including the recreational uses of each facility or area 		

<ul style="list-style-type: none"> ii. Any available data on use of the recreational facilities including volume of use b) Provide a map (or maps) showing project features and recreational facilities and provide associated GIS data. 		
5.16.2 Regulatory Setting		
5.16.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding recreation.		
5.16.3 Impact Questions		
5.16.3.1: Impact Questions. The impact questions include all recreation impact questions in the current version of CEQA Guidelines, Appendix G.		
5.16.3.2: Additional CEQA Impact Questions:		
<ul style="list-style-type: none"> a) Would the project reduce or prevent access to a designated recreation facility or area? b) Would the project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas? c) Would the project damage recreational trails or facilities? 		
5.16.4 Impact Analysis		
5.16.4.1: Impact Analysis: Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
5.16.4.2: Impact Details. Clearly identify the maximum extent of each impact, and when and where the impacts would or would not occur. Organize the impact assessment by project phase, project component, and/or geographic area, as necessary.		
5.16.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.17 Transportation

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.17.1 Environmental Setting		
5.17.1.1: Circulation System. Briefly describe the regional and local circulation system in the project area, including modes of transportation, types of roadways, and other facilities that contribute to the circulation system.		
5.17.1.2: Existing Roadways and Circulation		
<ul style="list-style-type: none"> a) Identify and describe existing roadways that may be used to access the project site and transport materials during 		

<p>construction or are otherwise adjacent to or crossed by linear project features. Provide the following information for each road:</p> <ul style="list-style-type: none"> i. Name of the road ii. Jurisdiction or ownership (i.e., State, County, City, private, etc.) iii. Number of lanes in both directions of travel iv. Existing traffic volume (if publicly available data is unavailable or significantly outdated, then it may be necessary to collect existing traffic counts for road segments where large volumes of construction traffic would be routed or where lane or road closures would occur) v. Closest project feature name and distance <p>b) Provide a supporting map (or maps) showing project features and the existing roadway network identifying each road described above. Provide associated GIS data. The GIS data should include all connected road segments within at least 5 miles of the project.</p>		
<p>5.17.1.3: Transit and Rail Services</p> <ul style="list-style-type: none"> a) Identify and describe transit and rail service providers in the region. b) Identify any rail or transit lines within 1,000 feet of the project area. c) Identify specific transit stops, and stations within 0.5 mile of the project. Provide the frequency of transit service. d) Provide a supporting map (or maps) showing project features and transit and rail services within 0.5 mile of the project area. Provide associated GIS data. 		
<p>5.17.1.4: Bicycle Facilities</p> <ul style="list-style-type: none"> a) Identify and describe any bicycle plans for the region. b) Identify specific bicycle facilities within 1,000 feet of the project area. c) Provide a supporting map (or maps) showing project features and bicycle facilities. Provide associated GIS data. 		
<p>5.17.1.5: Pedestrian Facilities</p> <ul style="list-style-type: none"> a) Identify and describe important pedestrian facilities near the project area that contribute to the circulation system, such as important walkways. b) Identify specific pedestrian facilities that would be near the project, including on the road segments identified per 5.17.1.2. c) Provide a supporting map (or maps) showing project features and important pedestrian facilities. Provide associated GIS data. 		

<p>5.17.1.6: Vehicle Miles Traveled (VMT). Provide the average VMT for the county(s) where the project is located.</p>		
<p>5.17.2 Regulatory Setting</p>		
<p>5.17.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards regarding transportation.</p>		
<p>5.17.3 Impact Questions</p>		
<p>5.17.3.1: Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.</p> <p>5.17.3.2: Additional CEQA Impact Questions:</p> <p>a) Would the project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?</p> <p>b) Would the project interfere with walking or bicycling accessibility?</p> <p>c) Would the project substantially delay public transit?</p>		
<p>5.17.4 Impact Analysis</p>		
<p>5.17.4.1: Impact Analysis. Provide an impact analysis for each significance criteria identified in Appendix G of the CEQA Guidelines for transportation and any additional impact questions listed above³¹.</p>		
<p>Include the following information in the impact analysis:</p>		
<p>5.17.4.2: Vehicle Miles Traveled (VMT)</p> <p>a) Identify whether the project is within 0.5 mile of a major transit stop or a high-quality transit corridor.</p> <p>b) Identify the number of vehicle daily trips that would be generated by the project during construction and operation by light duty (e.g., worker vehicles) and heavy-duty vehicles (e.g., trucks). Provide the frequency of trip generation during operation.</p> <p>c) Quantify VMT generation for both project construction and operation.</p> <p>d) Provide an excel file with the VMT assumptions and model calculations, including all formulas and values.</p> <p>e) Evaluate the project VMT relative to the average VMT for the area in which the project is located.</p>		
<p>5.17.4.3: Traffic Impact Analysis. Provide a traffic impact study. The traffic impact study should be prepared in accordance with guidance from the relevant local jurisdiction or Caltrans, where appropriate.</p>		
<p>5.17.4.4: Hazards. Identify any traffic hazards that could result from construction and operation of the project. Identify any lane closures and traffic management that would be required to construct the project.</p>		

³¹ Discuss with CPUC during Pre-filing whether a traffic study is needed.

5.17.4.5: Accessibility. Identify any closures of bicycle lanes, pedestrian walkways, or transit stops during construction or operation of the project.		
5.17.4.6: Transit Delay. Identify any transit lines that could be delayed by construction and operation of the project. Provide the maximum extent of the delay in minutes and the duration of the delay.		
5.17.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.18 Tribal Cultural Resources³²

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.18.1 Environmental Setting		
5.18.1.1: Outreach to Tribes. Provide a list of all tribes that are on the Native American Heritage Commission (NAHC) list of tribes that are affiliated with the project area. Provide a discussion of outreach to Native American tribes, including tribes notified, responses received from tribes, and information of potential tribal cultural resources provided by tribes. Any information of potential locations of tribal cultural resources should be submitted in an Appendix under clearly marked confidential cover. Provide copies of all correspondence with tribes in an Appendix.		
5.18.1.2: Tribal Cultural Resources. Describe tribal cultural resources (TCRs) that are within the project area. a) Summarize the results of attempts to identify possible TCRs using publicly available documentary resources. The identification of TCRs using documentary sources should include review of archaeological site records and should begin during the preparation of the records search report (see Attachment 3). During the inventory phase, a formal site record would be prepared for any resource identified unless tribes object. b) Summarize attempts to identify TCRs by speaking directly with tribal representatives.		
5.18.1.3: Ethnographic Study. The ethnographic study should document the history of Native American use of the area and oral history of the area.		
5.18.2 Regulatory Setting		
5.18.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations for tribal cultural resources that apply to the project.		

³² For a description of historical resources and requirements for cultural resources that are not tribal cultural resources, refer to Section 5.5 Cultural Resources.

5.18.3 Impact Questions		
5.18.3.1: Impact Questions. The impact questions include all tribal cultural resources impact questions in the current version of CEQA Guidelines, Appendix G.		
5.18.3.2: Additional CEQA Impact Questions: None.		
5.18.4 Impact Analysis		
5.18.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.18.4.2: Information Provided by Tribes. Include an analysis of any impacts that were identified by the tribes during the Applicant’s outreach.		
5.18.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.19 Utilities and Service Systems

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.19.1 Environmental Setting		
5.19.1.1: Utility Providers. Identify existing utility providers and the associated infrastructure that serves the project area.		
5.19.1.2: Utility Lines. Describe existing utility infrastructure (e.g., water, gas, sewer, electrical, stormwater, telecommunications, etc.) that occurs in the project ROW. Provide GIS data and/or as-built engineering drawings to support the description of existing utilities and their locations.		
5.19.1.3: Approved Utility Projects. Identify utility projects that have been approved for construction within the project ROW but that have not yet been constructed. ³³		
5.19.1.4: Water Supplies. Identify water suppliers and the water source (e.g., aqueduct, well, recycled water, etc.). For each potential water supplier, provide data on the existing water capacity, supply, and demand.		
5.19.1.5: Landfills and Recycling. Identify local landfills that can accept construction waste and may service the project. Provide documentation of landfill capacity and estimated closure date. Identify any recycling centers in the area and opportunities for construction and demolition waste recycling.		

³³ Note that this project information should be consistent with the cumulative project description included in Chapter 7.

5.19.2 Regulatory Setting		
5.19.2.1: Regulatory Setting. Identify any applicable federal, state or local laws or regulations for utilities that apply to the project.		
5.19.3 Impact Questions		
5.19.3.1: Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.		
5.19.3.2: Additional CEQA Impact Question: Would the project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?		
5.19.4 Impact Analysis		
5.19.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.19.4.2: Utility Relocation. Identify any project conflicts with existing utility lines. If the project may require relocation of existing utilities, identify potential relocation areas and analyze the impacts of relocating the utilities. Provide a map showing the relocated utility lines and GIS data for all relocations.		
5.19.4.3: Waste		
<ul style="list-style-type: none"> a) Identify the waste generated by construction, operation, and demolition of the project. b) Describe how treated wood poles would be disposed of after removal, if applicable. c) Provide estimates for the total amount of waste materials to be generated by waste type and how much of it would be disposed of, reused, or recycled. 		
5.19.4.4: Water Supply		
<ul style="list-style-type: none"> a) Estimate the amount of water required for project construction and operation. Provide the potential water supply source(s). b) Evaluate the ability of the water supplier to meet the project demand under a multiple dry year scenario. c) Provide a discussion as to whether the proposed project meets the criteria for consideration as a project subject to Water Supply Assessment Requirements under Water Code Section 10912. d) If determined to be necessary under Water Code Section 10912, submit a Water Supply Assessment to support conclusions that the proposed water source can meet the project’s anticipated water demand, even in multiple dry year scenarios. Water Supply Assessments should be approved by 		

the water supplier and consider normal, single-dry, and multiple-dry year conditions.		
5.19.4.5: Cathodic Protection. Analyze the potential for existing utilities to experience corrosion due to proximity to the proposed project. Identify cathodic protection measures that could be implemented to reduce corrosion issues and where the measures may be applied.		
5.19.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.20 Wildfire

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
5.20.1 Environmental Setting		
5.20.1.1: High Fire Risk Areas and State Responsibility Areas <ul style="list-style-type: none"> a) Identify areas of high fire risk or State Responsibility Areas (SRAs) within the project area. Provide GIS data for the Wildland Urban Interface (WUI) and Fire Hazard Severity Zones (FHSZ) mapping along the project alignment. Include areas mapped by CPUC as moderate and high fire threat districts as well as areas mapped by CalFire. b) Identify any areas the utility has independently identified as High FHSZ known to occur within the proposed project vicinity. 		
5.20.1.2: Fire Occurrence. Identify all recent (within the last 10 years) large fires that have occurred within the project vicinity. For each fire, identify the following: <ul style="list-style-type: none"> a) Name of the fire b) Location of fire c) Ignition source and location of ignition d) Amount of land burned e) Boundary of fire area in GIS 		
5.20.1.3: Fire Risk. Provide the following information for assessment of baseline fire risk in the area: <ul style="list-style-type: none"> a) Provide fuel modeling using Scott Burgan fuel models, or other model of similar quality. b) Provide values of wind direction and speed, relative humidity, and temperature for representative weather stations along the alignment for the previous 10 years, gathered hourly. c) Digital elevation models for the topography in the project region showing the relationship between terrain and wind patterns, as well as localized topography to show the effects of terrain on wind flow, and on a more local area to show effect of slope on fire spread. 		

d) Describe vegetation fuels within the project vicinity and provide data in map format for the project vicinity. USDA Fire Effects Information System or similar data source should be consulted to determine high-risk vegetation types. Provide the mapped vegetation fuels data in GIS format.		
5.20.1.4: Values at Risk. Identify values at risk along the proposed alignment. Values at risk may include: Structures, improvements, rare habitat, other values at risk, (including utility-owned infrastructure) within 1000 feet of the project. Provide some indication as to its vulnerability (wood structures vs. all steel features). Communities and/or populations near the project should be identified with their proximity to the project defined.		
5.20.1.5: Evacuation Routes. Identify all evacuation routes that are adjacent to or within the project area. Identify any roads that lack a secondary point of access or exit (e.g., cul-de-sacs).		
5.20.2 Regulatory Setting		
5.20.2.1: Regulatory Setting. Identify applicable federal, state, and local laws, policies, and standards for wildfire.		
5.20.2.2: CPUC Standards. Identify any CPUC standards that apply to wildfire management of the new facilities.		
5.20.3 Impact Questions		
5.20.3.1: Impact Questions. All impact questions for this resource area in the current version of CEQA Guidelines, Appendix G.		
5.20.3.2: Additional CEQA Impact Questions: None.		
5.20.4 Impact Analysis		
5.20.4.1: Impact Analysis. Provide an impact analysis for each checklist item identified in CEQA Guidelines, Appendix G for this resource area and any additional impact questions listed above.		
Include the following information in the impact analysis:		
5.20.4.2: Fire Behavior Modeling. For any new electrical lines, provide modeling to support the analysis of wildfire risk.		
5.20.4.3: Wildfire Management. Describe approaches that would be implemented during operation and maintenance to manage wildfire risk in the area. Provide a copy of any Wildfire Management Plan.		
5.20.5 CPUC Draft Environmental Measures		
Refer to Attachment 4, CPUC Draft Environmental Measures.		

5.21 Mandatory Findings of Significance³⁴

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>5.21.1: Impact Assessment for Mandatory Findings of Significance. Provide an impact analysis for each of the mandatory findings of significance provided in Appendix G of the CEQA Guidelines. The impact analysis can reference relevant information and conclusion from the biological resources, cultural resources, air quality, hazards, and cumulative sections of the PEA, where applicable.</p>		

6 Comparison of Alternatives

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
<p>6.1: Alternatives Comparison</p> <p>a) Compare the ability of each alternative described in Chapter 4 against the proposed project in terms of its ability to avoid or reduce a potentially significant impact. The alternatives addressed in this section will each be:</p> <ul style="list-style-type: none"> i. Potentially feasible ii. Meet the underlying purpose of the proposed project iii. Meet most of the basic project objectives, and iv. Avoid or reduce one or more potentially significant impacts. <p>b) The relative effect of the various potentially significant impacts may be compared using the following or similar descriptors and an accompanying analysis:</p> <ul style="list-style-type: none"> i. Short-term versus long-term impacts ii. Localized versus widespread impacts iii. Ability to fully mitigate impacts <p>c) Impacts that the Applicant believes would be less than significant with mitigation may also be included in the analysis, but only if the steps listed above fail to distinguish among the remaining few alternatives.</p>		
<p>6.2: Alternatives Ranking. Provide a detailed table that summarizes the Applicant's comparison results and ranks the alternatives in order of environmental superiority.³⁵</p>		

³⁴ PEAs need only include a Mandatory Findings of Significance section if CPUC CEQA Unit Staff determine that a Mitigated Negative Declaration may be the appropriate type of document to prepare for the project, as determined through Pre-filing consultation. If no such determination has been made, then a Mandatory Findings of Significance section and the requirements below are not required.

³⁵ If the proposed project does not rank #1 on the list, the Applicant should provide the rationale for selecting the proposed project.

7 Cumulative and Other CEQA Considerations

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
7.1 Cumulative Impacts		
<p>7.1.1: List of Cumulative Projects</p> <p>a) Provide a detailed table listing past, present, and reasonably foreseeable future projects within and surrounding the project area (approximately 2-mile buffer)³⁶. The following information should be provided for each project in the table:</p> <ul style="list-style-type: none"> i. Project name and type ii. Brief description of the project location(s) and associated actions iii. Distance to and name of the nearest project component iv. Project status and anticipated construction schedule v. Source of the project information and date last checked (for each individual project), including links to any public websites where the information was obtained so it can be reviewed and updated (the project information should be current when the PEA is filed) <p>b) Provide a supporting map (or maps) showing project features and cumulative project locations and/or linear features. Provide associated GIS data.</p>		
<p>7.1.2: Geographic Scope. Define the geographic scope of analysis for each resource topic. The geographic scope of analysis for each resource topic should consider the extent to which impacts can be cumulative. For example, the geographic scope for cumulative noise impacts would be more limited in scale than the geographic scope for biological resource impacts because noise attenuates rapidly with distance. Explain why the geographic scope is appropriate for each resource.</p>		
<p>7.1.3: Cumulative Impact Analysis. Provide an analysis of cumulative impacts for each resource topic included in Chapter 5. Evaluate whether the proposed project impacts are cumulatively considerable³⁷ for any significant cumulative impacts.</p>		
7.2 Growth-Inducing Impacts		
<p>7.2.1: Growth-Inducing Impacts. Provide an evaluation of the following potential growth-inducing impacts:</p>		

³⁶ Information on cumulative projects may be obtained from federal, state, and local agencies with jurisdiction over planning, transportation, and/or resource management in the area. Other projects the Applicant is involved in or aware of in the area should be included.

³⁷ "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

<ul style="list-style-type: none"> a) Would the proposed project foster any economic or population growth, either directly or indirectly, in the surrounding environment? b) Would the proposed project cause any increase in population that could further tax existing community service facilities (i.e., schools, hospitals, fire, police, etc.)? c) Would the proposed project remove any obstacles to population growth? d) Would the proposed project encourage and facilitate other activities that would cause population growth that could significantly affect the environment, either individually or cumulatively? 		
---	--	--

8 List of Preparers

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
8.1: List of Preparers. Provide a list of persons, their organizations, and their qualifications for all authors and reviewers of each section of the PEA.		

9 References

This section will include, but is not limited to, the following:	PEA Section and Page Number	Applicant Notes, Comments
9.1: Reference List		
<ul style="list-style-type: none"> a) Organize all references cited in the PEA by section within a single chapter called "References." b) Within the References chapter, organize all of the Chapter 5 references under subheadings for each resource area section. 		
9.2: Electronic References		
<ul style="list-style-type: none"> a) Provide complete electronic copies of all references cited in the PEA that cannot be readily obtained for free on the Internet. This includes any company-specific documentation (e.g., standards, policies, and other documents). b) If the reference can be obtained on the Internet, the Internet address will be provided. 		

PEA Checklist Attachments

Attachment 1: GIS Data Requirements

This Attachment includes specific requirements and format of GIS data that is intended to be applicable to all PEAs. The specific GIS data requirements may be updated on a project-specific basis during Pre-filing coordination with CPUC's CEQA Unit Staff.

1. GIS data will be provided in an appropriate format (i.e., point, line, polygon, raster) and scale to adequately verify assumptions in the PEA and supporting materials and determine the level of environmental impacts. At a minimum, all GIS data layers will include the following metadata properties:
 - a. The source (e.g., report reference), date, title, and preparer (name or company)
 - b. Description of the contents and any limitations of the data
 - c. Reference scale and accuracy of the data
 - d. Complete attributes that correspond to the detailed mapbook, project description, and figures presented in the PEA and/or supporting application materials, including unique IDs, labels, geometry, and other appropriate project details
2. Where precise boundaries of project features may change (e.g., staging areas and temporary construction work areas), the Applicant will provide GIS data layers with representative boundaries to evaluate potential environmental impacts as a worst-case scenario.
3. Provide GIS data for:
 - a. All proposed and alternative project facilities including but not limited to existing and proposed/alternative ROWs; substations and switching stations; pole/tower locations; conduit; vaults, pipelines; valves; compressor stations; metering stations; valve stations, gas wellheads; other project buildings, facilities, and components (both temporary and permanent); telecommunication and distribution lines modifications or upgrades related to the project; marker ball and lighting locations; and mileposts, facility perimeters, and other demarcations or segments as applicable
 - b. All proposed areas required for construction and construction planning, including all proposed and alternative disturbance areas (both permanent and temporary); access roads; geotechnical work areas; extra work areas (e.g., staging areas, parking areas, lay-down areas, work areas at and around specific pole/tower sites, pull and tension sites, helicopter landing areas); airport landing areas; underground installation areas (e.g. trenches, vaults, underground work areas); horizontal directional drilling, jack and bore, or tunnel areas; blasting areas; and any areas where special construction methods may need to be employed
 - c. Within the PEA checklist there are also specific requirements for environmental resources within Chapter 5. All environmental resource GIS data must meet the minimum mapping standards specified in this Attachment.

Attachment 2: Biological Resource Technical Report Standards

Definitions

The following biological resources will be considered within the scope of the PEA and the Biological Resources Technical Report:

Sensitive Vegetation Communities and Habitats

- a) Sensitive vegetation communities/habitats identified in local or regional plans, policies, or regulations, or designated by CDFW³⁸ or USFWS
- b) Areas that provide habitat for locally unique biotic species/communities (e.g., oak woodlands, grasslands, and forests)
- c) Habitat that contains or supports rare, endangered, or threatened wildlife or plant species as defined by CDFW and USFWS
- d) Habitat that supports CDFW Species of Special Concern
- e) Areas that provide habitat for rare or endangered species and that meet the definition in CEQA Guidelines Section 15380
- f) Existing game and wildlife refuges and reserves
- g) Lakes, wetlands, estuaries, lagoons, streams, and rivers
- h) Riparian corridors

Special-Status Species

- a) Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (50 CFR § 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [proposed species])
- b) Species that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR § 40, February 28, 1996)
- c) Species listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 CCR § 670.5)
- d) Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.)
- e) Species that meet the definitions of rare and endangered under CEQA. CEQA Guidelines Section 15380 provides that a plant or animal species may be treated as “rare or endangered” even if not on one of the official lists.
- f) Plants considered by the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (California Rare Plant Rank 1A, 1B, 2A, and 2B) as well as California Rare Plant Rank 3 and 4 plant species
- g) Species designated by CDFW as Fully Protected or as a Species of Special Concern
- h) Species protected under the Federal Bald and Golden Eagle Protection Act
- i) Birds of Conservation Concern or Watch List species
- j) Bats considered by the Western Bat Working Group to be “high” or “medium” priority (Western Bat Working Group 2015)

³⁸ CDFW’s Rarity Ranking follows NatureServe’s Heritage Methodology (Faber-Langendoen, et al. 2016) in which communities are given a G (global) and S (state) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by CDFW.

Biological Resource Technical Report Minimum Requirements

Report Contents

The Biological Resource Technical Report will include the following information at a minimum.

- a) **Preliminary Agency Consultation.** Describe any pre-survey contact with agencies. Describe any agency approvals that were required for biologists or agency protocols that were applied to the survey effort. Provide copies of correspondence and meeting notes with the names and contact information for agency staff and the dates of consultation as an appendix to the Biological Resources Technical Report.
- b) **Records Search.** Provide the results of all database and literature searches for biological resources within and surrounding the project area. Identify all sources reviewed (e.g., CNDDDB, CNPS, USFWS, etc.).
- c) **Biological Resource Survey Method.** Identify agency survey requirements and protocols applicable to each biological survey that was conducted. Identify the areas where each survey occurred. Identify any limitations for the surveys (e.g., survey timing or climatic conditions) that could affect the survey results.
- d) **Vegetation Communities and Land Cover.** Identify all vegetation communities or land cover types (e.g., disturbed or developed) within the biological survey area. The biological survey area should include a 1,000-foot buffer from project facilities to support CPUC's evaluation of indirect effects.
- e) **Aquatic Resources.** Identify any wetlands, streams, lakes, reservoirs, estuarine, or other aquatic resources within the biological survey area. Provide a wetland delineation and all data sheets including National Wetlands Inventory maps (or the appropriate state wetland maps, if National Wetlands Inventory maps are not available) that show all proposed facilities and include milepost locations for proposed pipeline routes. Provide a copy of agency verification of the wetland delineation if the delineation has been verified by the U.S. Army Corps of Engineers or CDFW. If the delineation has not been verified, describe the process and timing for obtaining agency verification.
- f) **Habitat Assessments.** Evaluate the potential for suitable habitat in the biological survey area for each species identified in the database and literature search.
- g) **Native Wildlife Corridors and Nursery Sites.** Identify any wildlife corridors or nursery sites that occur within the biological survey area.
- h) **Survey Results.** Describe all survey results and include a copy of any focused (e.g., rare plant, protocol special-status wildlife) biological resources survey reports.

Mapping and GIS Data

Provide detailed maps (at approximately 1:3,000 scale or similar), and all associated GIS data for the Biological Resources Technical Report and any supporting biological survey reports, including:

- a) Biological survey area for each survey that was conducted
- b) Vegetation communities and land cover types
- c) Aquatic resource delineation
- d) Special-status plant locations
- e) Special-status wildlife locations
- f) Avian point count locations
- g) Critical habitat
- h) California Coastal Commission or Bay Conservation and Development Commission jurisdictional areas

Attachment 3: Cultural Resource Technical Report Standards

Cultural Resource Inventory Report

Provide a cultural resource inventory report that includes archaeological, unique archaeological, and built-environment resources within all areas that could be affected by the proposed project including areas of indirect effect. The inventory report will include the results of both a literature search and pedestrian survey. The contents will address the requirements in *Archaeological Resource Management Reports: Recommended Contents and Guidelines*. The methodology and results of the inventory should be sufficient to provide the reader with an understanding of the nature, character, and composition of newly discovered and previously identified cultural resources so that the required recommendations about the resource(s) CRHR eligibility are clearly understood. No information regarding the location of the cultural resources will be included in these descriptions. The required Department of Parks and Recreation (DPR) 523 forms, including location information and photographs of the resources, are to be included in a removable confidential appendix to the report.³⁹

The inventory report will meet the following requirements:

- a) The report should clearly discuss the methods used to identify unique archaeological resources (e.g., how the determination was made about the resources' eligibility).
- b) The report should identify large resources such as districts and landscapes where resources indicate their presence, even if federal agencies disagree. It is understood that often only a few contributing elements may be in the project area, and that the boundaries of the large resource may need to be revisited as part of future projects. It is acknowledged that boundaries of districts and landscapes can be difficult to define and there is not always good recorded data on these resources.
- c) In the case of archaeological resources, the report should discuss whether each one is also a unique archaeological resource and explain why or why not.
- d) Descriptions of resources should include spatial relationships to other nearby resources, raw materials sources, and natural features such as water sources and mountains.
- e) The evidence that indicates a particular function or age for a resource should be explicitly described with a clear explanation, not simply asserted.

Cultural Resource Evaluation Report

Provide a cultural resource evaluation report. The report contents required by the state of California are outlined in the *Archaeological Resource Management Reports: Recommended Contents and Guidelines*. The evaluation report should also include:

- a) Resource descriptions and evaluations together, and not in separate volumes or report sections. This will facilitate understanding of each resource.
- b) An evaluation of each potential or eligible California Register of Historical Resources (CRHR) resource within the public archaeology laboratory (PAL) for all seven aspects of integrity⁴⁰ using specific examples for each resource. This evaluation needs to be included in the evaluation

³⁹ Any aspect of the PEA and associated data that Applicants believe to be confidential will be provided in full but may be marked confidential if allowed pursuant to General Order 66 or latest applicable Commission rule (e.g., see Public Records Act Proceeding R.14-11-001).

⁴⁰ The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association, as defined in “*Types of Historical Resources and Criteria for Listing in the California Register of Historical Resources*” [14 CCR 4852(c)].

- report for all resources that could be affected by the project even if the resources were not previously evaluated. Previous evaluations should be reviewed to address change over time.
- c) An evaluation of each potential or eligible CRHR resource within the PAL under all four criteria using specific examples for each resource. This evaluation needs to be included in the evaluation report for all resources that could be affected by the project even if the resources were not previously evaluated. The cultural resources professional should make their own recommendation regarding eligibility, which does not need to agree with previous recommendations for CRHR or NRHP, as long as it is clearly explained.
 - d) For **prehistoric archaeological resources**, Criteria 1, 2 and 341 should be explicitly considered. Research efforts to search for important events and persons related to the resource must be described. This evaluation needs to be included in the evaluation report for all resources that could be affected by the project even if the resources were not previously evaluated. The cultural resources professional should make their own recommendation, which does not need to agree with previous recommendations for CRHR or NRHP eligibility, as long as it is clearly explained.
 - e) While **potential unique archaeological resources** could be identified in the records search report or inventory report, the justification for each individual resource to be considered a resource under CEQA should be presented in this report.
 - f) If surface information collected during survey is sufficient to make an eligibility recommendation, this reasoning should be outlined explicitly for each resource. This is particularly the case for resources that are believed to have buried subsurface components.
 - g) If archaeological testing or additional historical research was required in order to evaluate a resource, the evaluation report will be explicit about why the work was required, the results for each resource, and the subsequent eligibility recommendation.
 - h) For large projects with multiple similar resources where the eligibility justifications for similar resources are essentially identical, it is acceptable to discuss these resources as a group. However, eligibility justifications for each individual resource is preferred, so if the grouping strategy is used, the criteria used to group resources must be clearly justified.
 - i) Large resources such as districts and landscapes may be challenging to fully evaluate in the context of a single project. CPUC encourages the identification and evaluation of these resources with the understanding that often only a few contributing elements may be located within the project area, and that the boundaries of the large resource may need to be revisited as part of future projects. It is understood that a full evaluation of the resource may be beyond the scope of one project. Regardless, the potential for the project to affect any resources within a district or landscape must be defined.

⁴¹ Criteria for Designation on the California Register are as follows (defined in http://ohp.parks.ca.gov/?page_id=21238):

- Criterion 1: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- Criterion 2: Associated with the lives of persons important to local, California or national history.
- Criterion 3: Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
- Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Attachment 4: CPUC Draft Environmental Measures

About this Attachment: The following CPUC Draft Environmental Measures are provided for consideration during PEA development. They should be discussed with the CPUC's CEQA Unit Staff during Pre-filing, especially with respect to the development of Applicant Proposed Measures. The CPUC Draft Environmental Measures may form the basis for mitigation measures in the CEQA document if appropriate to the analysis of potentially significant impacts. These and other CPUC Draft Environmental Measures may be formally incorporated into Chapter 5 of future versions of the PEA Checklist.

5.1 Aesthetics

Aesthetics Impact Reduction During Construction

All project sites will be maintained in a clean and orderly state. Construction staging areas will be sited away from public view where possible. Nighttime lighting will be directed away from residential areas and have shields to prevent light spillover effects. Upon completion of project construction, project staging and temporary work areas will be returned to pre-project conditions, including re-grading of the site and re-vegetation or re-paving of disturbed areas to match pre-existing contours and conditions.

5.3 Air Quality

Dust Control During Construction

The Applicant shall implement measures to control fugitive dust in compliance with all local air district(s) standards. Dust control measures shall include the following at a minimum:

- All exposed surfaces with the potential of dust-generating shall be watered or covered with coarse rock to reduce the potential for airborne dust from leaving the site.
- The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Cover all haul trucks entering/leaving the site and trim their loads as necessary.
- Use wet power vacuum street sweepers to sweep all paved access road, parking areas, staging areas, and public roads adjacent to project sites on a daily basis (at minimum) during construction. The use of dry power sweeping is prohibited.
- All trucks and equipment, including their tires, shall be washed off prior to leaving project sites.
- Apply gravel or non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at project sites.
- Water and/or cover soil stockpiles daily.
- Vegetative ground cover shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- All vehicle speeds shall be limited to fifteen (15) miles per hour or less on unpaved areas.
- Implement dust monitoring in compliance with the standards of the local air district.
- Halt construction during any periods when wind speeds are in excess of 50 mph.

5.5 Cultural Resources

Human Remains (Construction and Maintenance)

Avoidance and protection of inadvertent discoveries that contain human remains shall be the preferred protection strategy with complete avoidance of such resources ensured by redesigning the project. If human remains are discovered during construction or maintenance activities, all work shall be diverted from the area of the discovery, and the CPUC shall be informed immediately. The Applicant shall contact the County Coroner to determine whether or not the remains are Native American. If the remains are determined to be Native American, the Coroner will contact the Native American Heritage Commission (NAHC). The NAHC will then identify the person or persons it believes to be the most likely descendant of the deceased Native American, who in turn would make recommendations for the appropriate means of treating the human remains and any associated funerary objects.

If the remains are on federal land, the remains shall be treated in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). If the remains are not on federal land, the remains shall be treated in accordance with Health and Safety Code Section 7050.5, CEQA Section 15064.5(e), and Public Resources Code Section 5097.98.

5.8 Greenhouse Gas Emissions

Greenhouse Gas Emissions Reduction During Construction

The following measures shall be implemented to minimize greenhouse gas emissions from all construction sites:

- If suitable park-and-ride facilities are available in the project vicinity, construction workers shall be encouraged to carpool to the job site.
- The Applicant shall develop a carpool program to the job site.
- On road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals.
- Demolition debris shall be recycled for reuse to the extent feasible.
- The contractor shall use line power instead of diesel generators at all construction sites where line power is available.
- The contractor shall maintain construction equipment per manufacturing specifications.

5.19 Utilities and Service Systems

Notify Utilities with Facilities Above and Below Ground

The Applicant shall notify all utility companies with utilities located within or crossing the project ROW to locate and mark existing underground utilities along the entire length of the project at least 14 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party utilities and underground excavations is less than 5 feet, the Applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.

5.20 Wildfire

Construction Fire Prevention Plan

A project-specific Construction Fire Prevention Plan for both construction and operation of the project shall be submitted for review prior to initiation of construction. A draft copy of the Plan shall be provided to the CPUC and state and local fire agencies at least 90 days before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Plan reviewers shall also include

federal, state, or local agencies with jurisdiction over areas where the project is located. The final Plan shall be approved by the CPUC at least 30 days prior to the initiation of construction activities. The Plan shall be fully implemented throughout the construction period and include the following at a minimum:

- The purpose and applicability of the Plan
- Responsibilities and duties
- Preparedness training and drills
- Procedures for fire reporting, response, and prevention that include:
 - Identification of daily site-specific risk conditions
 - The tools and equipment needed on vehicles and to be on hand at sites
 - Reiteration of fire prevention and safety considerations during tailboard meetings
 - Daily monitoring of the red-flag warning system with appropriate restrictions on types and levels of permissible activity
- Coordination procedures with federal and local fire officials
- Crew training, including fire safety practices and restrictions
- Method(s) for verifying that all Plan protocols and requirements are being followed

A project Fire Marshal or similar qualified position shall be established to enforce all provisions of the Construction Fire Prevention Plan as well as perform other duties related to fire detection, prevention, and suppression for the project. Construction activities shall be monitored to ensure implementation and effectiveness of the Plan.

Fire Prevention Practices (Construction and Maintenance)

The Applicant shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. During Red Flag Warning events, as issued daily by the National Weather Service, all construction/maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state.

All construction/maintenance crews and inspectors shall be provided with radio and cellular telephone access that is operational in all work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction/maintenance activities at each work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition.

All construction/maintenance personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction/maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction/maintenance personnel shall carry at all times a laminated card and be provided a hard hat sticker that list pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on laminated contact cards and hard hat stickers shall be updated and redistributed to all construction/maintenance personnel and outdated cards and hard hat stickers shall be destroyed prior to the initiation of construction/maintenance activities on the day the information change goes into effect.

Construction/maintenance personnel shall have fire suppression equipment on all construction vehicles. Construction/maintenance personnel shall be required to park vehicles away from dry vegetation. Water tanks and/or water trucks shall be sited or available at active project sites for fire protection during construction. The Applicant shall coordinate with applicable local fire departments prior to construction/maintenance activities to determine the appropriate amounts of fire equipment to be carried on vehicles and, should a fire occur, to coordinate fire suppression activities.



**Gold Coast Recycling
& Transfer Station**

I N C O R P O R A T E D

Still leading the way, since 1989

(<https://goldcoastrecycling.com/>)

THE RECYCLING PROCESS

Gold Coast's upgraded operation improves efficiency and precision.

The new, state-of-the-art recyclable material sorting system uses screens and optical sensor air technology to separate materials. Additional updated systems prepare the materials for transport.



1. Bulk recycling material is brought in to Gold Coast Recycling on trucks and gathered for loading into the hopper.



2. Loaders dump the unsorted recycling material into the hopper for initial sorting and inspection.

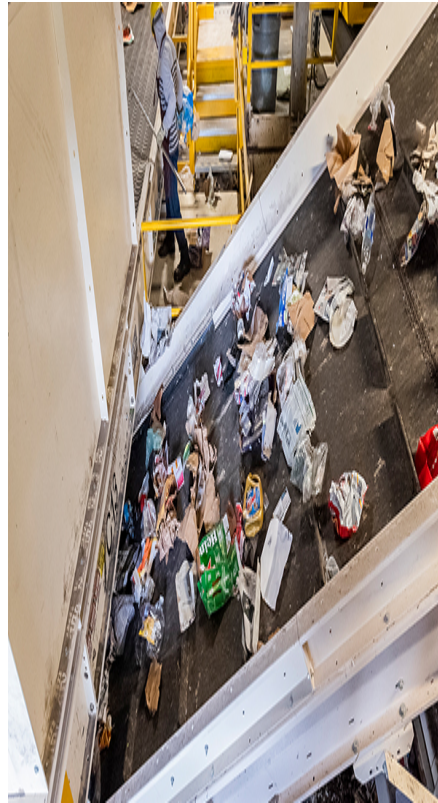


3. First-line sorters clear out single-use plastic bags, large metal objects, trash and any dangerous items, to prep the lines for the first round of rollers.

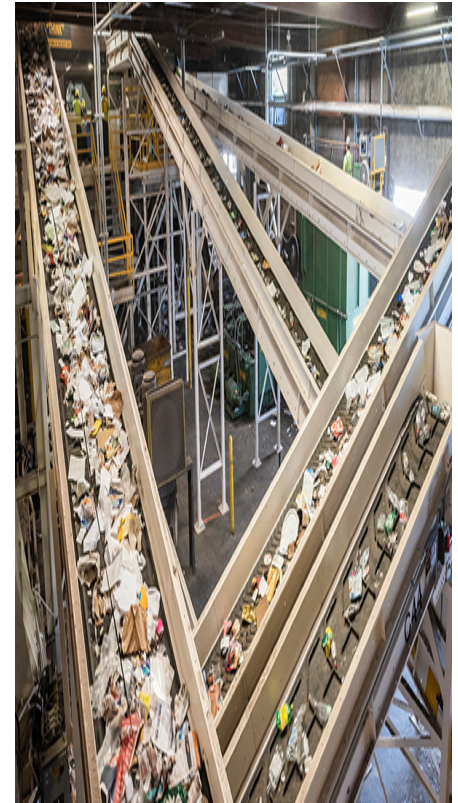




4. Rollers separate cardboard from the other recyclables, which are then sent to their respective sections of the recycling plant for further processing.



5. Plastics, paper, aluminum, tin cans and small cardboard recyclables are further separated as they go through the process.



6. Gold Coast's improved service is largely owed to its new sorting facility, retrofitted to accommodate the growing need for purer recyclables.





7. For the final inspection, paper line sorters further remove any missed plastics and undesirable items.



8. Conveyors take the different recyclables to final stages of processing in the plant.



9. Crushed glass for resale is looked over a final time, for anything amiss.





10. A worker uses a specially designed tool to clear out any noncardboard recyclables along bailing conveyors.



11. Workers take sorted recyclables and condense the material into large bales.



12. The huge bales of specially sorted plastics, paper and aluminum recyclables are stacked for loading onto Gold Coast transport trucks.





13. Nonrecyclable materials are taken to local landfills for proper disposal.



Construction, Demolition and Roll-off Recycling

Innovative programs featured at the facility

Recyclable materials are picked off the commercial picking line from construction and demolition loads. The heaviest roll-off materials are sorted on the Gold Coast



commercial picking line. All construction and demolition material is recycled and meets all diversion requirements for building permits required by some cities and the County of Ventura. Certified recycling numbers are given to the contractor. For further information, call 805-642-9236.

E-waste

Electronic waste – commonly called e-waste – is loaded for international markets.

E-waste includes computers and computer monitors, printers, televisions, stereos, DVD players and VCRs, cell phones and small kitchen appliances. (No smoke detectors.)



GOLD COAST RECYCLING



BUSINESS HOURS

- 🕒 **Monday - Friday:** 5 a.m. to 7 p.m.
- 🕒 **Saturday:** 5 a.m. to 5 p.m.
- 🕒 **Sunday:** Closed

OUR RECYCLING PARTNERS





(<http://www.ejharrison.com/>)

AGROMIN™

Soil for a Greener World®

(<https://agromin.com/>)

CONTACT

📍 **Address:** 5275 Colt St., Ventura, CA 93003 (<https://goo.gl/maps/EqqD66oMcaw>)

📞 **Phone:** 805-642-9236 (tel:+18056429236)

LATEST NEWS





(<https://goldcoastreycling.com/trash-recycling-composting-services-continue-at-harrison-gold-coast-and-agromin-amid-covid-19-crisis/>)

Trash, Recycling, Composting Services Continue at Harrison, Gold Coast and Agromin, Amid COVID-19 Crisis (<https://goldcoastreycling.com/trash-recycling-composting-services-continue-at-harrison-gold-coast-and-agromin-amid-covid-19-crisis/>)

April 2, 2020



(<https://goldcoastreycling.com/gold-coast-recycling-celebrates-30-years/>)

Gold Coast Recycling Celebrates 30 Years (<https://goldcoastreycling.com/gold-coast-recycling-celebrates-30-years/>)

December 4, 2019



(<https://goldcoastreycling.com/the-holidays-are-coming/>)

The Holidays Are Coming (<https://goldcoastreycling.com/the-holidays-are-coming/>)

November 6, 2019

© Copyright 2017 transportex. All Rights Reserved. by Themeansar (<https://themeansar.com/>)



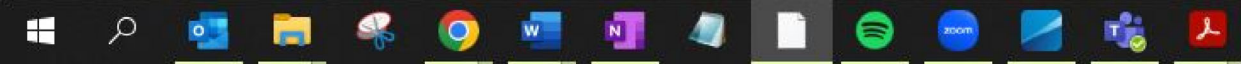


1598 N Olive St Exit Street View

© 2023 Google

Google Earth

34°17'49.82" N 119°17'58.29" W elev 18 ft eye alt 8 ft





1555 N Olive St Exit Street View



© 2022 Google

© 2022 Google

© 2022 Google

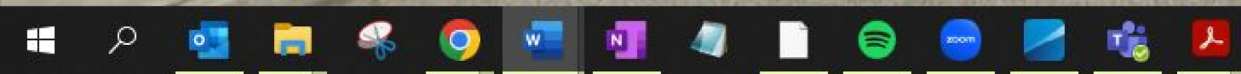
W McFarlane St

1st St

Google Earth

34°17'54.97" N 119°17'56.11" W elev 27 ft eye alt 8 ft

5:45 AM 3/3/2023





[Translate »](#)



Commercial Services

E.J. Harrison & Sons provides complete commercial trash and recycling services for businesses, including weekly collection and a variety of bin sizes. Roll-off and oversized bin rentals are also available.



Residential Services

Weekly curbside collection of trash, recycling and yard waste is standard for all our residential customers. Additional free residential services include bulky item pickup.

[Translate »](#)



Request Services

How can we help you?

Fill out a **service request** form below and one of our customer service agents will get back to you promptly.

Translate »

Commercial Services

Our commercial truck fleet handles a variety of industrial, storefront and apartment waste and recycling services throughout Ventura County.

Service frequency and container size can be custom tailored to meet your specific needs.

Bins are available in sizes ranging from 1.5 to 3 cubic yards.

Bins include lightweight plastic lids.

Locking containers are available in all sizes.

For commercial pricing and billing questions, to start or stop commercial service, and for bin exchanges and size changes, call 805-647-1414.

Residential Services

Our fleet handles the weekly curbside collection of all our residential customers' carts, for trash, recycling and yard waste.

Residential cart sizes can be custom tailored to meet specific needs.

Additional residential services include bulky item pickups.

To inquire about residential trash, recycling and yard waste services in unincorporated Ventura County and in the cities of Fillmore, Ventura, Ojai, Thousand Oaks and Carpinteria, call 800-41-TRASH or 805-647-1414.

If you live in Camarillo, for new service and barrel exchanges, please call 805-388-5325 or visit www.cityofcamarillo.org

[Translate »](#)

Roll-Off and Temporary Bins

Roll-off containers and temporary bins are available for rent.

Depending on size, these large containers are invaluable for a variety of uses, including construction sites, special events, remodeling, clean-up projects, disaster scenes, industrial plants, office complexes, recycle projects, demolition and agriculture.

Container size options:



3-yard bin

At approximately 6'9" wide by 3'6" deep by 4'3" high, these bins are suited **for home, garage and yard cleanup**. They come with plastic lids and wheels and can hold up to 700 pounds of materials.



10-yard roll-off*

At approximately 16'x8'x2', these containers are designed **for concrete/wash-out, dirt, asphalt, sod and heavy materials**.



Translate »

25-yard roll-off*



40-yard roll-off*

At approximately 22'x8'x4', this container is designed to support construction, roofing, land clearing, demolition, weed abatement, and residential construction appliances.

At approximately 22'x8'x6', this container is designed to support construction, roofing, land clearing, demolition, weed abatement, and residential construction appliances.

We enable contractors to easily meet recycling requirements.

Special recycle rates are available on request.

Free estimates are available.

To request or inquire about roll-off and temporary bin rentals, call 800-41-TRASH or fill out the service request form below.

Service Request Form

You can order services by phone or online:

Call 805-647-1414 or 800-41-TRASH – or fill out the form below.

Account Number

If you do not have an account with EJ Harrison, leave blank,

Email *

Name *

First

Last

Address

Address Line 1

[Translate »](#)

Address Line 2

City

Zip Code

State

Phone *

Please choose requested service *

Residential Trash/Recycling

Services

Temporary Bin Rental

Bulky Item Pickup

Commercial Trash/Recycling

Services

Roll-off Bin Rental

Preferred Contact Method *

Phone Email

Use this area to tell us how we can be of service

[Translate »](#)

Contact Information

P.O. Box 4009

Ventura CA 93007

Customerservice@ejharrison.com

805-647-1414

Quick Links

[Bill Pay](#)

[Request Services](#)

[Bulky Item Pickup](#)

[Roll-Off/Bin Rental](#)

[Careers](#)

[Privacy Policy](#)



Copywrite 2022. EJ Harrison & Sons. All rights reserved. Design By Whisenhunt Communications

Community Partners

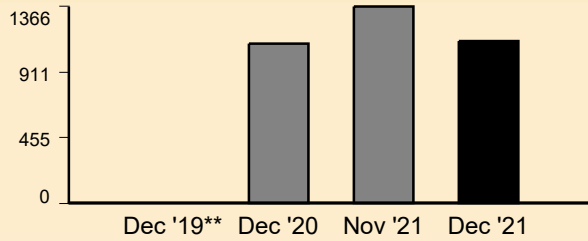
AGROMIN™

Soil for a Greener World®



[Translate »](#)

Your daily average electricity usage (kWh)



* Irregular billing period

** No data available

Usage comparison

	Dec '19**	Dec '20	Jan '21	Feb '21	Mar '21*	Apr '21	May '21	Jun '21	Jul '21	Aug '21	Sep '21	Oct '21	Nov '21	Dec '21
Total kWh used		32,154	31,349	25,594	21,679	60,295	47,406	57,306	34,625	36,220	43,291	42,241	45,092	32,782
Number of days		29	30	32	24	34	29	32	30	29	32	30	33	29
Appx. average kWh used/day		1,108	1,044	799	903	1,773	1,634	1,790	1,154	1,248	1,352	1,408	1,366	1,130

Details of your new charges

Your rate: TOU-GS-2-D (SCE)

Billing period: 11/29/21 to 12/27/21 (29 days)

Delivery charges - Cost to deliver your electricity

Facilities rel demand	102 kW x \$15.68000	\$1,599.36
Demand-Winter		
Mid peak	99 kW x \$5.21000	\$515.79
Energy-Winter		
Mid peak	6,626 kWh x \$0.04131	\$273.72
Off peak	14,978 kWh x \$0.04131	\$618.74
Super off peak	11,178 kWh x \$0.04131	\$461.76
Customer charge		\$194.05

Your Delivery charges include:

- \$475.94 transmission charges
- \$2,255.49 distribution charges
- -\$18.36 nuclear decommissioning charges
- \$577.28 public purpose programs charge
- \$330.45 new system generation charge

CCA cost responsibility surcharge

PCIA	32,782 kWh x \$0.02332	\$764.48
CCA wildfire fund charge	32,782 kWh x \$0.00580	\$190.14
CTC	32,782 kWh x -\$0.00001	-\$0.33

Your overall energy charges include:

- \$42.76 franchise fees

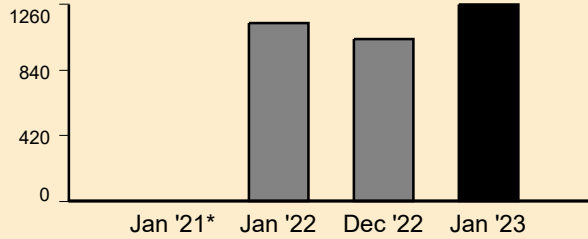
Other charges or credits

Generation Municipal Surcharge		\$20.44
Subtotal of your new charges		\$4,638.15
Ventura UUT	\$4,638.15 x 5.00000%	\$231.91
City franchise surchg	\$4,574.95 x 1.00000%	\$45.75
Your new charges		\$4,915.81

Additional information:

- Service voltage: 480 volts
- Generation Municipal Surcharge (GMS) factor: 0.009261
- 2018 Vintage CRS

Your daily average electricity usage (kWh)



* No data available

Usage comparison

	Jan '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	Jun '22	Jul '22	Aug '22	Sep '22	Oct '22	Nov '22	Dec '22	Jan '23
Total kWh used	*	34,236	34,544	39,232	56,772	61,797	72,004	51,772	43,996	44,710	39,399	36,904	30,192	37,793
Number of days		30	32	29	30	29	32	30	29	32	30	33	29	30
Appx. average kWh used/day		1,141	1,079	1,352	1,892	2,130	2,250	1,725	1,517	1,397	1,313	1,118	1,041	1,259

Details of your new charges

Your rate: TOU-GS-2-D (SCE)

Billing period: 12/28/22 to 01/26/23 (30 days)

Delivery charges - Cost to deliver your electricity

Facilities rel demand	125 kW x \$21.62000 x 4/30 days	\$360.33
Facilities rel demand	125 kW x \$20.97000 x 26/30 days	\$2,271.75
Demand-Winter		
Mid peak	112 kW x \$2.20000 x 4/30 days	\$32.85
Mid peak	112 kW x \$2.16000 x 26/30 days	\$209.66
Energy-Winter		
Mid peak	911 kWh x \$0.04550	\$41.45
Off peak	1,829 kWh x \$0.04420	\$80.84
Super off peak	1,696 kWh x \$0.04346	\$73.71
Mid peak	7,204 kWh x \$0.03888	\$280.09
Off peak	14,837 kWh x \$0.03760	\$557.87
Super off peak	11,316 kWh x \$0.03687	\$417.22
Customer charge		\$25.30
Customer charge		\$161.32

Your Delivery charges include:

- \$603.13 transmission charges
- \$2,987.00 distribution charges
- \$3.45 nuclear decommissioning charges
- \$685.55 public purpose programs charge
- \$184.12 new system generation charge

Your overall energy charges include:

- \$42.28 franchise fees

Additional information:

- Service voltage: 480 volts
- Generation Municipal Surcharge (GMS) factor: 0.009261
- 2018 Vintage CRS

CCA cost responsibility surcharge

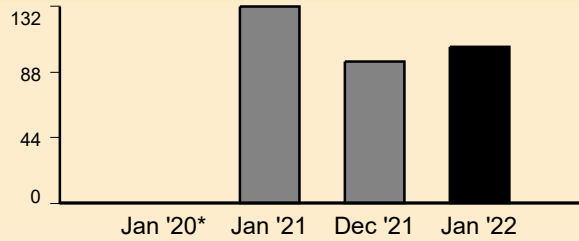
PCIA	4,436 kWh x \$0.00287	\$12.73
PCIA	33,357 kWh x -\$0.00335	-\$111.75
CCA wildfire fund charge	4,436 kWh x \$0.00652	\$28.92
DWR adjustment	37,793 kWh x -\$0.00208	-\$78.61
CCA wildfire fund charge	33,357 kWh x \$0.00530	\$176.79
CTC	4,436 kWh x -\$0.00015	-\$0.67
CTC	33,357 kWh x -\$0.00002	-\$0.67

Other charges or credits

Fixed recovery charge	4,436 kWh x \$0.00089	\$3.95
Fixed recovery charge	33,357 kWh x \$0.00066	\$22.02
Generation Municipal Surcharge		\$34.88

Subtotal of your new charges		\$4,599.98
Ventura UUT	\$4,599.98 x 5.00000%	\$230.00
City franchise surchg	\$4,565.10 x 1.00000%	\$45.65
Your new charges		\$4,875.63

Your daily average electricity usage (kWh)



* No data available

Usage comparison

	Jan '20*	Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21	Sep '21	Oct '21	Nov '21	Dec '21	Jan '22
Total kWh used		4,233	4,244	5,122	4,556	4,304	4,472	5,247	4,983	3,583	2,672	2,783	2,958	3,370
Number of days		32	29	30	31	29	30	32	29	30	32	29	31	32
Appx. average kWh used/day		132	146	170	146	148	149	163	171	119	83	95	95	105

Details of your new charges

Your rate: TOU-GS-1-E (SCE)

Billing period: 12/10/21 to 01/10/22 (32 days)

Delivery charges - Cost to deliver your electricity

Energy-Winter

Mid peak	487 kWh x \$0.16553	\$80.61
Off peak	1,054 kWh x \$0.10754	\$113.35
Super off peak	752 kWh x \$0.09885	\$74.34
Mid peak	227 kWh x \$0.17205	\$39.06
Off peak	496 kWh x \$0.11291	\$56.00
Super off peak	354 kWh x \$0.10405	\$36.83
Customer charge	22 days x \$0.55500	\$12.21
Customer charge	10 days x \$0.56600	\$5.66
CA Climate Credit	2,293 kWh x -\$0.00316	-\$7.25

Your Delivery charges include:

- \$58.09 transmission charges
- \$254.62 distribution charges
- -\$1.16 nuclear decommissioning charges
- \$59.19 public purpose programs charge
- \$35.70 new system generation charge

CCA cost responsibility surcharge

PCIA	2,293 kWh x \$0.02295	\$52.62
PCIA	1,077 kWh x \$0.02317	\$24.95
CCA wildfire fund charge	2,293 kWh x \$0.00580	\$13.30
CCA wildfire fund charge	1,077 kWh x \$0.00652	\$7.02
CTC	3,370 kWh x -\$0.00001	-\$0.03

Your overall energy charges include:

- \$4.71 franchise fees

Additional information:

- Service voltage: 240 volts
- Generation Municipal Surcharge (GMS) factor: 0.009261
- 2018 Vintage CRS

Other charges or credits

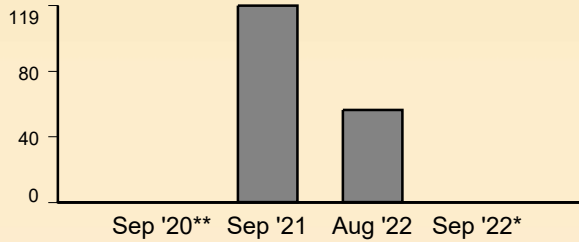
Generation Municipal Surcharge		\$2.46
Subtotal of your new charges		\$511.13
Ventura UUT	\$511.13 x 5.00000%	\$25.56
City franchise surchg	\$503.96 x 1.00000%	\$5.04
Your new charges		\$541.73

Things you should know

You Received a California Climate Credit

California is fighting climate change and so can you! Your bill includes a Climate Credit from a state program to cut carbon pollution while also reducing your energy costs. Find out how at cpuc.ca.gov/climatecredit/.

Your daily average electricity usage (kWh)



* Irregular billing period
** No data available

Usage comparison

	Sep '20 **	Sep '21	Oct '21	Nov '21	Dec '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	Jun '22	Jul '22	Aug '22	Sep '22 *
Total kWh used		3,583	2,672	2,783	2,958	3,370	3,303	3,446	3,014	2,846	2,980	3,291	1,626	0
Number of days		30	32	29	31	32	29	30	31	30	30	32	29	49
Appx. average kWh used/day		119	83	95	95	105	113	114	97	94	99	102	56	0

Details of your new charges

Your rate: TOU-GS-1-E (SCE)

Billing period: 09/09/22 to 09/27/22 (19 days)

Delivery charges - Cost to deliver your electricity

Customer charge	19 days x \$0.59500	\$11.31
Subtotal of your new charges		\$11.31
Ventura UUT	\$11.31 x 5.00000%	\$0.57
City franchise surchg	\$11.31 x 1.00000%	\$0.11
Your new charges		\$11.99

Your Delivery charges include:

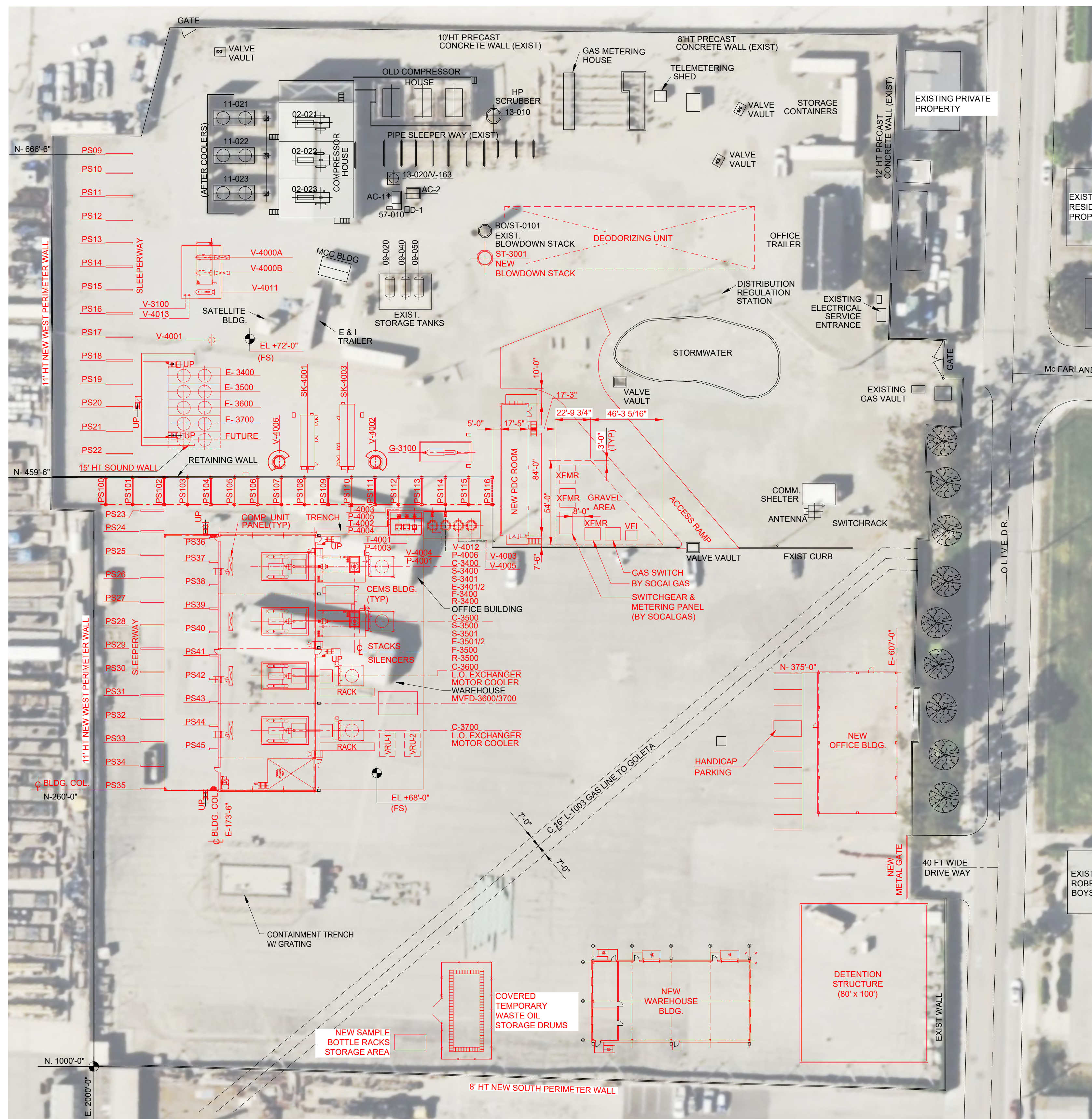
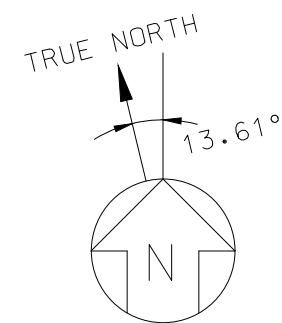
- \$11.31 distribution charges

Your overall energy charges include:

- \$0.10 franchise fees

Additional information:

- Service voltage: 240 volts
- Generation Municipal Surcharge (GMS) factor: 0.009261
- 2018 Vintage CRS



- NOTES:
- SCOPE OF THIS DRAWING IS LIMITED TO THE ANALYSIS COMPLETED ON THE EMD STUDY.
 - PLOT PLAN IS BASED ON EXISTING FEED COMPLETED AND PROVIDED TO BURNS & McDONNELL AND DOES NOT REFLECT CHANGES MADE TO DATE IN DESIGN.
 - THIS PLOT PLAN DOES NOT REFLECT THE MOST CURRENT STORM WATER REQUIREMENTS.
 - COMPRESSOR BUILDING SIZE IS SUBJECT TO CHANGE, AS SPACING ON COMPRESSORS CANNOT BE FINALIZED UNTIL GEOTECHNICAL INFORMATION IS RECEIVED.

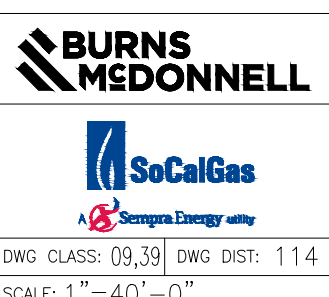
DRAWING NO.	REFERENCE DRAWING DESCRIPTION
33900-3002-D-PIP	OVERALL PLOT PLAN
33900-3006-D-PIP	EQUIPMENT LAYOUT

EQUIPMENT LIST -- NEW	
PACKAGE EQUIPMENT	EQUIPMENT DESCRIPTION
C-3400	GAS COMPRESSOR
C-3500	GAS COMPRESSOR
C-3600	GAS COMPRESSOR w/ L.O. EXCHANGER & MOTOR COOLER
C-3700	GAS COMPRESSOR w/ L.O. EXCHANGER & MOTOR COOLER
SK-4001	INSTRUMENT AIR COMPRESSOR SKID
SK-4003	STARTING AIR COMPRESSOR SKID
G-3100	EMERGENCY GENERATOR SKID
ST-3001	BLOWDOWN STACK
EXCHANGERS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
E-3400	DISCHARGE COOLER
E-3500	DISCHARGE COOLER
E-3600	DISCHARGE COOLER
E-3700	DISCHARGE COOLER
E-3401	AUXILIARY WATER COOLER
E-3402	JACKET WATER COOLER
E-3501	AUXILIARY WATER COOLER
E-3502	JACKET WATER COOLER
VESSELS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
V-3100	GENERATOR FUEL GAS REGULATOR FILTER
V-4000A	FILTER/SEPARATOR
V-4000B	FILTER/SEPARATOR
V-4001	DISCHARGE SCRUBBER
V-4002	STARTING AIR RECEIVER
V-4003	OILY WASTE STORAGE DRUM
V-4004	ENGINE OIL STORAGE DRUM
V-4005	WASTE OIL STORAGE DRUM
V-4006	INSTRUMENT AIR RECEIVER
V-4011	CONDENSATE DRIP DRUM
V-4012	COOLANT STORAGE DRUM
V-4013	COMPRESSOR FUEL GAS REGULATOR FILTER
T-4001	COMPRESSOR AREA OILY WASTE TANK
T-4002	COMPRESSOR AREA OIL WASTE TANK
T-4003	COMPRESSOR AREA COOLANT DRAIN SUMP
PUMPS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
P-4001	ENGINE OIL CHARGE PUMP
P-4003	COMPRESSOR AREA OILY WASTE TANK PUMP
P-4004	WASTE OIL TANK PUMP
P-4005	COMPRESSOR ENGINE WASTE COOLANT PUMP
P-4006	COOLANT CHARGE PUMP
MISC	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
F-3400	INLET AIR FILTER #1
F-3500	INLET AIR FILTER #2
R-3400	CATALYTIC CONVERTER #1
R-3500	CATALYTIC CONVERTER #2
S-3400	EXHAUST SILENCER #1
S-3401	INLET SILENCER #1
S-3500	EXHAUST SILENCER #2
S-3501	INLET SILENCER #2
WFV-3600/3700	VFD BUILDING
VRU-1	VAPOR RECOVERY UNIT
VRU-2	VAPOR RECOVERY UNIT
TBD	DEODORIZING SKID

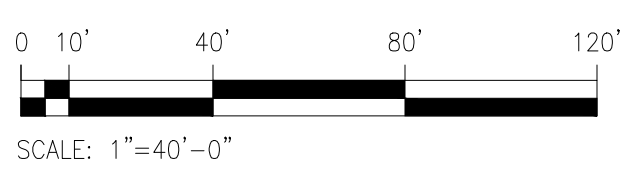
EQUIPMENT LIST -- EXISTING	
PACKAGE EQUIPMENT	EQUIPMENT DESCRIPTION
02-021	HP COMPRESSOR
02-022	HP COMPRESSOR
02-023	HP COMPRESSOR
57-010/AC-1	AIR COMPRESSOR
AC-2	BACK-UP AIR COMPRESSOR
D-1	DRYER
EXCHANGERS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
11-021	AFTER COOLER
11-021A	GAS COOLER
11-021B	JACKET WATER COOLER
11-021C	AUXILIARY WATER COOLER
11-022	AFTER COOLER
11-022A	GAS COOLER
11-022B	JACKET WATER COOLER
11-022C	AUXILIARY WATER COOLER
11-023	AFTER COOLER
11-023A	GAS COOLER
11-023B	JACKET WATER COOLER
11-023C	AUXILIARY WATER COOLER
VESSELS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
13-010	HP SCRUBBER
09-010	CONDENSATE STORAGE TANK
09-020	DIRTY WATER STORAGE TANK
09-030	WASTE OIL STORAGE TANK
09-040	COOLANT RECYCLE STORAGE TANK
09-050	LUBE OIL STORAGE TANK
13-020/V-163	AIR RECEIVER
PUMPS	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
02-021B	COMPRESSOR PRE/POST LUBE PUMP
02-021C	WASTE LUBE OIL PUMP
02-021D	WASTE COOLANT PUMP
MISC	
EQUIPMENT NAME EQUIPMENT DESCRIPTION	
BO/ST-0101	BLOWDOWN STACK

PRELIMINARY

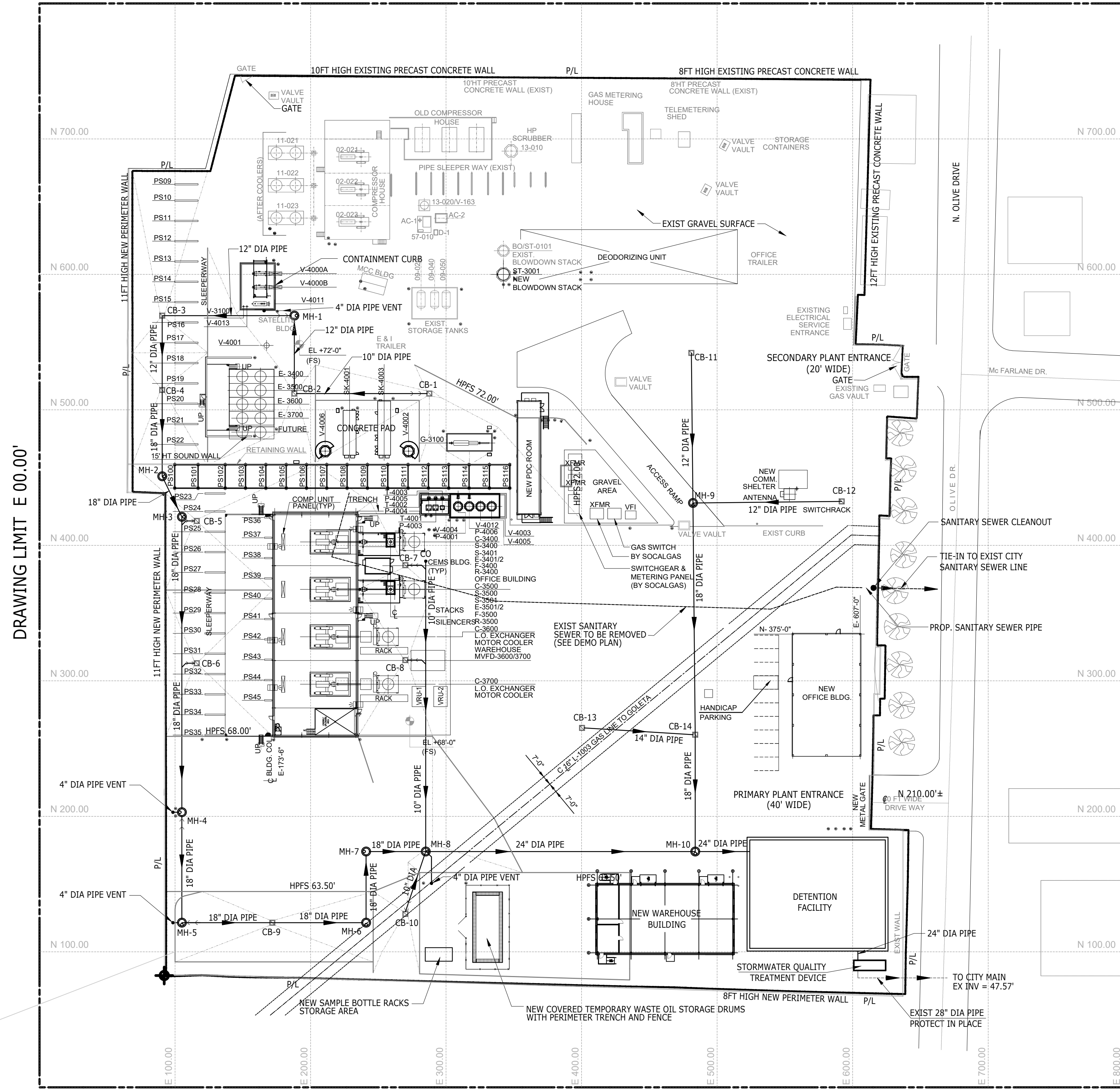
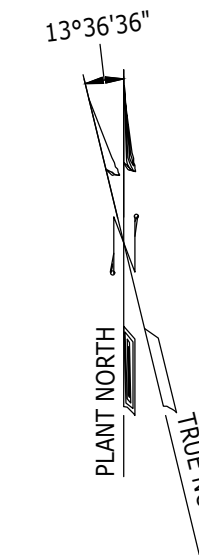
REV	DATE	DRAWN	CHECKED	PRJ APV	SEC APV	ENG FILE NO	DESCRIPTION	WOA	WOA: 91651
G	01/20/23	SAR				E15043	ISSUED FOR REVIEW	91651	
F	01/18/23	SAR				E15043	ISSUED FOR REVIEW	91651	DESIGNED: C. SLAVIN
E	01/17/23	SAR				E15043	ISSUED FOR REVIEW	91651	DRAWN: P. STJOHN
D	01/13/23	SAR				E15043	ISSUED FOR REVIEW	91651	CHECKED:
C	11/15/22	SAR				E15043	ISSUED FOR REVIEW	91651	PROJ APV:
B	10/28/22	SAR				E15043	ISSUED FOR REVIEW	91651	SEC ENG APV:
A	08/31/22	PBS				E15043	ISSUED FOR REVIEW	91651	ENG FILE NO: E15043



VENTURA COMPRESSOR STATION
UPGRADE & MODERNIZATION
PROPOSED SCE EQUIPMENT LAYOUT
PLOT SKETCH WITH AERIAL OVERLAY



DRAWING LIMIT N 800.00'



BILL OF MATERIAL			
ITEM	QUANTITY	UNIT	DESCRIPTION
STORM SEWER SYSTEM			
14	EA		PRE-CAST CATCH BASIN TRAFFIC RATED HL-93
10	EA		PRE-CAST MANHOLE (5' DIA) TRAFFIC RATED HL-93
288	CY		EXCAVATION FOR CB AND MH
144	CY		BACKFILL FOR CB AND MH
48	CY		GRAVEL BEDDING FOR CB, MH LEVELING
150	LF		4" PIPE VENT
4	EA		4" - 90° - ELBOW
4	EA		FLAME ARRESTER
358	LF		10" DIA PIPE
16	EA		10" -45° - ELBOW
2	EA		10"x10" WYE
425	LF		12" DIA PIPE
8	EA		12" -45° - ELBOW
80	LF		14" DIA PIPE
900	LF		18" DIA PIPE
244	LF		24" DIA PIPE
1079	CY		EXCAVATION UG PIPE TRENCHING
120	CY		PIPE BEDDING
777	CY		BACKFILL
1	EA		TIE-IN CONNECTION
DETENTION BASIN			
1778	CY		EARTHWORK EXCAVATION
300	CY		CONCRETE 12" THK BOTTOM OF BASIN
5	CY		RIP RAP APRON AT INLET
STORMWATER QUALITY TREATMENT			
1	EA		MANUFACTURED TREATMENT DEVICE
50	CY		EARTHWORK EXCAVATION

NOTE: ALL QUANTITIES ARE NET AND FOR INFORMATION ONLY, EPC CONTRACTOR RESPONSIBLE FOR THEIR OWN QUANTITIES.

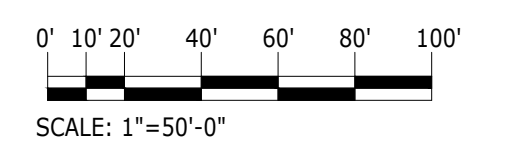
DRAWING LIMIT E 00.00'

DRAWING LIMIT E 800.00'

DRAWING LIMIT N 00.00'

LEGENDS:

- PIPE SEAL
- FLOW DIRECTION
- CATCH BASIN
- CLEANOUT
- MANHOLE
- PROPERTY LINE
- BOLLARDS
- RETAINING WALL



NOTES:

- ALL COORDINATES, ELEVATIONS AND DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
- FOR PLOT PLAN SEE DRAWING 33900-3001-D-PIP (REV. D).
- FOR DEMOLITION PLAN SEE 7002-D-DEM.
- FOR PAVING AND GRADING PLAN SEE 7002-D-CIV.
- FOR UNDERGROUND UTILITIES PLAN SEE 7004-D-CIV.

REV	DATE	DRAWN	CHECKED	PRJ APV	SEC APV	ENG FILE NO	DESCRIPTION	WOA	BY	DATE
-	-	-	-	-	-	-	-	-	DESIGNED: P. Teves	3/19/20
-	-	-	-	-	-	-	-	-	CHECKED: K. Khalili	3/19/20
-	-	-	-	-	-	-	-	-	PROJ APV: B. Wirth	3/19/20
C	1/20/23	SH	GP	-	-	E15043	ISSUED FOR USE	-	SGC ENG APV: -	-
B	4/6/20	PT	KK	BW	-	E15043	ISSUED FOR USE	-	ENG FILE NO: E15043	-
A	3/19/20	PT	KK	BW	-	E15043	ISSUED FOR CLIENT REVIEW	-	WOA: 91651	-

BURNS MEDONNELL

VENTURA COMPRESSOR STATION
 UPGRADE & MODERNIZATION
 UNDERGROUND DRAINAGE
 PLAN

ADDRESS: 33900-7003-D-CIV CITY: B
 DRAWING NUMBER: 33900-7003-D-CIV

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



[Home](#) | [Water Issues](#) | [Programs](#) | [Land Disposal](#) | [Treated Wood Waste](#)

Land Disposal Program

Disposal Facilities Authorized to Accept Treated Wood Waste (TWW)

California landfills authorized by the Regional Water Quality Control Board to accept treated wood waste conditionally upon compliance with all the applicable requirements outlined in AB332 and set forth in Section 25230 of the Health and Safety Code.

Facility Name	Landfill Class*	County	Regional Water Quality Control Board
Sonoma County Central Solid Waste Disposal Site	III	Sonoma	North Coast
Guadalupe Rubbish Disposal Company	III	Santa Clara	San Francisco Bay
Keller Canyon Landfill	III	Contra Costa	San Francisco Bay
Kirby Canyon Recycling and Disposal Facility	III	Santa Clara	San Francisco Bay
Newby Island Landfill	III	Santa Clara	San Francisco Bay
Ox Mountain (Corinda Los Trancos) Landfill	III	San Mateo	San Francisco Bay
Potrero Hills Landfill	III	Solano	San Francisco Bay

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



		Obispo	
Chicago Grade Landfill	III	San Luis Obispo	Central Coast
Cold Canyon Landfill	III	San Luis Obispo	Central Coast
John Smith Road Landfill	III	San Benito	Central Coast
Johnson Canyon Landfill	III	Monterey	Central Coast
Monterey Peninsula Landfill	III	Monterey	Central Coast
Paso Robles Solid Waste Site	III	San Luis Obispo	Central Coast
Santa Cruz Class III Landfill	III	Santa Cruz	Central Coast
Santa Maria Regional Landfills	III	Santa Barbara	Central Coast
Tajiguas Solid Waste Site	III	Santa Barbara	Central Coast
Burbank Landfill	III	Los Angeles	Los Angeles
Calabasas Landfill	III	Los Angeles	Los Angeles
Chiquita Canyon Landfill	III	Los Angeles	Los Angeles
Simi Valley Landfill	III	Ventura	Los Angeles
Sunshine Canyon Landfill	III	Los Angeles	Los Angeles
Toland Road Landfill	III	Ventura	Los Angeles
Altamont Landfill	III	Alameda	Central Valley
American Avenue Disposal Site	III	Fresno	Central Valley

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



Billy Wright Solid Waste Landfill	III	Merced	Central Valley
Clean Harbors Buttonwillow, Inc Landfill	I/II	Kern	Central Valley
Eastlake Sanitary Landfill	III	Lake	Central Valley
Fairmead Landfill	III	Madera	Central Valley
Fink Road Landfill	III	Stanislaus	Central Valley
Forward Landfill	II	San Joaquin	Central Valley
Hay Road Landfill, Recology	III	Solano	Central Valley
Highway 59 Landfill	III	Merced	Central Valley
Kettleman Hills Facility Landfill	III	Kings	Central Valley
Kiefer Landfill	III	Sacramento	Central Valley
McKittrick Waste Landfill	II	Fresno	Central Valley
Neal Road	III	Butte	Central Valley
Ostrom Road Landfill, Recology	III	Yuba	Central Valley
Western Regional Sanitary Landfill	III	Placer	Central Valley
Woodville Landfill	III	Tulare	Central Valley
Antelope Valley Landfill	III	Los Angeles	Lahontan
Lancaster Landfill	III	Los Angeles	Lahontan
Victorville Sanitary Landfill	III	San Bernardino	Lahontan

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



El Sobrante Landfill	III	Riverside	Santa Ana
Frank R. Bowerman (FRB) Landfill	III	Orange	Santa Ana
Lamb Canyon Landfill	III	Riverside	Santa Ana
Mid-Valley Sanitary Landfill	III	San Bernardino	Santa Ana
Allied Imperial Landfill	III	Imperial	Colorado River Basin
Salton City Municipal Solid Waste Management Facility	III	Imperial	Colorado River Basin
Otay Landfill Inc.	III	San Diego	San Diego
Prima Deshecha Landfill	III	Orange	San Diego
Sycamore Landfill Inc.	III	San Diego	San Diego

* Class I or I/II landfills on this list have been authorized to accept certain hazardous wastes, including Treated Wood Waste, per the Waste Discharge Requirements issued by the Regional Water Quality Control Board and in accordance with other agency permits and requirements. Class III and II/III non-hazardous waste facilities on this list have been authorized to accept Treated Wood Waste conditionally upon compliance with requirements in AB332 and set forth in Section 25230 of the Health and Safety Code.

Additional information on the alternative management standards for treated wood waste and Assembly Bill 332, are provided on the [Department of Toxic Substances Control Treated Wood Waste webpage](#).




State Water Resources Control Board and Region Water Quality Control Board Land Disposal Program regulator contact information can be found on the [About page](#).

(Page updated 01/20/2023)

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.







[About Us](#) [Contact Us](#) [Subscribe](#)  [Settings](#)



-  [Save Our Water](#)
-  [Flex Alert](#)
-  [Register to Vote](#)



Quick Links

-  [Board Agendas](#)
-  [Fees](#)
-  [Make a Payment](#)
-  [Grievance Procedure](#)
-  [Help / Business Help](#)
-  [Uniform Grants Guidance](#)



Resources

- [OIMA](#)
- [CEDEN](#)
- [Data & Databases](#)
- [Drought Information](#)
- [FAAST](#)
- [Language Access Form](#)
- [Formulario de Acceso al Idioma](#)
- [My Water Quality](#)
- [Performance Report](#)
- [Tribal Affairs](#)
- [Wastewater Arrearage Payment](#)
- [Website Index](#)

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



- [Grants & Loans](#)
- [Laws / Regulations](#)
- [Plans / Policies](#)
- [Public Records Center](#)
- [Publications / Forms](#)

[Back to Top](#)

[Conditions of Use](#)

[Privacy Policy](#)

[Accessibility](#)

[Contact Us](#)



[Website Accessibility Certification](#)

Copyright © 2023 State of California

The California Water Boards include the [State Water Resources Control Board](#) and nine [Regional Boards](#)

The State Water Board is one of six environmental entities operating under the authority of the California Environmental Protection Agency

[CalEPA](#) | [ARB](#) | [CalRecycle](#) | [DPR](#) | [DTSC](#) | [OEHHA](#) | [SWRCB](#)

June 2021



FINAL



2020 Urban Water Management Plan for the City of San Buenaventura

Prepared by Kennedy/Jenks Consultants

Kennedy/Jenks Consultants

2775 North Ventura Road, Suite 202
Oxnard, California 93036
805-973-5700
FAX: 805-973-1440

2020 Urban Water Management Plan

June 14, 2021

Prepared for

City of San Buenaventura

336 Sanjon Road
Ventura, CA 93002

K/J Project No. 2044229*00

Table of Contents

List of Tables.....	v
List of Figures.....	vi
List of Appendices.....	vi
Acronyms.....	vi

Section 1: Introduction/Lay Description..... 1-1

1.1	Overview	1-1
1.2	Purpose	1-1
	1.2.1 Relationship to the City’s Annual Comprehensive Water Resources Report.....	1-2
1.3	Structure and Organization of the Plan	1-3
1.4	Implementation of the Plan.....	1-4
	1.4.1 Joint Preparation of the Plan.....	1-4
	1.4.2 Plan Adoption.....	1-8
	1.4.3 Public Outreach.....	1-9
1.5	System Description	1-9
1.6	Land Use	1-11
1.7	Population	1-12
1.8	Social, Economic and Demographic Factors Affecting Water Management	1-13
1.9	Climate	1-14
1.10	Potential Effects of Climate Change.....	1-14
1.11	Fundamental Findings of the Urban Water Management Plan	1-15

Section 2: Water Demands 2-1

2.1	Overview	2-1
2.2	Historical Water Use.....	2-2
2.3	Water Loss	2-3
2.4	Existing and Target Per Capita Water Use	2-3
	2.4.1 Base Daily Per Capita Water Use for SBX7-7 Reduction	2-4
	2.4.2 2015 and 2020 Targets	2-5
	2.4.3 Achievement of Target.....	2-6
2.5	Projected Water Use	2-6
	2.5.1 Normal Year	2-8
	2.5.2 Dry Years	2-9
	2.5.3 Weather Effects on Water Usage.....	2-9
2.6	Low Income Projected Water Demands.....	2-10

Section 3: Water Resources 3-1

Table of Contents (cont'd)

3.1	Overview	3-1
3.1.1	Management of Supplies	3-1
3.2	Local Surface Water	3-2
3.2.1	Casitas Municipal Water District (Casitas)	3-2
3.2.1.1	Reliability – Water Quality	3-3
3.2.1.2	Reliability – Other	3-3
3.2.1.3	Reliability – Water Year Type	3-3
3.2.2	Ventura River	3-4
3.2.2.1	Reliability – Water Quality	3-5
3.2.2.2	Reliability – Other	3-5
3.2.2.3	Reliability – Water Year Type	3-5
3.3	Groundwater	3-6
3.3.1	Mound Groundwater Basin	3-6
3.3.1.1	Reliability – Water Quality	3-7
3.3.1.2	Reliability – Other	3-7
3.3.1.3	Reliability – Water Year Type	3-8
3.3.2	Oxnard Plain Groundwater Basin	3-8
3.3.2.1	Reliability – Water Quality	3-8
3.3.2.2	Reliability – Other	3-8
3.3.2.3	Reliability – Water Year Type	3-9
3.3.3	Santa Paula Groundwater Basin	3-9
3.3.3.1	Reliability – Water Quality	3-9
3.3.3.2	Reliability – Other	3-10
3.3.3.3	Reliability – Water Year Type	3-10
3.4	Groundwater Supplies Normal, Single-Dry and Multiple Dry Year	3-10
3.5	Recycled Water and Reuse	3-11
3.6	Transfers, Exchanges and Groundwater Banking Programs	3-11
3.7	Planned Water Supply Projects and Programs	3-12
3.7.1	SWP Water	3-12
3.7.1.1	Delta Reliance	3-14
3.7.2	VenturaWaterPure	3-15
3.7.3	Ocean Desalination	3-16
3.8	Anticipated Water Supply Sources in Normal, Single Dry, and Multiple Dry Years	3-16
3.9	Energy Intensity of the City of San Buenaventura’s Water System	3-20
Section 4:	Recycled Water and Reuse	4-1
Section 5:	Water Quality	5-1
Section 6:	Reliability Planning	6-1

6.1	Overview	6-1
6.2	Normal Water Year.....	6-1
6.2.1	Single-Dry Year.....	6-2
6.2.2	Multiple-Dry Year	6-2
6.2.3	Summary of Comparisons.....	6-3
6.3	Drought Risk Assessment.....	6-4
6.3.1	Data and Methodologies Used.....	6-4
6.3.1.1	Water Demands	6-4
6.3.1.2	Water Supplies	6-5
Section 7:	Demand Management Measures	7-1
7.1	Demand Management.....	7-1
7.1.1	Foundational DMMs	7-1
7.1.1.1	Water Waste Prohibition	7-1
7.1.1.2	Metering	7-2
7.1.1.3	Conservation Pricing.....	7-2
7.1.1.4	Public Education and Outreach	7-3
7.1.1.5	Programs to Assess and Manage Distribution System Real Loss	7-4
7.1.1.6	Water Conservation Program Coordination and Staffing Support	7-4
7.1.2	Other DMMs.....	7-5
7.1.2.1	Wholesale Agency Assistance Programs	7-5
7.1.2.2	Ventura Water Partnerships with Ventura Unified School District.....	7-6
7.1.2.3	Efforts In 2020	7-7
7.2	Planned DMMs to Meet Water Use Targets.....	7-8
Section 8:	Water Shortage Event Contingency Plan.....	8-1
8.1	Purpose of the WSECP.....	8-1
8.2	Annual Assessment.....	8-1
8.3	Shortage Stages.....	8-1
8.4	Water Shortage Response Actions	8-1
Section 9:	References.....	9-1

Table of Contents (cont'd)

List of Tables

Table 1-1 Public Water System Covered by this Plan	1-4
Table 1-2 Agency and Plan Structure	1-4
Table 1-3 Agency Coordination Summary	1-5
Table 1-4 Public Participation Timeline.....	1-9
Table 1-5 Summary Existing Land Use – December 2020	1-12
Table 1-6 Population Projections	1-12
Table 1-7 Housing characteristics City of San Buenaventura (2018)	1-13
Table 1-8 Annual Climate Information.....	1-14
Table 2-1 Demands - Actual 2020	2-3
Table 2-2 Estimated water loss 2015-2019.....	2-3
Table 2-3 Baseline Period Ranges	2-4
Table 2-4 Gallons Per Capita Per Day.....	2-5
Table 2-5 2020 Target Compliance.....	2-6
Table 2-6 SBX7-7 2020 Compliance.....	2-6
Table 2-7 Projected Water Use 2025 to 2045 - Normal Year (AF)	2-9
Table 2-8 Projected Water Use 2025 to 2045 - Dry Year (AF)	2-10
Table 2-9 Projected Water Use Low Income Households (AF)	2-11
Table 3-1 Estimated Supply from Casitas Municipal Water District (AFY).....	3-4
Table 3-2 Estimated Supply from Ventura River (AFY)	3-6
Table 3-3 Historic Groundwater Production (AFY).....	3-6
Table 3-4 Projected Groundwater Supplies for Different Year Types (AFY).....	3-11
Table 3-5 Water production Calendar Year 2020 (AF)	3-17
Table 3-6 Water Supply Estimates - Average/Normal Year (AF).....	3-17
Table 3-7 Water Supply Estimates - Single-Dry Year (AF)	3-18
Table 3-8 Water Supply Estimates - Multiple-Dry Years (AF).....	3-19
Table 3-9 Energy Intensity Ventura Water Potable Water Supply -Total Utility Approach.....	3-20
Table 4-1 Wastewater Collected within Service Area 2020 (AF)	4-2
Table 4-2 Wastewater Treated and Discharged within Service Area 2020.....	4-2
Table 4-3 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (AF).....	4-3
Table 4-4 Projected Recycled Water Uses	4-4
Table 6-1 Comparison of Supply Capacity and Projected Demands in Average/Normal Year (AF).....	6-1
Table 6-2 Comparison of Supplies and Demands in Single-Dry Year (AF)	6-2
Table 6-3 Comparison of Supplies and Demands in Multiple-Dry Years (AF)	6-3
Table 6-4 Anticipated Supplies from Casitas Consecutive Dry Years 2021-2025 (AF)	6-5
Table 6-5 Anticipated Supplies from Ventura River Consecutive dry years 2021-2025 (AF) ...	6-5
Table 6-6 Anticipated Groundwater Supplies Consecutive dry years 2021-2025 (AF).....	6-6
Table 6-7 Anticipated SWP Supplies Consecutive Dry Years 2021-2025 (AF)	6-6
Table 6-8 Anticipated Venturawaterpure Supplies Consecutive Dry Years 2021-2025 (AF)....	6-7

Table 6-9 Anticipated Recycled Water Supplies Consecutive Dry Years 2021-2025 (AF).....	6-7
Table 6-10 Summary Anticipated Supplies Consecutive Dry Years 2021-2025 (AF).....	6-7
Table 6-11 Five Year Drought Risk Assessment	6-8
Table 7-1 Ventura Water Outreach Programs	7-3
Table 7-2 Drought Specific Outreach Programs	7-5
Table 7-3 Ventura Water Participation in Wholesale Agency Programs.....	7-6
Table 7-4 School Outreach Metrics.....	7-7

List of Figures

Figure 1-1 City Service Area Boundary.....	1-10
--	------

List of Appendices

A	UWMP Checklist
B	Standardized Tables
C	City of San Buenaventura City Council Adoption of the 2020 UWMP
D	Outreach Materials
E	Water System Audit Output
F	SBx7-7 Verification Tables and DWR Population Tool Output
G	Water Services Agreement between the City of San Buenaventura and Casitas Municipal Water District
H	Groundwater Sustainability Plan Oxnard Subbasin
I	Santa Paula Basin 2010 Amended and Restated Stipulated Judgment
J	Data to Document Consistency with Delta Plan Policy WR P1
K	Reporting of Energy Intensity of Water
L	2020 Water Shortage Event Contingency Plan

Acronyms

The following abbreviations and acronyms are used in this report.

AB	Assembly Bill
Act	Urban Water Management Planning Act
AF	acre-feet
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure

Table of Contents (cont'd)

AWPF	Advanced Water Purification Facility
BMPs	Best Management Practices
CALGreen	California Green Building Code
Casitas	Casitas Municipal Water District
CAT	Climate Action Team
CCF	Hundred Cubic Feet
CEQA	California Environmental Quality Act
Cfs	cubic feet per second
City	City of San Buenaventura (Ventura)
COG	Council of Governments
CWRR	Comprehensive Water Resources Report
DDW	State Water Resources Control Board Division of Drinking Water
DMMs	Demand Management Measures
DWR	Department of Water Resources
EIR	environmental impact report
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
ETo	evapotranspiration
FCGMA	Fox Canyon Groundwater Management Agency
Foster Park	Ventura River Foster Park Area
FY	fiscal year
GIS	Geographic Information System
GPCD	gallons per capita per day
Gpf	gallons per flush
Gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCD	State Department of Housing and Community Development
HCF	hundred cubic feet
JPA	Joint Powers Authority
kWH	kilowatt-hour
LAFCO	Local Agency Formation Commission
MBGSA	Mound Basin Groundwater Sustainability Agency
MCL	maximum contaminant level
MF	microfiltration
MG	million gallons

mg/L	milligrams per liter
MGD	million gallons per day
MOU	Memorandum of Understanding
NPDES	National Pollutant Discharge Elimination System
OVSD	Ojai Valley Sanitary District
Plan	Urban Water Management Plan
RHNA	Regional Housing Needs Allocation
RWQCB	Regional Water Quality Control Board
SBX7-7	Senate Bill 7 of Special Extended Session 7
SCAG	Southern California Association of Governments
SCRE	Santa Clara River Estuary
Sf	square feet
SGMA	Sustainable Groundwater Management Act
SGPWA	San Geronio Pass Water Agency
SPBPA	Santa Paula Basin Pumpers Association
SWP	State Water Project
TAC	Technical Advisory Committee
TDS	Total Dissolved Solids
United	United Water Conservation District
UF	Ultrafiltration
UVRGA	Upper Ventura River Groundwater Agency
UWMP	Urban Water Management Plan
VCFCDD	Ventura County Flood Control District
VCG	Ventura County Council of Governments
Ventura Water	City of San Buenaventura Water and Wastewater Department
VWRF	Ventura Water Reclamation Facility
WEAP	Water Efficiency Allocation Plan
WSECP	Water Shortage Event Contingency Plan
WSS	Water Sense Specification

Section 1: Introduction/Lay Description

1.1 Overview

This volume presents the Urban Water Management Plan 2020 (Plan) for the City of San Buenaventura and its Ventura Water Department (the City or Ventura Water) service area, which includes the City boundary as well as unincorporated areas within the City’s Sphere of Influence. This chapter describes the general purpose of the Plan, discusses Plan implementation, and provides general information about the service area characteristics. A list of acronyms and abbreviations is provided at the end of the table of contents.

1.2 Purpose

An Urban Water Management Plan (UWMP) is a planning tool that generally guides the actions of water management agencies. It provides managers and the public with a broad perspective on a number of water supply issues. It is not a substitute for project-specific planning documents, nor was it intended to be when mandated by the State Legislature. For example, the Legislature mandated that a plan includes a section which “describes the opportunities for exchanges or water transfers on a short-term or long-term basis.” (California Urban Water Management Planning Act, Article 2, Section 10630(d).) The identification of such opportunities, and the inclusion of those opportunities in a general water service reliability analysis, neither commits a water management agency to pursue a particular water exchange/transfer opportunity, nor precludes a water management agency from exploring exchange/transfer opportunities not identified in the plan. When specific projects are chosen to be implemented, detailed project plans are developed, environmental analysis, if required, is prepared, and financial and operational plans are detailed.

In short, this Plan is a management tool, providing a framework for action, but not functioning as a detailed project development or action. It is important that this Plan be viewed as a long-term, general planning document, rather than as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty and planning projections may change in response to a number of factors. From this perspective, it is appropriate to look at the Plan as a general planning framework, not a specific action plan. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from them?
- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Using these “framework” questions and resulting answers, the implementing agency will pursue feasible and cost-effective options and opportunities to meet demands.

The California Urban Water Management Planning Act (Act) requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five-year increments (the City is going beyond the requirements of the Act by developing a plan which spans 25 years.)
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and efficient use of urban water supplies.

State legislation, Senate Bill 7 of Special Extended Session 7 (SBX7-7) was signed into law in November 2009, which calls for progress towards a 20 percent reduction in per capita water use statewide by 2020. The legislation mandated each urban retail supplier develop and report an interim 2015 water use target, their baseline daily per capita use and 2020 compliance daily per capita use, along with the basis for determining those estimates. This UWMP reports on Ventura Water's final progress in meeting the SBX7-7 targets.

In short, the Plan answers the question: *Will there be enough water for the area served by the City in future years, and what mix of programs should be explored for making this water available?*

It is the stated goal of the City to deliver a reliable and high-quality water supply for customers, even during dry periods. The analysis in this Plan documents that it is necessary for the City to implement planned water supply projects in order to meet normal and dry-year demands. In the near term (2020-2026) until such time as planned supplies come on-line, anticipated supplies in a multiple-dry year are insufficient and the City would have to call on existing customers to undertake extraordinary conservation. After planned water supplies are available the potential for a water supply shortage is lessened.

1.2.1 Relationship to the City's Annual Comprehensive Water Resources Report

The Urban Water Management Plan is required by the California State Water Code. The UWMP is a long-term planning tool that provides water purveyors and their customers a broad perspective on water supply issues over a 20-year period (this plan goes further and looks at 25 years). The UWMP is a management tool, providing the framework for action but not functioning as a detailed project development plan.

In 2013 the City Council directed Ventura Water and the Community Development Department to work together to develop a short-term balance of water supply and demand. The result of this collaboration is the annual Comprehensive Water Resources Report (CWRR). The CWRR specifically focuses on water demand of approved (entitled) projects only. The CWRR focuses on a short timeframe and on near-term demand changes. The CWRR estimates demands from approved projects whereas the UWMP estimates demands from population projections. In the latest 2021 CWRR the estimated demand of approved projects would be fully vested by year 2025. This latest CWRR estimates demand to the year 2030 using a growth rate of 0.54 percent (the Department of Finance historical data for City of San Buenaventura population growth).

Understanding and monitoring water supply and demand is essential to planning for and managing a stable and reliable water system to support the community and economic growth. The City's supply and demand play an important role and dramatically influence the planning for, development of, and investment of significant dollars in capital improvements, maintaining current water supply and investing in new water supplies. Therefore, the annual CWRR is an important tool that the City utilizes to update the City's annual projected water supply and demand.

1.3 Structure and Organization of the Plan

This plan is organized as follows:

- Introduction
- Water Demand
 - SBX7-7 Reduction
- Water Resources
- Recycled Water
- Water Quality
- Reliability Planning
- Demand Management Measures
- References
- Appendices

Appendix A contains a checklist documenting how this UWMP meets the requirements of the Urban Water Management Planning Act and SBX7-7. Starting with the 2015 UWMP, urban water suppliers are required to report and submit information in standardized tables developed by the Department of Water Resources (DWR). These standardized tables are provided as Appendix B of this document.

This plan is being prepared for Ventura Water, a Department of the City, and is an individual rather than Regional Urban Water Management Plan. Data provided in this plan are reported in calendar years rather than fiscal years. To the extent possible water volumes are reported in acre-feet (AF). Tables 1-1 and 1-2 document the structure of this plan.

**TABLE 1-1
PUBLIC WATER SYSTEM COVERED BY THIS PLAN**

Public Water System Number	Public Water System Name	# of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)*
CA5610017	City of San Buenaventura Water Department	32,285	13,556

Notes: *Includes all metered consumption

**TABLE 1-2
AGENCY AND PLAN STRUCTURE**

Type of Agency

Agency is a Wholesaler

Agency is a Retailer

Fiscal or Calendar Year

UWMP Tables are in Calendar Year

UWMP Tables are in Fiscal Year

Units of Measure Used in this UWMP

Acre Feet (AF)

Million Gallons (MG)

Hundred Cubic Feet (CCF)

1.4 Implementation of the Plan

Preparation of UWMP 2020 was coordinated by Ventura Water. Ventura Water staff met with and coordinated the development of the UWMP with various City Departments as well as the Ventura Water Commission. Based on the City's 2005 General Plan, Sustainable Infrastructure, Policy 5B, Ventura Water has adopted guidelines which require that adequate water supply, system capacities, and wastewater collection system and treatment capacities are available before new development can be approved by the Community Development Department. This subsection provides the cooperative framework within which the Plan will be implemented including agency coordination, public outreach, and resources maximization.

1.4.1 Joint Preparation of the Plan

The UWMP Act requires a water supplier to coordinate the preparation of its plan with other appropriate agencies in the area. This includes other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. Various agencies are involved in supplying water to the City or having jurisdiction over a portion of the water resources. This section briefly discusses each one. Table 1-3 summarizes the efforts the City has taken to include the various City Departments, agencies, and citizens in the preparation of this document.

**TABLE 1-3
AGENCY COORDINATION SUMMARY**

	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Contacted for Assistance	Received Copy of Draft	Sent Notice of Intention to Adopt	Not Involved / No Information
City of San Buenaventura Community Development Department	X					X	
City of Oxnard Public Works Water Division						X	
County of Ventura Resource Management Agency						X	
Calleguas Municipal Water District	X					X	
Casitas Municipal Water District	X	X		X	X	X	
Fox Canyon Groundwater Management Agency						X	
United Water Conservation District						X	
Santa Paula Basin Technical Advisory Committee						X	
Upper Ventura River Groundwater Agency						X	
Mound Basin Groundwater Sustainability Agency						X	
Ojai Valley Sanitary District						X	
Ventura County Local Agency Formation Commission						X	

- **City of San Buenaventura Community Development Department**
The Community Development Department is responsible for planning and zoning, economic development, housing and redevelopment for the City of San Buenaventura. The department works with various city departments, city commissions, and the City Council to guide and provide advice regarding growth in the city. The Community Development Department works with the community and City Council to create and document the vision for land use in the city and the various policies and regulations applicable to redevelopment and new development. The Community Development Department was consulted regarding changes in population and economic activity in the service area which may affect water demands.
- **City of Oxnard Public Water Works Division**
The City of Oxnard is a neighboring jurisdiction that was contacted to be given the opportunity to provide input to the 2020 UWMP.
- **Ventura County Resource Management Agency**
Ventura Water serves a very minor amount of water to connections outside the City limits within the unincorporated County. These connections must meet the City's policy for water connections (Municipal Code Section 22.110.055). Ventura Water notified the County Resource Management Agency of the UWMP Update and the methods by which the County could provide input to the plan. In December 2015, the County of Ventura started an update to its General Plan; Ventura Water participated in the General Plan Update. The 2040 General Plan Update was adopted in October of 2020.
- **Fox Canyon Groundwater Management Agency (FCGMA)**
The FCGMA was created by state legislation in 1982 to manage local groundwater basins and resources in a manner to reduce overdraft of the Oxnard Plain and stop seawater intrusion. A major goal of the FCGMA is to regulate and reduce future extractions of groundwater from the Oxnard Plain aquifers, in order to operate the basin at a safe yield. Ventura Water withdraws water from the Oxnard Plain Groundwater Basin and is subject to the management policies of the FCGMA. Ventura Water notified FCGMA of the 2020 UWMP Update and the methods by which the FCGMA could provide input to the plan.
- **United Water Conservation District (United)**
United is primarily a groundwater recharger and a wholesale purveyor in central Ventura County and does not provide any water directly to the City. However, all of the City's groundwater wells within the Mound, Oxnard Plain, and Santa Paula groundwater basins are within United's boundaries and are subject to United's semi-annual extraction fees. Ventura Water notified United of the 2020 UWMP Update and the methods by which United could provide input to the plan.
- **Santa Paula Basin Technical Advisory Committee (TAC)**
The Santa Paula Basin is subject to a stipulated judgment and is managed by the Santa Paula Basin Technical Advisory Committee (TAC) with equal representation from United Water Conservation District (UWCD), the Santa Paula Basin Pumpers Association (SPBPA), and Ventura Water. The TAC is charged with establishing a program to "monitor conditions in the basin, including but not necessarily limited to verification of future pumping amounts, measurements of groundwater levels, estimates of inflow to

and outflow from the basin, increases and decreases in groundwater storage, and analyses of groundwater quality.” The Judgment also allows for the development of a management plan for the operation of the basin and empowers the TAC to determine the safe yield of the basin. Ventura Water notified the Santa Paula Basin TAC of the 2020 UWMP Update and the methods by which the TAC could provide input to the plan.

- **Upper Ventura River Groundwater Agency (UVRGA)**

The Upper Ventura River Groundwater Agency was created in 2016 by several agencies using a Joint Powers Agreement. In 2017, the Agency became a Groundwater Sustainability Agency. The UVRGA is managed by a seven-member Board of Directors – five public agency directors, including Ventura Water, and two stakeholder directors that represent environmental and agricultural interests.¹

Ventura Water notified the UVRGA of the 2020 UWMP Update and the methods by which the UVRGA could provide input to the plan.

- **Mound Basin Groundwater Sustainability Agency (MBGSA)**

The Mound Basin Groundwater Sustainability Agency (MBGSA) was created in 2017 by several agencies using a Joint Power Agreement and became a Groundwater Sustainability Agency in June 2017. The MBGSA includes United Water Conservation District, the County of Ventura, the City of San Buenaventura, the Mound Basin Ag Water Group (agricultural stakeholder), and an environmental stakeholder. “United is authorized under the California Water Code to conduct water resource investigations, acquire water rights, build facilities to store and recharge water, construct wells and pipelines for water deliveries, commence actions involving water rights and water use, and prevent interference with or diminution of stream/river flows and their associated natural subterranean supply of water (California Water Code, section 74500 et al.). The County of Ventura exercises water management and land use authority on land overlying the entire county including Fillmore and Piru Basins. The City of [San Buenaventura] is a local municipality that exercises water supply, water management, and land use authority within the city’s boundaries.”²

Ventura Water notified the MBGSA of the 2020 UWMP Update and the methods by which the MBGSA could provide input to the plan.

- **Ojai Valley Sanitary District (OVSD)**

The OVSD is an adjacent district that collects and treats wastewater from a population of approximately 20,000 across the City of Ojai, the unincorporated Ojai Valley, and the north Ventura Avenue area. Ventura Water notified the OVSD of the 2020 UWMP Update and the methods by which the OVSD could provide input to the plan.

- **Ventura County Local Agency Formation Commission**

The Ventura Local Agency Formation Commission (LAFCo) was formed and operates under the provisions of state law, specifically what is now known as the Cortese-Knox-

¹ Upper Ventura River Groundwater Agency, <https://uvrgroundwater.org/about/>

² Mound Basin Groundwater Sustainability Agency, <https://www.moundbasingsa.org/about-us/>

Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.). State law provides for LAFCoS to be formed as independent agencies in each county in California. LAFCoS implement state law requirements and state and local policies relating to boundary changes for cities and most special districts, including spheres of influence, incorporations, annexations, reorganizations and other changes of organization. In this capacity the Ventura LAFCo is the boundary agency for cities and most special districts in Ventura County.

All LAFCoS have general objectives such as to, 1) encourage the orderly formation and expansion of local government agencies, 2) preserve agricultural land resources, 3) discourage urban sprawl. Additionally, all LAFCoS have authorities such as to, 1) regulate boundary changes, 2) establish spheres of influence – the probable physical boundaries and service area of a city or special district, and 3) conduct reviews of public services and special studies, 4) initiate special district consolidations or dissolutions, and 5) act on out of agency service agreements between public agencies and between public agencies and private parties.³

Ventura Water notified the LAFCo of the 2020 UWMP Update and the methods by which the LAFCo could provide input to the plan.

- **Casitas Municipal Water District (Casitas)**

Casitas is a wholesaler of treated surface water from Lake Casitas to the City under the terms and conditions of the 2017 Agreement. Casitas' service area is in Western Ventura County, including the City of Ojai, Upper Ojai, the Ventura River Valley area, the City of Ventura to Mills Road, and the Rincon and beach area to the ocean and Santa Barbara County Line. Casitas supplies water to 60,000-70,000 people and to hundreds of farms. The western portion of the City of San Buenaventura is within the Casitas service area⁴. Ventura Water notified Casitas of the 2020 UWMP Update and the methods by which Casitas could provide input to the Plan.

1.4.2 Plan Adoption

The City began preparation of this Plan in August 2020. A draft of the plan was presented to and reviewed by the City Water Commission on April 27 and May 25, 2021. The final draft of the Plan was adopted by the City Council on June 14, 2021 by Resolution No. 2021-051 (Appendix C) and submitted to DWR within 30 days of City Council approval. This plan includes all information necessary to meet the requirements of Water Conservation Act of 2009 (Wat. Code, §§ 10608.12-10608.64) and the Urban Water Management Planning Act (Wat. Code, §§ 10610-10656). Additionally, the plan has also been submitted to all appropriate entities and made available for public review per the requirements of the Urban Water Management Planning Act.

³ Ventura Local Agency Formation Commission, <https://www.ventura.lafco.ca.gov/about-us-2/>

⁴ Casitas Municipal Water District, <https://www.casitaswater.org/about-us/about-casitas-water>

1.4.3 Public Outreach

Urban water agencies preparing plans are required to hold a public hearing on the UWMP prior to its adoption. In response to these requirements, a public hearing was conducted June 14, 2021 by the City to receive public comment and input on the UWMP. Table 1-4 presents a timeline for public participation during the development of the Plan. A copy of the public outreach materials, including paid advertisements, newsletter covers, website postings, and invitation letters are attached in Appendix D.

**TABLE 1-4
PUBLIC PARTICIPATION TIMELINE**

Public Workshops and Hearings	Date	Public Participation Task
UWMP Status Update	March 23, 2021	Presentation at City Water Commission
UWMP Administrative Draft	April 27, 2021	Presentation at City Water Commission
UWMP Final Draft, Final Draft Available for Public Review	May 25, 2021	Presentation to City Water Commission, Available for Public Review
Public Hearing and Adoption	June 14, 2021	City Council Meeting

1.5 System Description

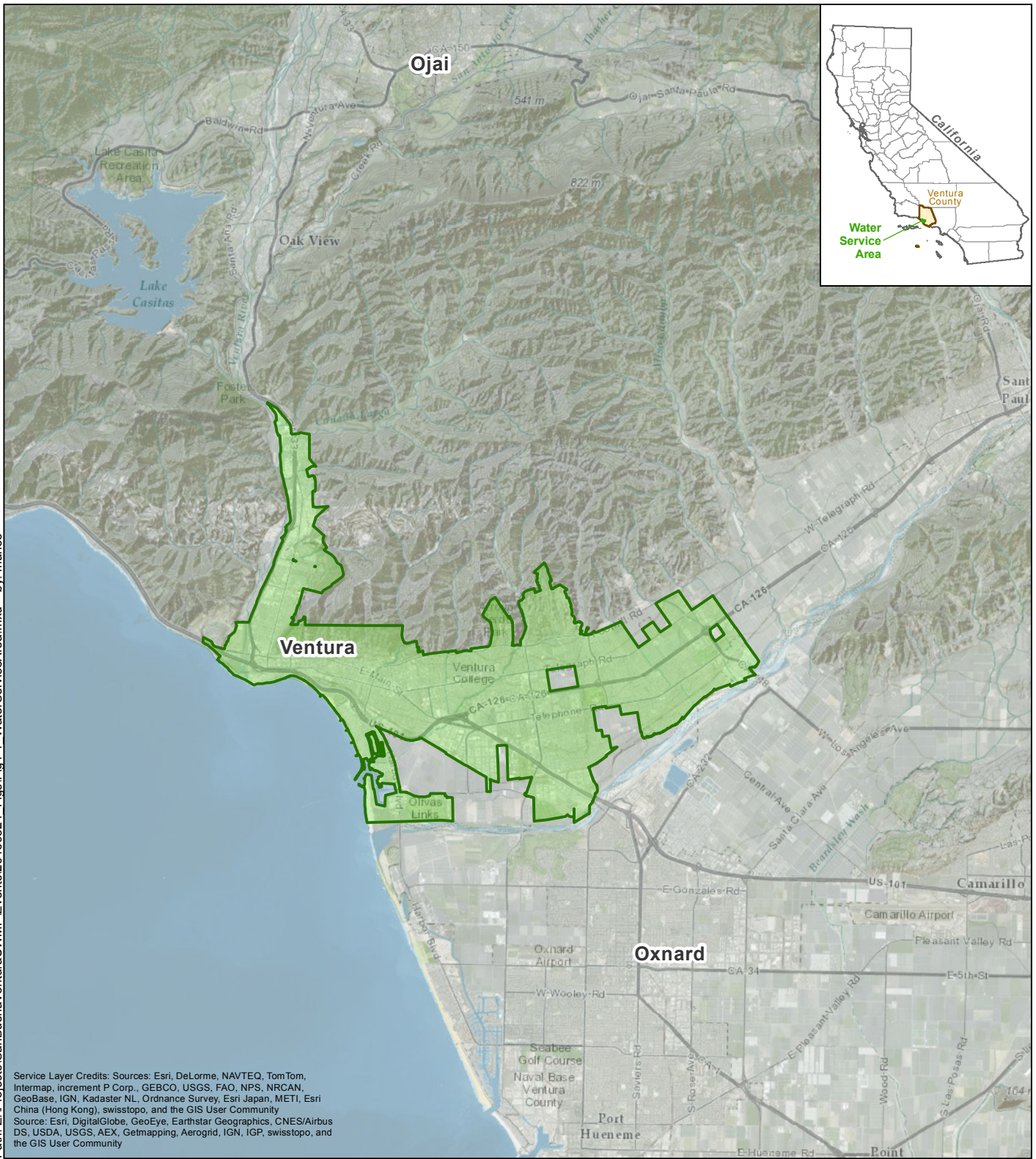
The City is located 62 miles north of Los Angeles and 30 miles south of Santa Barbara along the California coastline. The City's planning area is bounded by the Ventura River on the west, Foster Park on the north, Franklin Barranca and the Santa Clara River to the east, with the Pacific Ocean as the southern boundary. The total planning area encompasses approximately 40 square miles. The City water service area is shown on Figure 1-1.

The City developed as a result of the ninth and last mission founded in California by Father Junipero Serra in 1782. In 1866, the City incorporated an area of about one square mile around the original Mission San Buenaventura. Since that time, the City has grown. An estimated population of 113,500⁵ is currently supplied water from the City's water system. This includes several unincorporated County areas, such as the upper North Ventura Avenue area to the north and developing areas east of the City boundary.

The City Charter provides for a City Council-Manager form of government. A seven-member City Council is elected at large for four-year terms, with the Mayor selected by the City Council for a two-year term. The City of San Buenaventura Water Commission was formed in 2015 to provide policy guidance on water and wastewater issues to City Council as representatives of the community and Ventura Water customers. The Water Commission reviews and makes advisory recommendations regarding water rates, water resources infrastructure projects in the

⁵ This population estimate is based the 2021 Comprehensive Water Resources Report. Current (2020) population as estimated by the DWR Population Tool (described in section 2.3.20) is 115,815. The calculation of gallons per capita per day targets in section 2.3 uses the population as estimated by the DWR Population Tool.

Path: Z:\Projects\SanBuenaVentura\UWMP\Events\20160324_Figs\Fig-1-1_WaterServiceArea.mxd by: marico



Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend



Water Service Area



0 7,000 14,000



Scale: Feet

Kennedy/Jenks Consultants

City of Ventura UWMP
 Ventura, CA

Ventura Water Service Area

KJ 1644212*00
 January 2021

Figure 1-1

five-year capital improvement program, the integrated water resources management plan, water supply options, the Urban Water Management Plan approval process, a water dedication and in-lieu fee requirement, and other water resource issues.

The Spanish Fathers of Mission San Buenaventura developed the first water system for the City. It consisted of an aqueduct (now abandoned) to convey water from the Ventura River, near San Antonio Creek, to a reservoir located behind the Mission.

During subsequent development around the Mission, additional groundwater was obtained from wells in the Ventura and Santa Clara River basins. Water facilities were developed and operated for the City by several individuals and companies over the period of 1869 to 1923. In 1923, the City acquired the water system, along with its water rights from the Ventura River, from the Southern California Edison Company and assumed the responsibility of providing water to City residents. In years following, the City developed additional sources of surface and groundwater, including wells and improvements to the surface water diversion from the Ventura River. Also, since 1960, the City has purchased surface water from Casitas Municipal Water District to supplement its water supplies. As the City boundaries expanded east, the City took over other water systems such as Mound Water Company and Saticoy Water Company. As development occurs on the east side of the City, additional groundwater facilities have also been completed to meet increasing demands.

Currently, the City's water system serves approximately 32,285 water service connections, which includes the population of the City plus some additional areas outside the City boundaries. The western portion of the City is within the Casitas Municipal Water District service area. The mid and eastern portion of the City are within United Water Conservation District's boundaries. Water service is provided to all residential, commercial, industrial and irrigation customers, including fire protection users.

The City water system is a geographically complex system of 16 pressure zones, 10 active wells, 19 booster stations, approximately 385 miles of pipelines ranging from 4-inches to 36-inches in diameter, and a total storage capacity of approximately 52 million gallons (MG) in 27 tanks and reservoirs. The system delivers water from sea level to a maximum elevation of over 1,000 feet. The City operates three purification facilities, including one membrane filtration treatment plant for surface water sources on the west side of the City, and two iron/manganese removal treatment plants for groundwater sources on the east side (City of San Buenaventura 2011). The City also maintains and operates the Ventura Water Reclamation Facility for wastewater treatment and reclamation. See Section 4 for further description of the Reclamation Facility.

1.6 Land Use

The City's 2005 General Plan is the basis for understanding land use in the Ventura Water service area. Each year as part of the CWRR, Ventura Water updates the land use information from the 2005 General Plan to reflect projects built in the past year. Table 1-5 provides a summary of land uses in the water service area as estimated through 2020. Based on the "build-out" envisioned in the 2005 General Plan Table 1-5 provides a summary of remaining developable land.

**TABLE 1-5
SUMMARY EXISTING LAND USE – DECEMBER 2020**

Land Use	As of December 2020	Potential Remaining Development
Residential (units)	3,230	5,088
Retail (sf)	447,026	794,351
Office (sf)	474,521	738,693
Industrial (sf)	1,191,437	1,043,696
Hotel (sf)	25,360	504,640

1.7 Population

The City water service area is an established community comprised primarily of residential areas with opportunities for infill development. Large commercial and industrial areas exist along Main Street, Harbor Boulevard, Telephone Road, Ventura Avenue, Telegraph Road and Victoria Avenue (City of San Buenaventura 2011). In 2005, the City adopted the 2005 Ventura General Plan to redirect future growth toward ‘Infill First’ with an emphasis on encouraging more dense development of housing alongside commercial uses in the above-mentioned commercial corridors, as well as Johnson Drive and Wells Road. The City’s estimated population growth for the water service area is shown in Table 1-6. The population numbers reflect both the population within the City limits as well as the minor number of customers in the unincorporated county.

Future projections for areas within the City reflect a 0.54 percent annual growth rate through 2030⁶. From 2030-2045, the future projections for areas within the City also reflect a 0.54 percent annual growth rate⁷. Population estimates were extrapolated to fit five-year increments. It is important to note that these figures are not intended to represent support for, nor reflect any commitment to, this level of growth. Rather, it is to provide a safe margin in planning for long-term water improvements that might be needed given the amount of growth that could be allowed under the City’s 2005 updated General Plan as assessed in the certified EIR.

**TABLE 1-6
POPULATION PROJECTIONS**

	2020	2025	2030	2035	2040	2045
Ventura Water Service Area	113,500	116,598	119,780	123,049	126,408	129,858

⁶ Projections were provided by the 2021 Comprehensive Water Resources Report.

⁷ Maximum historic growth rate that the City of Ventura saw prior to Thomas Fire (2010-2018).

1.8 Social, Economic and Demographic Factors Affecting Water Management

The following information has been taken from the 2019 Local Profile for San Buenaventura prepared by the Southern California Association of Governments. The 2019 Local Profile was the most recent information that could be obtained for the City.

Between 2000 and 2018, the total population of the City of San Buenaventura increased by 10,353 to 111,269. During this 18-year period, the city's population growth rate was lower than the Ventura County rate. The city, while the County seat, makes up 13 percent of the total population of Ventura County. Between 2000 and 2018, the 55-64 age group experienced the largest increase in share of the city's population, growing from 8.3 to 13.7 percent. Conversely the 35-54 age group declined as percent of the population from 32 to 25.6 percent. In this same timeframe, the share of Hispanic population in the city increased from 24.3 percent to 35.4 percent and the share of Non-Hispanic White population in the city decreased from 68.1 percent to 56.3 percent. The share of Non-Hispanic Asian population in the city increased modestly, from 2.9 percent to 3.7 percent as did the share of the Non-Hispanic Black population (1.3 percent to 1.4 percent). There was a modest decline in the share of Non-Hispanic American Indian or Alaska Native population in the city from 0.6 percent to 0.4 percent.

Between 2000 and 2018, the total number of households in the City of San Buenaventura increased by 3,299 units, or 8.6 percent, lower than the county growth rate of 12.5 percent. As of 2018 the City's average household size was 2.6, lower than the county average of 3.1. Seventy seven percent of all city households had 3 people or fewer and about 29 percent of the households were single-person households. A small percentage of households, about 10 percent had 5 people or more. Between 2000 and 2018, homeownership rates decreased and the share of renters increased. In 2018 approximately 46.2 percent of households were renters and 53.8 owners. In 2018, the median home sales price in the city was \$583,000, the same as that in the county overall.

The housing stock consist primarily of single-family detached homes (approximately 89%) with limited amounts of multi-family housing (approximately 11%).

The majority of the City of San Buenaventura housing stock pre-dates 1980 as shown in Table 1-7.

**TABLE 1-7
HOUSING CHARACTERISTICS CITY OF SAN BUENAVENTURA (2018)**

Housing Age	Percent of Housing Stock	Housing Age	Percent of Housing Stock
1939 and earlier	7.6	1980 to 1989	13.2
1940 to 1949	4.2	1990 to 1999	8.0
1950 to 1959	15.2	2000 to 2009	8.5
1960 to 1969	22.4	2010 to 2018	4
1970 to 1979	20.0		

About 34 percent of households earned less than \$50,000 annually and approximately 33 percent of households earned \$100,000 or more. From 2000 to 2018, median household income increased by \$20,693, from \$52,166 to \$72,859. Housing costs are significant portion of income. In 2018 housing costs accounted for an average of 34.7 percent of total household income for renters and an average of 22.5 percent of total household income for homeowners.

Data shows a decreasing number of jobs in the city from 2007 to 2018 with a significant decline in jobs in the manufacturing sector (17.2 percent) and construction sector (declined of 37.7 percent), and a modest decline in administrative and professional jobs (6.1 percent).

1.9 Climate

The City has a climate that is similar to a Mediterranean coastal city. That is, the winters are cool, and the summers are mild. The average temperature range is in the 70s and it is uncommon for the temperature to drop below freezing. The area has an average rainfall of approximately 13.5 inches. Table 1-8 shows the average annual climate information by month.

**TABLE 1-8
ANNUAL CLIMATE INFORMATION**

	Jan	Feb	Mar	Apr	May	Jun
Standard Monthly Average ETo (in)	2.5	2.6	3.7	4.6	5.1	5.3
Average Rainfall (in)	3.51	2.73	1.89	0.90	0.29	0.04
Average High Temperature (°F)	66.9	65.3	68.2	68.0	67.7	70.9
	Jul	Aug	Sept	Oct	Nov	Dec
Standard Monthly Average ETo (in)	5.9	5.5	4.3	3.4	2.6	2.2
Average Rainfall (in)	0.03	0.01	0.07	0.81	0.81	2.47
Average High Temperature (°F)	73.0	74.3	74.3	73.7	71.2	69.9

Source:

Evapotranspiration (ETo) data from Station #152 in the City of San Buenaventura as provided on the CIMIS website database at www.cimis.water.ca.gov for the period of record from January 2000 to November 2020.

The average rainfall data is from Ventura County Watershed Protection District's web site for Station 066E, https://www.vcwatershed.net/hydrodata/php/getstations.php?dataset=rain_hour&order=site_id, for the period October 2005 to September 2020.

The average temperature figures are from the Western Regional Climate Center web site at www.wrcc.dri.edu for Station 049285 VENTURA.

1.10 Potential Effects of Climate Change

A topic of growing concern for water planners and managers is climate change and the potential impacts it could have on California's future water supplies. Climate change models have predicted that potential effects from climatic changes will result in increased temperature, early snow melt, and a rise in sea level.

In the 2013 update of the *DWR California Water Plan*, the implications of future climate conditions are evaluated. These changing hydrological conditions could affect future planning efforts, which are typically based on historic conditions. The *California Water Plan* identifies the following probable impacts due to changes in temperature and precipitation:

- More winter runoff and less spring/summer runoff due to warmer temperatures.

- Greater extremes in flooding and droughts.
- Greater water demand for irrigation and landscape water due to increased temperatures and their impacts on plant water needs.
- Increased sea level rise, increased threat of coastal flooding, and salt water intrusion into coastal groundwater aquifers.

In the 2019 report of *Projected Changes in Ventura County Climate* (Oakley et. al. 2019), the implications of future climate conditions are evaluated. These changing hydrological conditions could affect future planning efforts, which are typically based on historic conditions. The report of *Projected Changes in Ventura County Climate* identifies the following probable impacts due to changes in temperature, precipitation, evaporative demand, and other variables:

- Increases in both maximum and minimum temperatures and heat extremes.
- More intense precipitation focused during the winter season.
- Increased evapotranspiration.
- Increased drought risk.
- Potential for longer wildfire season with more ignitions as population growth continues.
- Reduced marine stratus.
- Reduction in Sierra Nevada snowpack.
- Longer duration and more intense atmospheric rivers.

Even without population changes, water demand could increase. Precipitation and temperature influence water demand for outdoor landscaping and irrigated agriculture. It is typical that about half of the water used by residential development is for outdoor use and therefore it is assumed that outdoor water use is a large component of the City of San Buenaventura water demands.

1.11 Fundamental Findings of the Urban Water Management Plan

It is the stated goal of the City to deliver a reliable and high quality water supply for customers, even during dry periods. The analysis in this Plan documents that it is necessary for the City to implement planned water supply projects in order to meet normal and dry-year demands. In the near term (2021 to 2024) until such time as planned supplies come on-line, there is little buffer between supplies and demands and it may be necessary for the City to call on existing customers to undertake extraordinary conservation should drought persist. After planned water supplies are available the potential for a water supply shortage is lessened.

Section 2: Water Demands

2.1 Overview

This chapter describes historic and current water usage and the methodology used to project future demands within the City's service area. The City's water system provides potable water to residential, commercial, institutional, industrial, and irrigation customers. Untreated water is provided to an industrial user and a few irrigation customers in the vicinity of the raw water pipeline system in the North Ventura Avenue area. Recycled water is provided for general irrigation of two golf courses, a City park, and landscape irrigation along the existing distribution alignment. The City's water use sectors are described below⁸.

- **Residential Sector**
The residential sector of the City is comprised of single and multi-family residential customers. The residential accounts serve apartment and condominium complexes as well as mobile home parks. The residential sector represents approximately 66 percent of the City's total water consumption. Within the residential sector, single family accounts make up approximately 61 percent of the total residential demand.
- **Commercial/Institutional Sector**
The City contains several different types of commercial/institutional customers including retail establishments, office buildings, laundries, schools, prisons, hospitals nursing homes, churches, and campgrounds. The City includes several tourist-driven businesses such as hotels, which benefit from the high volume of tourist traffic. Currently, there are approximately 2,700 commercial/institutional accounts. The commercial/institutional sector accounts for approximately 25 percent of the City's water consumption.
- **Industrial Sector**
The City contains a relatively small industrial sector including manufacturing. Currently, there are two industrial accounts. The industrial sector utilizes approximately less than one percent of the City's water demand.
- **Landscape Irrigation Sector**
This sector only includes water usage from dedicated irrigation meters. Water used for irrigation on properties without separate irrigation meters is included in other sectors. The City's landscape metered uses include assessment districts, contract parks, City parks, cemeteries, median strips, golf courses and other irrigation areas. The landscape irrigation sector accounts for approximately three and a half percent of the City's water consumption.

⁸ Account quantities and consumption percentages are derived from the 2020 Water Deliveries Report.

- **Other Uses**
The City has other miscellaneous usage, which include the following: fireline consumption, temporary construction meters, fire training. This usage is estimated to be one percent of the total water demand.
- **Recycled Water**
The City provides recycled water delivered from the City's Water Reclamation Facility for general irrigation at two golf courses, a City park, and landscape irrigation along the existing distribution alignment. This usage accounts for approximately four percent of total water demand⁹.
- **Water Loss**
Water loss is estimated based on a comparison of billing records (consumption) versus production records and does not include recycled water in this report. Based on City historical information it is estimated at approximately 5 to 10 percent of total produced water since 2005. The City of San Buenaventura reviewed apparent loss (loss due to meter inaccuracies) and real loss (due to leaks or theft) from 2015 to 2019 using AWWA's Water Audit Software. The software estimates water loss average of 7.61%. The 2019 Water Loss Audit Report is provided in Appendix E.

2.2 Historical Water Use

Currently the City has approximately 32,285 service connections serving 113,500 people¹⁰. All service connections are metered. Water consumption within the City has decreased in recent years. The annual per capita usage from 1940 to 1970 averaged about 277 gallons per capita per day (GPCD). In the period 1985 through 1989, the annual per capita use averaged about 196 GPCD. In the period 1994 through 2010, the per capita figure dropped to an average of 166 GPCD. This decrease in per capita consumption is the result of plumbing code changes such as low flow fixtures and low water consuming appliances in some existing and all new housing; and an active water conservation program adopted by the City in 1975 and further strengthened with regulations in 1990. As detailed in Section 2.4, the baseline GPCD for the 10-year period was 176 and the baseline GPCD for the 5-year period was 167. In 2015 the reported GPCD was 159. In 2020 the reported GPCD was 104.

⁹ Recycled water consumption percentage from the 2021 CWRR.

¹⁰ This population estimate is based on input from the 2021 Comprehensive Water Resources Report. Current (2020) population as estimated by the DWR Population Tool (described in section 2.3.20) 115,815. Calculations for compliance with gpcd targets uses the DWR Population Tool estimates.

**TABLE 2-1
DEMANDS - ACTUAL 2020**

Use Type	Level of Treatment	Volume (AF)
Single family	Drinking Water	5,489
Multi-family	Drinking Water	3,443
Commercial/Institutional	Drinking Water	3,219
Irrigation	Drinking Water, Untreated	380
Other	Drinking Water	160
Water Loss ¹	Drinking Water, Untreated	865
<i>Total Potable and Untreated Water Production</i> ²		13,556
Recycled Water	Recycled Water	564
Total Water Demand		14,120

Notes:

2020 demand from billing records = 12,746 AF (excludes recycled water)

2020 production from production report = 13,556 AF (excludes recycled water)

¹ 2020 production minus 2020 demand (excludes recycled water)

² From production source report (does not include recycled water)

2.3 Water Loss

Distribution system water losses is the physical potable water losses from the pressurized water distribution system. Ventura Water estimates its distribution system loss using the American Water Works Association Method, annually. As required, Ventura Water reports information on water losses annually to the State. Table 2-2 reports water loss estimates 2015 to 2019. The Water Loss Audit Reports submitted to the State for these years is provided in Appendix E.

**TABLE 2-2
ESTIMATED WATER LOSS 2015-2019**

Period Covered	Estimated Water Loss (AF) (volume of apparent and real water losses)	% of Water Produced
Calendar Year 2015	1,449	10.1
Calendar Year 2016	933	6.8
Calendar Year 2017	1,122	8.4
Calendar Year 2018	620	4.6
Calendar Year 2019	1,079	8.3

At the current time a water loss standard has not been adopted by the State of California. Future UWMPs prepared by Ventura Water will report on compliance with any State water loss standards.

2.4 Existing and Target Per Capita Water Use

As required by SB X7-7, the Water Conservation Bill of 2009, this section identifies the water use targets in 2015 and 2020 to demonstrate a 20% reduction in per capita water use by 2020. Included are calculations of the baseline gross water use expressed as per capita daily water use (gallons per capita per day, or GPCD), baseline and target population, and year 2020 urban

water use target. This section includes a description of how Ventura Water calculated its baseline and target per capita water demands, in accordance with Method No. 1 described in "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use" (DWR Methodologies, 2011). Ventura Water has completed the SB X7-7 Verification Form, attached as Appendix F, and summarized in Tables 2-4 and 2-5 of this chapter.

2.4.1 Base Daily Per Capita Water Use for SBX7-7 Reduction

Two baseline periods are to be determined during the calculation of the base daily per capita water use. The first is a continuous 10- to 15-year period used to calculate baseline per capita use, and the second is a continuous 5-year period used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction requirements of at least a 5% reduction per capita water use.

The legislation allows the first continuous baseline period to increase from a 10-year to a 15-year base period if the amount of recycled water delivered in 2008 was 10% or greater of total water demand. Ventura Water's recycled water use in 2008 did not meet 10% or greater total water demand; therefore, under the legislation, Ventura Water may not use anything greater than a 10-year base period.

Tables 2-3 and 2-4 summarize the Base Daily Water Use calculation for Ventura Water. As a part of the SB X7-7 requirements, both a 10-year base period and a 5-year base period were selected in the 2010 UWMP, and were not able to be altered after having been selected. Years 1995 to 2004 were selected for calculation of the 10-year base period while years 2003 to 2007 were selected for calculation of the 5-year base period.

**TABLE 2-3
BASELINE PERIOD RANGES**

Baseline	Parameter	Value	Units
10 to 15 year baseline period	2008 total water deliveries	19,234	AFY
	2008 total volume of delivered recycled water	625	AFY
	2008 recycled water as a percent of total deliveries	3.2 %	Percent
	Number of years in baseline period ¹	10	Years
	Year beginning baseline period range	1995	-
	Year ending baseline period range ²	2004	-
5 year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	-
	Year ending baseline period range ³	2007	-

Notes:

Data is for Calendar Year

¹If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a contiguous 10-year period. If the amount of recycled water delivered in 2007 is 10 percent or greater, the first baseline period is a contiguous 10 to 15 year period.

² The ending year must be between December 31, 2004 and December 31, 2010.

³ The ending year must be between December 31, 2007 and December 31, 2010.

As shown in the top portion of Table 2-4, the Ventura Water Baseline GPCD is estimated to be 176. As shown in the second portion of Table 2-4, the Ventura Water 5-year Baseline GPCD is 167.

**TABLE 2-4
GALLONS PER CAPITA PER DAY**

Year	Service Area Population ¹	Gross Water Use (AFY)	Gross Water Use (million gallons a day)	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
1	1995	96,334	18,060	16.12
2	1996	97,634	19,489	17.40
3	1997	98,950	19,851	17.72
4	1998	100,285	18,568	16.58
5	1999	101,637	20,703	18.48
6	2000	103,008	21,567	19.25
7	2001	103,610	18,960	16.93
8	2002	104,216	19,933	17.80
9	2003	104,825	20,394	18.21
10	2004	105,437	22,298	19.91
10 to 15 Year Average Baseline GPCD				176
5 Year Baseline GPCD				
Year	Service Area Population ¹	Gross Water Use (AF)	Gross Water Use (million gallons a day)	Daily Per Capita Water Use (GPCD)
1	2003	104,825	20,394	18.21
2	2004	105,437	22,298	19.91
3	2005	106,053	19,594	17.49
4	2006	106,673	18,149	16.20
5	2007	107,297	18,926	16.90
5 Year Average Baseline GPCD				167
Compliance Year GPCD				
2020	115,815	13,557	12.1	104

¹ From DWR Population Tool

2.4.2 2015 and 2020 Targets

The year 2020 target was established in the 2015 UWMP. To assist the reader, this section reviews how the 2020 Target was established.

The City chose to meet SBX7-7 targets as an individual agency rather than as part of a regional alliance. Ventura Water selected Method 3, achieving 95% of the applicable South Coast Hydrologic Region target. The South Coast Hydrologic Region target is 149 GPCD, 95% of this target is 142 GPCD.

The Maximum Allowable GPCD is 95 percent of the 5-year Baseline GPCD or 159. The Compliance Water Use Target, under Method 3 (142 GPCD) is less than the Maximum Allowable GPCD and therefore no adjustments to the Compliance Water Use Target were needed. This makes Ventura Water’s Compliance (2020) Water Use Target 142 GPCD. These calculations are summarized in Table 2-5.

**Table 2-5
2020 Target Compliance**

10-yr Base Daily Per Capita Water Use (GPCD)	2020 Target Calculated with Method 3 (95% of South Coast Hydrologic Region)	5-yr Base Daily Per Capita Water Use (GPCD)	Maximum Allowed GPCD Target (95% of 5-Year Base)	Confirmed 2020 Target (GPCD)
176	142	167	159	142

2.4.3 Achievement of Target

As shown in Table 2-6, the Ventura Water is in compliance with the 2020 Target, with an actual 2020 GPCD of 104. DWR has allowed for optional adjustments to the 2020 GPCD, including extraordinary events, economic adjustments, and weather normalization. Ventura Water made no such adjustments to the 2020 GPCD, as compliance was achieved without these factors.

**Table 2-6
SBX7-7 2020 Compliance**

Actual 2020 GPCD	Target GPCD	Total Adjustments	Adjusted 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?
104	142	0	142	Yes

2.5 Projected Water Use

The earliest codes and standards for water fixtures and appliances came from the Federal Energy Policy Act of 1992 (taking effect in 1994). Besides Department of Energy (DOE) regulations, the codes and standards affecting water use in California are contained primarily in the CALGreen Building Code, the California Plumbing Code, California Water Code, and California Appliance Efficiency Standards.

The 2010 California Green Building Standards Code (CALGreen) set new standards for the flow rates of plumbing fixtures in new construction. The 2010 CalGreen Code went into effect on January 1, 2011 and its purpose was to reduce indoor water use in California buildings by 20%. The code also required that for buildings over 50,000 sq ft separate water meters be provided (e.g., required that multifamily dwellings have individual rather than master meters). The 2010 CalGreen Building code did have some provisions for outdoor water use including a

requirement for automatic irrigation systems utilizing weather and/or soil moisture-based irrigation controllers and a requirement that new landscapes of a given size conform to water budgets of either local ordinance or the State Model Water Efficient Landscape.

Updates to the CALGreen code in 2012 expanded the scope of CALGreen to include not just new construction but additions and alterations to buildings.

During the 2015-2016 drought, CALGreen was amended to require that new landscapes of a given size conform to water budgets of either local ordinance or the State Model Water Efficient Landscape, whichever is more stringent. In addition, the Code was amended to further reduce the allowable flow rate of faucets and urinals. Subsequently the CALGreen Code was revised to reduce the maximum flow rate of showerheads to align with Appliance Efficiency Regulations. This included a requirement that for all newly constructed residential developments, including hotels and motels, where disinfected tertiary recycled water was available from a municipal source, include provisions for potable water supply and a recycled water supply.

Starting January 1, 2017, California regulation required that upon sale, all single-family, multifamily, and commercial real property disclose all noncompliant plumbing fixtures. Effectively, as a condition of sale, all residential and commercial properties built prior to January 1, 1994, will need to replace all noncompliant plumbing fixtures with water conserving plumbing fixtures including toilets, shower heads, and faucets.

Unlike showerheads, faucets, and toilets, clothes washers are not covered by the California Plumbing Code, but rather regulated by the DOE. The current standards for residential clothes washers took effect in 2018. The standards, which were based on a consensus agreement between manufacturers and efficiency advocates, specify minimum energy and water efficiency levels. The metric for water efficiency is the integrated water factor (IWF), which is expressed in terms of gallons of water consumed per cubic foot of washer capacity. A lower IWF indicates better water efficiency. The standards specify an IWF of 6.5 for top-loading machines and 4.7 for front loading machines. Standard residential clothes washers have a capacity of approximately 4 cubic feet.

The table below summarizes appliance standards over time.

Fixture and Appliance Standards Over Time

	1975	1980	1992	2009	2011	2013	2016	2018
Shower (gpm)	3.5	2.5	2.5	2.5	2.0	2.0	2.0	1.8
Toilets (gpf)	5.0	3.6	1.6	1.6	1.28	1.28	1.28	1.28
Kitchen Faucet/ Lavatory Faucet (gpm)	2.5	2.5	2.5	2.2	1.8	1.8/1.5	1.8/1.2	1.8/1.2
Clothes Washers (gal/cycle/cubic ft)	15.0	15.0	15.0	9.5	9.5	9.5	9.5	6.5/4.7*

Data for 1975 to 2013 from Consol and California Homebuilding Foundation. 2014. Codes and Standards Research Report, California's Residential Indoor Water Use.

Data for 2016 and 2018 from Appliance-Standards.org.

*top loading machine/front-loading machine

The table above illustrates that there is limited water savings potential in new California homes; existing homes, particularly those built prior to 1980 represent a huge source of potential water savings. Conversely, the age of the housing stock is an indication of the affect that codes and

standards likely have on water demands. If the majority of the housing stock is older, the effect of the codes and standards is limited. If the growth rate of the service area is slow, the effect of codes and standards is also limited.

The City has approximately 42,000 housing units; 70% of which were built before 1980. Since 2014 it is estimated that certificates of occupancy have been issued for less than 1,600 housing units. This means new housing meeting the newest water efficiency standards makes up less than 4% of the residences. However, with rebate programs, natural replacement of old or malfunctioning appliances, retrofit upon resale, or remodels, some of the older housing is likely water efficient.

The water demands for this UWMP utilize water demand factors developed in April 2020, which were used in the 2021 CWRR. These water demand factors have been applied to the existing and anticipated land uses in the Ventura Water service area. The water demand factors looked at billing data for the City, for various uses, for the period 2013 through 2018, a water loss factor was applied to the raw factor, and a planning-level contingency factor was applied to account for variability due to weather and drought. The water demand factors capture changes in demand due to aggressive water conservation and codes and standards that have occurred over time. Because growth in the Ventura Water service area is minimal (approximately 0.54% a year) it is not necessary to apply a different water demand factor to new dwellings. Applying an optimistically “low” water demand factor on new development could skew demand trends when it is uncertain if (a) the development will truly occur and (b) the development will have a truly low water demand.

2.5.1 Normal Year

The normal/average year is a year in the historical sequence that most closely represents median runoff levels and patterns. Projected water demands in a normal year are shown in Table 2-7. Table 2-7 provides estimates of demands in each year from 2025 to 2045 assuming growth in the service area consistent with the City General Plan (see Section 1.6) and assuming water demand grows at a similar rate to population. Projections assume similar customer water use as occurred 2015 to 2019.

The water projections in Table 2-7 are based on the City’s annual CWRR. The 2021 CWRR includes demand estimates based only on approved projects that would be fully vested by year 2025 and estimates demands to year 2030 using a growth rate of 0.54 percent. In addition, drought years are included in the baseline demand used in the CWRR. After year 2030 this UWMP assumes growth in demand of 0.54 percent. The projections in Table 2-7 assume a “normal” water year. In a normal water year, it is assumed that Drought Water Rates are no longer in effect and that various drought shortage restrictions are lifted. Demand in dry years is considered in the section below.

**TABLE 2-7
PROJECTED WATER USE 2025 TO 2045 - NORMAL YEAR (AF)**

Use Type	2025	2030	2035	2040	2045
Potable and Untreated Water Demand					
Single family	5,761	5,919	6,080	6,246	6,416
Multi-family	3,614	3,712	3,814	3,918	4,025
Commercial/Institutional/Industrial	3,378	3,471	3,565	3,663	3,763
Parks/Landscape/Irrigation	399	410	421	432	444
Other ^a	168	173	177	182	187
Water Loss ^b	908	933	958	984	1,011
<i>Total Potable and Untreated Water Demand</i>	<i>14,228</i>	<i>14,617</i>	<i>15,015</i>	<i>15,425</i>	<i>15,846</i>
Recycled Water	576	576	576	576	576
Total Water Demand	14,804	15,193	15,591	16,001	16,422

Notes:

a Other category includes authorized consumption for miscellaneous uses that do not fit the definition of the above (i.e., oil industry use, temporary construction water, and fire training).

b Water Loss assumed to grow at the same rate as water overall demands

2.5.2 Dry Years

2.5.3 Weather Effects on Water Usage

Historically, when the weather is hot and dry, water usage increases. The amount of increase varies according to the number of consecutive years of hot, dry weather and the conservation activities imposed. During cool-wet years, historical water usage has decreased to reflect less water usage for external landscaping.

California faces the prospect of significant water management challenges due to a variety of issues including regulatory restrictions, climate change, and population growth. Climate change is of special concern because of the range of possibilities and their potential impacts on water supplies. The most likely scenarios involve accelerated sea level rise and increased temperatures, which will shift more runoff to winter months. The other much-discussed climate scenario or impact is an increase in precipitation variability, with more extreme drought and flood events posing additional challenges to water managers¹¹.

However, the probability that water use will increase during dry conditions is countered by conservation actions, including drought rates, that may be implemented by Ventura Water, as has been done in the recent drought events. Over the past decade the water use per person (in GPCD) in the City's service area has seen a consistent decline. Ventura Water has experienced

¹¹ Final California Water Plan Update 2009 Integrated Water Management: Bulletin 160.

great success in water conservation after implementing multiple customer outreach and customer rebate programs and applying drought rates, as were first implemented in 2014 following a request for a 10 percent voluntary conservation by customers and a subsequent 20% mandatory conservation by customers. In 2015, drought rates were implemented. More information on Ventura Water’s demand management programs can be found in Chapter 6 of this UWMP. Table 2-8 projects demands during dry years and it is assumed that demands will increase by 10% in dry periods (Table 2-7).

**TABLE 2-8
PROJECTED WATER USE 2025 TO 2045 - DRY YEAR (AF)**

Use Type	2025	2030	2035	2040	2045
Potable and Untreated Water Demand					
Single family	6,337	6,511	6,688	6,870	7,058
Multi-family	3,975	4,083	4,195	4,309	4,427
Commercial/Institutional/Industrial	3,716	3,818	3,922	4,029	4,139
Parks/Landscape/Irrigation	439	451	463	476	489
Other ^a	185	190	195	200	206
Water Loss ^b	999	1,026	1,054	1,083	1,112
<i>Total Potable and Untreated Water Demand</i>	<i>15,650</i>	<i>16,079</i>	<i>16,516</i>	<i>16,967</i>	<i>17,430</i>
Recycled Water	576	576	576	576	576
Total Water Demand	16,226	16,655	17,092	17,543	18,006

Notes:

a Other category includes authorized consumption for miscellaneous uses that do not fit the definition of the above (i.e., oil industry use, temporary construction water, and fire training).

b Water Loss assumed to grow at the same rate as water overall demands

2.6 Low Income Projected Water Demands

Senate Bill 1087 requires that water use projections of an UWMP include the projected water use for single-family and multi-family residential housing for lower income households as identified in the housing element of any city, county, or city and county in the service area of the supplier. The City of San Buenaventura last updated its Housing Element in September 2013 for the 2014-2021 5th cycle of Regional Housing Needs Assessment (RHNA). The City Housing Element projects that 44 percent of households to be low-income (extremely low/very low/low) (City of San Buenaventura 2013). Despite this, the Housing Element does not provide any information that can be used to develop trends to calculate the associated water demand specific to low -income households in the Ventura Water service area.

Table 2-9 makes an estimate of future low-income household water demands in the Ventura Water service area. Table 2-8 assumes a similar occurrence of low-income households in the water service area as in the City of San Buenaventura (i.e., 40 percent). These demands are included (and are not in addition to) the water demands described in Tables 2-7 and 2-8.

Ventura Water will not deny or condition approval of water services, or reduce the amount of services applied for by a proposed development that includes housing units affordable to lower income households unless one of the following occurs:

- The City specifically finds that it does not have sufficient water supply.
- The City is subject to a compliance order issued by the Division of Drinking Water Services that prohibits new water connections.
- The applicant has failed to agree to reasonable terms and conditions relating to the provision of services.
- The City finds it is not in compliance with the City’s current Water Shortage Event Contingency Plan.

**TABLE 2-9
PROJECTED WATER USE LOW INCOME HOUSEHOLDS (AF)**

Water Use ^a	2025	2030	2035	2040	2045
Estimated Low-Income Household Water Use - Normal Year	4,125	4,238	4,353	4,472	4,594
Estimated Low-Income Household Water Use - Dry Years	4,537	4,662	4,788	4,919	5,053

Note:

a Assumes 44 percent all future households in Ventura Water service area qualify as “low” income per the definition provided in Senate Bill 1087.

Pursuant to Government Code Section 65589.7 the City is to grant priority for the provision of water and sewer services to proposed developments that include housing units affordable to lower income households.

Section 3: Water Resources

3.1 Overview

This section describes the water resources available to the City for the 25-year period covered by the Plan. Both currently available and planned supplies are discussed.

There are presently six distinct water sources providing water to the City water system.

- Casitas Municipal Water District (Casitas)
- Ventura River Foster Park Area (Foster Park)
- Mound Groundwater Basin (Mound Basin)
- Oxnard Plain Groundwater Basin (Oxnard Plain Basin)
- Santa Paula Groundwater Basin (Santa Paula Basin)
- Reclaimed water and reuse from the Ventura Water Reclamation Facility.

In addition, the City has a 10,000 AFY contract amount from the California State Water Project, which is not utilized within the City service area because currently there are no facilities to deliver the water to the City, but it is a planned supply (see Section 3.7.1 below).

3.1.1 Management of Supplies

The City operates its water supply system by utilizing a conjunctive use operating procedure. The procedure involves utilizing surface water (such as the Ventura River) during wet years, to the fullest extent possible, while letting groundwater sources rest. During dry years when the surface water source is reduced, the groundwater sources are pumped to meet demands.

Conjunctive use of the City's existing groundwater sources is limited by the requirement to maintain long-term production from the groundwater basins within their safe or operational yield. Conjunctive use of groundwater requires treatment and blending ratios to meet water quality goals.

Conjunctive use of potential future supply sources may include potable reuse or California State Water Project (SWP) water.

In the future, the City will continue delivering recycled water as occurs now (~576 AFY). The remainder of available recycled water will be delivered to the planned potable reuse facility, VenturaWaterPure.

3.1.2 Consideration of Supplies in Different Hydrologic Conditions

A primary purpose of an UWMP is to identify and quantify water supplies in a normal, single-dry, and multiple-dry years as follows.

- Normal year supply represents the supplies Ventura Water considers available during normal, long-term average conditions.
- The single dry-year supply is the supply anticipated to be available should there be a repeat of past dry conditions. In this UWMP Ventura Water has considered the driest year (for which data is available), by supply source, to estimate the overall single-dry year supply.
- The multiple dry year drought supply considers a five-consecutive-year drought. In this UWMP Ventura Water has evaluated the driest 5-year sequence (for which data is available), by supply source, to estimate supplies in year 1 through year 5 of a drought.

The UWMP Act requires that a supplier compare supplies and demands for these different hydrologic conditions. The UWMP does not try to anticipate specific hydrologic conditions in any particular year, however, the Act does require that a supplier compare supplies and demands assuming a drought extending from year 2021 to 2025. This section of the UWMP goes into details about supplies available in different hydrologic year types, the reader is directed to Section 6 for the comparison of supplies and demands for different hydrologic year types.

3.2 Local Surface Water

3.2.1 Casitas Municipal Water District (Casitas)

Casitas operates and maintains the Ventura River Project, a part of which is the 238,000 AF capacity storage reservoir known as Lake Casitas. Casitas diverts and stores storm water runoff to Lake Casitas for subsequent filtration treatment and supply of potable water to agricultural and urban uses in western Ventura County. The Casitas service area includes the Ojai Valley, the western part of the City, Oak View, Upper Ojai Valley, and the coastal area between the City and Santa Barbara County.

In July 1995, the City signed an operating agreement with Casitas, establishing the City's minimum annual purchase at 6,000 AFY, which was subject to the allocation program described below during drought periods. In May 2017, the City Council and Casitas Board of Directors approved a new Water Services Agreement between the City and Casitas that establishes that Casitas shall supply the City with sufficient water to meet its in-district projected water demand (this agreement is provided as Appendix G). The present five-year (FY 09-10 to FY 13-14) average normal (non-drought) water supply from Casitas is estimated to be 5,062 AFY.

The demand from the proposed development projects that are anticipated to be utilizing water by Fiscal Year 2020 are added to the five-year average normal (non-drought) water supply from Casitas of 5,062 AFY. Projects completed since fiscal year 2014 and projects expected to be completed within calendar year 2020 are assumed to be utilizing water in Fiscal Year 2020. The supply from Casitas is estimated to be 5,425 AFY.

Over the last two years, Casitas has been working to develop its Comprehensive Water Resources Plan and update the yield model for Lake Casitas to incorporate more recent data related to storage capacity, diversion efficiency, hydrology, climate change, and other factors. On April 21, 2021, the Casitas Board of Directors directed staff to reduce the available supply yield for the Casitas System from 20,840 acre-feet per year (AFY) to

15,010 AFY for planning purposes. The Board also directed staff to use a planned demand of 15,525 AFY, which is based on average water production for the Casitas System over the last 10 years (Calendar Year 2011-2020). Based on these actions, Casitas plans to adjust the baseline allocations for its customers and update its Water Event Action Plan (WEAP) ahead of the 2022/2023 Fiscal Year. The City of Ventura will coordinate with Casitas-after its WEAP has been updated, to determine if revisions to the 2017 Water Services Agreement are warranted. If adjustments are made to the City's allocation, then this document will be amended at that time.

3.2.1.1 Reliability – Water Quality

Treated surface water from Lake Casitas has historically had levels of disinfection by-products that occasionally exceeded the respective maximum contaminant levels (MCLs) for total trihalomethanes (TTHMs) and haloacetic acids (HAAs). In cases when the levels of TTHMs and HAAs are exceeding or near exceeding the respective MCLs, the City will typically reduce the intake of Casitas water until the issue passes.

Casitas will be implementing potential treatment options to reduce the formation of disinfection by-products in their finished water. In the interim the City will be exploring options at its treatment facility to further reduce the level of disinfection by-products detected in the delivered water.

3.2.1.2 Reliability – Other

No infrastructure issues that may limit planned use of water from Lake Casitas have been identified.

3.2.1.3 Reliability – Water Year Type

The 2017 Water Services Agreement between the City and Casitas indicates that, in the event that Casitas must enact its Water Efficiency and Allocation Program (2015 WEAP) due to a water shortage, Casitas may adjust the City's allocation consistent with the percentage reduction for the WEAP stage.

Casitas has assigned five stages of water storage in Lake Casitas that serve as a guidance to triggering the implementation of water use reduction goals and measures.

Stage Conditions from Casitas Municipal Water District's "Water Efficiency and Allocation Program" dated May 9, 2018

Stage	Stage Title	Lake Casitas Storage (%)	Demand Reduction
1	Water Conservation	100% to 50%	0%
2	Water Shortage Warning	50% to 40%	20%
3	Water Shortage Imminent	40% to 30%	30%
4	Severe Water Shortage	30% to 25%	40%
5	Critical Water Shortage	25% to 0%	50%

As of February 2020, Casitas was in a Stage 3 water supply condition per Casitas Resolution No. 16-00. The lake level as of February 19, 2020 was 41.6 percent full. The Casitas Board of Directors made the decision to remain in a Stage 3 water supply condition in June of 2020.

The Water Services Agreement between Casitas and the City specifies that the City's Stage 1 Allocation shall be the average of the City's Projected Water Demand during the five (5) most recent years during which neither the City nor Casitas are implementing their water shortage contingency plans. The projected water demand from the past five non-drought fiscal years (FY 09-10 to FY 13-14) certification letters from the City to Casitas including demand associated with land use change is 5,425 AFY. A Stage 3 demand reduction of 30% would result in a supply of 3,798 AFY.

Although the Lake is currently slightly above 40% capacity, it is likely that Casitas will remain in a Stage 3 water supply condition. In order to be conservative, this report assumes a reduction of 30% to the City's Casitas supply for the 2021 Supply Drought Impact and a 40% reduction for 2022.

Consistent with the DWR Guidebook, this UWMP evaluates supplies and demands in different hydrologic year types based on past years. For the average year, supply available in 2013 was used; 2014 was selected for the single-dry year; and a repeat of the multi-dry period from 2014-2018 is used to approximate supplies for future long-term droughts. This information is used in coordination with the anticipated WEAP stage and anticipated water demand growth in the portion of the City within Casitas to estimate supply, as reflected in Table 3-1.

**TABLE 3-1
ESTIMATED SUPPLY FROM CASITAS MUNICIPAL WATER DISTRICT (AFY)**

	2025	2030	2035	2040	2045
Normal Year ¹	5,805	5,963	6,126	6,293	6,465
Single-Dry Year	5,805	5,963	6,126	6,293	6,465
Multi-Year Drought					
Year 1	5,805	5,963	6,126	6,293	6,465
Year 2	4,644	4,771	4,901	5,035	5,172
Year 3	4,064	4,174	4,288	4,405	4,526
Year 4	4,064	4,174	4,288	4,405	4,526
Year 5	4,064	4,174	4,288	4,405	4,526

¹ Given the current level of Lake Casitas, Normal supplies may not be available even if average rainfall occurs in a specific year.

3.2.2 Ventura River

Production from the Ventura River is a function of several factors including diversion capacity, local hydrology, environmental impacts, and the storage capacity of the Ventura River alluvium and upstream diversions. Currently all Ventura River water is collected using surface diversion, subsurface collectors, and shallow wells. A surface intake structure at Foster Park is unused due to the natural channeling of the active river system bypassing the structure.

3.2.2.1 Reliability – Water Quality

Surface water from the Ventura River contains natural organics, which results in the formation of disinfection by-products during the treatment and disinfection processes. Turbid water and high levels of organics, such as after heavy rainstorms, can result in treatment issues and high levels of disinfection by-products in the finished water. During these times, which typically occur during rainy months, water from the Ventura River may be significantly reduced until the water quality improves. The City will be implementing potential treatment options to reduce the formation of disinfection by-products in the finished water.

3.2.2.2 Reliability – Other

Production wells at Foster Park were destroyed during 2001 and 2005 storm events. These events have reduced the City's ability to extract water from Foster Park to a maximum capacity of 4,200 AFY. The 2020-2026 Capital Improvement Program includes the Foster Park Wellfield Production Restoration project. The project involves the replacement of the destroyed wells and construction of new facilities to restore historical production capabilities of 6,700 AFY during wet years. Therefore, the projected future water supply from the Ventura River / Foster Park is 4,200 AFY.

3.2.2.3 Reliability – Water Year Type

Due to continued drought conditions and heightened environmental requirements, the City's ability to draw water from the Ventura River continues to be significantly challenged and impacted. The City entered into a settlement with Santa Barbara Channelkeeper in 2019, which was amended in 2020, which requires the City to modify its pumping based on reduced flows in the Ventura River. The current agreement requires the City to turn off the Nye Wells 7 and 8 when the daily average flow rate in the River drops below 4 cubic feet per second (cfs) (for three consecutive days), and to cease operations at the intake facility when flows drop below 3 cfs (for three consecutive days) as measured at the City's stream gauge upstream of Foster Park (VR1). The intake may be shutdown sooner if flows in the River recede quickly.

To evaluate supply into the future, in different year types, historic supply from past years has been evaluated. For the normal year, supply available after 2005 was used; 2015 was selected for the single-dry year; and a repeat of the multi-dry period from 2015-2019 is used to approximate supplies in for future long-term droughts. These supplies have been modified as necessary to reflect assumptions about regulatory and environmental requirements into the future. See Table 3-2.

**TABLE 3-2
ESTIMATED SUPPLY FROM VENTURA RIVER (AFY)**

	2025	2030	2035	2040	2045
Normal Year	4,200	4,200	4,200	4,200	4,200
Single-Dry Year	1,298	1,298	1,298	1,298	1,298
Multi-Year Drought					
Year 1	1,298	1,298	1,298	1,298	1,298
Year 2	1,298	1,298	1,298	1,298	1,298
Year 3	1,298	1,298	1,298	1,298	1,298
Year 4	1,298	1,298	1,298	1,298	1,298
Year 5	1,298	1,298	1,298	1,298	1,298

3.3 Groundwater

The City obtains water from three groundwater basins, which have historically provided roughly an average of 8,750 AFY (from 2016 to 2020), or 65 percent of the City’s total supply. Table 3-3 shows the historical production from these basins. These groundwater basins are described below.

**TABLE 3-3
HISTORIC GROUNDWATER PRODUCTION (AFY)**

Basin Name	Metered or Unmetered	2016	2017	2018	2019	2020
Mound Basin	Metered	2,671	1,397	2,529	3,286	2,371
Oxnard Plain Basin	Metered	3,702	3,825	3,317	3,323	3,691
Santa Paula Basin	Metered	2,898	2,593	3,096	2,509	2,544
	<i>Total</i>	9,271	7,815	8,942	9,118	8,605
Groundwater as a % of Total Supply		67%	57%	66%	70%	63%

3.3.1 Mound Groundwater Basin

The Mound Groundwater Basin is identified in DWR Bulletin 118¹², 2003 Update as the Mound Subbasin of the Santa Clara River Valley Groundwater Basin (Basin No. 4-4.03). The basin

¹² Bulletin 118 describes the occurrence and nature of groundwater in California. The publication officially defines groundwater basin boundaries and provides information for each of the State’s hydrologic regions. For more information, please see: <https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118>

underlies the northern part of the Ventura coastal plain and is bounded on the north by the Santa Ynez and Topa Topa Mountains, on the south by the Oak Ridge and Saticoy faults, the northeast by the Santa Paula Subbasin, and the west by the Pacific Ocean.

The Mound Basin is designated high-priority by DWR and the Mound Basin Groundwater Sustainability Agency (MBGSA) has been recognized by DWR as the GSA for the basin. The MBGSA was formed through a Joint Exercise of Powers Agreement (JPA) by and among the United Water Conservation District (UWCD), the City, and the County of Ventura. In addition to representatives from each of the 3 member agencies, the Board of Directors includes an agricultural stakeholder director and environmental stakeholder director. The Mound Basin GSA is required to develop a Groundwater Sustainability Plan that establishes the sustainable yield of the Mound Basin by January 2022.

The Mound Groundwater Basin has historically provided water for overlying beneficial uses and satisfies agricultural, municipal, and industrial demands. Historical use has been documented to temporarily exceed the yield of the basin and result in water levels that have fallen below sea level and created a threat of seawater intrusion. To abate this threat the City abandoned its historical coastal well facilities and located groundwater extraction near the center of the Mound Basin. A report (Fugro 1997) compiled as part of a 1996 study of the basin indicated that historical data supports a basin yield of at least 8,000 AFY during drought conditions as long as pumping is reduced during wet years to allow water levels to recover. The City's average annual extraction from 2000 to 2009 was approximately 4,000 AFY. The remainder of the available yield is utilized by other basin users.

3.3.1.1 Reliability – Water Quality

The Mound Groundwater Basin has elevated total dissolved solids (TDS) and sulfate. Ventura Water blends Mound Basin groundwater with other sources to reduce TDS. While City of San Buenaventura water meets all applicable primary standards, City water does have TDS concentrations that exceed secondary standards (standards set for aesthetic, taste, and odor rather than protection of public health). Water quality is not considered a limitation for using supplies from the Mound Groundwater Basin, but the City continues to look for ways to improve the quality, such as blending with future water supply sources.

3.3.1.2 Reliability – Other

Currently, two City wells withdraw water from the Mound Groundwater Basin: Victoria Well No. 2, which was installed in 1995, and Mound Well No. 1, which began production in April 2003. Pumping from Victoria Well No. 1, which was installed in 1982, was discontinued due to maintenance and water quality issues. The City recently reached an agreement with the County on deeding to the County its interest in Victoria Well No. 1 and leasing land for drilling of Mound Well No. 2. Construction of Mound Well No. 3 is currently in progress and is scheduled to be in production in 2021. Design of Mound Well No. 2 is also in progress and scheduled to be in production in 2022. Mound Well No. 2 will serve as a replacement well for Victoria Well No. 1; Mound Well No. 3 will serve as a backup well.

Due to operational constraints, recent production from the Mound Basin has been lower than the historical 10-year average. Victoria Well No. 2 was not operational in 2020, so the only well producing water from Mound Basin in 2020 was Mound Well No.1. The City's current water supply from the Mound Basin is the current average production rate of Mound Well No. 1 or

2,400 AFY. In the near future, once Mound Wells No. 2 and 3 are operational, production from the Mound Basin will increase.

3.3.1.3 Reliability – Water Year Type

The City finalized a study in March to review the perennial yield of the Mound Basin and determine if the annual average yield of the basin is still believed to be accurate. The Report concludes that the perennial yield of the Mound Basin is between 6,600 and 7,400 AFY. While this is consistent with the long-term average production, it is lower than the average production from 2000-2009 (which is used to determine the City's capacity of 4,000 AFY). The Mound Basin GSA will utilize this analysis in conjunction with other information to determine the Sustainable Yield of the Mound Basin as defined by SGMA. This analysis will not be complete until the Groundwater Sustainability Plan is submitted in 2022.

The groundwater basin is managed over the long-term and variations in year-to-year supply are not anticipated at this time. For this reason, the City's anticipated basin yield, in all hydrologic years, is based on "Fugro West, Inc. June 1997. Mound Groundwater Basin Annual Report" and set at 4,000 AFY.

3.3.2 Oxnard Plain Groundwater Basin

The Oxnard Plain Groundwater Basin is identified in DWR Bulletin 118, 2003 Update as the Oxnard Subbasin of the Santa Clara River Valley Basin (Basin No. 4-4.02), located in southern Ventura County. The basin is bounded on the north by the Oak Ridge fault, the south by the Santa Monica Mountains, the east by the Pleasant Valley and Las Posas Valley Basins, and the west by the Pacific Ocean.

Wells near the Buenaventura Golf Course pump from the Fox Canyon Aquifer of the Oxnard Plain Groundwater Basin. Currently, three wells, Golf Course Wells No. 5, 6, and 7 produce potable water for the City's system. Average annual yield from the City's Golf Course wells over the past 5 years has been about 3,500 AFY.

There are limited carryover provisions provided by the FCGMA in the Oxnard Plain Basin that do allow the City to pump less water in wet years and more water in dry years, but all water must be pumped within five years

3.3.2.1 Reliability – Water Quality

The Oxnard Plain Groundwater Basin has elevated TDS. Ventura Water blends Oxnard Plain Basin groundwater with other sources to reduce TDS. While City of San Buenaventura water meets all applicable primary standards, City water does have TDS concentrations that exceed secondary standards (standards set for aesthetic, taste, and odor rather than protection of public health). Water quality is not considered a limitation for using supplies from the Oxnard Plain Groundwater Basin, but the City continues to look for ways to improve the quality, such as blending with future water supply sources.

3.3.2.2 Reliability – Other

No infrastructure issues that may limit planned use of water from the Oxnard Plain Groundwater Basin have been identified.

3.3.2.3 Reliability – Water Year Type

The Oxnard Plain Groundwater Basin is managed by the Fox Canyon Groundwater Management Agency (FCGMA), which was created by state legislation in an effort to reduce overdraft and stop seawater intrusion. The FCGMA is the Groundwater Sustainability Agency (GSA) for the Oxnard Plain. The Groundwater Sustainability Plan for the Oxnard Subbasin, provided in Appendix H, was completed in December 2019.

At the October 23, 2019 meeting of the FCGMA Board of Directors, there was a unanimous vote to adopt the ordinance for a new pumping allocation system for the Oxnard and Pleasant Valley basins, effective October 1, 2020. The new well-based allocation will be the average pumping for the base period of 2005-2014. On December 12, 2019, the FCGMA Board voted to repeal portions of some past drought ordinances and this set the City's pumping allocation in the Oxnard Plain Basin to 4,827 AFY effective January 1, 2020.

Neither the allocation ordinance nor the GSP establish the pumping reductions that will take place to meet the sustainable yield for the Oxnard Plain Basin. However, the GSP suggests a linear ramp down from current pumping to the estimated sustainable yield by 2040. Based on these estimates, the City can expect (without additional projects being implemented) its allocation to decrease by 44% by 2040. Therefore, the projected future supply for the Oxnard Plain Basin are projected to decline from 5,304 AFY to 2,970 AFY.

3.3.3 Santa Paula Groundwater Basin

The Santa Paula Groundwater Basin is identified in DWR Bulletin 118, 2003 Update as the Santa Paula Subbasin (Basin No.4-4.04). The basin is bounded on the north by the Topa Topa Mountains, the south by the Oak Ridge and South Mountain, the Oak Ridge fault, and the Saticoy fault, the east by a bedrock constriction, and the west by the Oxnard Plain and Mound subbasins. Water from the Santa Paula Basin is extracted through Saticoy Wells No. 2 and No. 3, with a peak pumping capacity of 3,000 GPM.

The management of the Santa Paula Basin was established under a court stipulated judgment entered in 1996 and amended and restated in 2010 (provided in Appendix I). United, the Santa Paula Basin Pumpers Association and the City are all parties to the Judgement. In summary, the Judgment adjudicates groundwater rights, regulates individual and collective pumping, provides for basin management through a Technical Advisory Committee (TAC), and reserves jurisdiction in the Superior Court to resolve future disputes and provide for supplementary orders as necessary. Because the Santa Paula Basin is already managed per a stipulated judgment, it is exempt from most provisions of SGMA.

The Santa Paula Basin Judgment allows the City to utilize 3,000 AFY. The City is not limited to this allocation in any single year but may produce seven times its average annual allocation (21,000 AF) over any running seven-year period. In addition, the City has acquired water rights in the amount of 126 AFY, bringing its current total allocation to 3,126 AFY.

3.3.3.1 Reliability – Water Quality

The Santa Paula Groundwater Basin has elevated TDS and requires treatment for iron and manganese. Water quality is not considered a limitation for using supplies from the Santa Paula

Basin, but the City continues to look for ways to improve the quality, such as blending in the future with SWP water.

3.3.3.2 Reliability – Other

The City currently relies on Saticoy Well No. 3 for production and utilizes Saticoy Well No. 2 as an occasional back-up supply due to decline in production. The estimated annual production capacity for Well No. 3 is 2,450 AFY. The City is planning to construct replacement well Saticoy Well No. 4, which is anticipated to be producing water in 2025.

3.3.3.3 Reliability – Water Year Type

If the monitoring performed by the TAC determines that groundwater safe yield is being exceeded, then the City may have its pumping allocation reduced. Upon and motion and hearing as prescribed in the Judgment, if the Court finds that the safe yield of the Basin is less than the total pumping allocations, the Judgment describes six “Overdraft” stages and requires reduced production at each stage.

- Stage 1: Affects the pumping allocation of the Santa Paula Basin Pumpers Association and not the City.
- Stage 2: City of San Buenaventura pumping limited to 1,141 AFY.
- Stage 3: City of San Buenaventura pumping limited to 641 AFY.
- Stage 4: City of San Buenaventura pumping limited to 481 AFY.
- Stage 5: City of San Buenaventura allocation is reduced to zero.
- Stage 6: Affects the pumping allocation of the Santa Paula Basin Pumpers Association.

If the above Stages were to go into effect, the City’s allocation from acquired water rights would be reduced proportionally by the same percentage reduction then required by the members of the Santa Paula Basin Pumpers Association. There is also an exception in the Judgment for emergency conditions for the City to reasonably supply public needs.

Based on recent work completed by the technical working group regarding conditions in the Basin, it is projected that no Stage reductions will be implemented even if the drought remains in effect through 2021. It is also projected that under normal conditions, that the allocation will remain at 3,000 AFY with the addition of water rights equaling 126 AF.

The groundwater basin is managed over-long term and variations in year to year supply are not anticipated. For this reason, anticipated basin yield, in all hydrologic years, is based on the original City allocation plus 126 AFY for City acquired water rights.

3.4 Groundwater Supplies Normal, Single-Dry and Multiple Dry Year

Table 3-4 depicts the anticipated groundwater supplies during Normal, Single-Dry, and Multiple Dry Years, by groundwater source.

**TABLE 3-4
PROJECTED GROUNDWATER SUPPLIES FOR DIFFERENT YEAR TYPES (AFY)**

	2025	2030	2035	2040	2045
Normal Year					
Mound Basin	4,000	4,000	4,000	4,000	4,000
Oxnard Plain Basin	4,813	4,199	3,584	2,970	2,970
Santa Paula Basin	3,126	3,126	3,126	3,126	3,126
<i>Total Normal Year</i>	<i>11,939</i>	<i>11,325</i>	<i>10,710</i>	<i>10,096</i>	<i>10,096</i>
Single-Dry Year					
Mound Basin	4,000	4,000	4,000	4,000	4,000
Oxnard Plain Basin	4,813	4,199	3,584	2,970	2,970
Santa Paula Basin	3,126	3,126	3,126	3,126	3,126
<i>Total Single-Dry Year</i>	<i>11,939</i>	<i>11,325</i>	<i>10,710</i>	<i>10,096</i>	<i>10,096</i>
Multiple-Dry Years					
Mound Basin	4,000	4,000	4,000	4,000	4,000
Oxnard Plain Basin	4,813	4,199	3,584	2,970	2,970
Santa Paula Basin	3,126	3,126	3,126	3,126	3,126
<i>Total Multiple-Dry Year</i>	<i>11,939</i>	<i>11,325</i>	<i>10,710</i>	<i>10,096</i>	<i>10,096</i>

Note:

In multiple dry years additional groundwater may be utilized to meet demands when surface water supplies are reduced (conjunctive use).

3.5 Recycled Water and Reuse

Recycled water is a current and future source for Ventura Water. Recycled water is detailed in Chapter 4.

3.6 Transfers, Exchanges and Groundwater Banking Programs

Water supplies may be purchased from other water agencies and sources, and the City may explore these opportunities in the future.

As described in Section 3.7.1, the City of San Buenaventura has participated in the SWP turnback pool and exchanged SWP with other State Water Contractors (San Geronio Pass Water Agency). Participation in the turnback pool could be considered a transfer.

City does not participate in any official groundwater banking programs. The City has limited ability to bank groundwater. The limited carryover provisions provided by the FCGMA in the Oxnard Plain Basin does allow the City to pump less water in wet years and more water in dry years, but all water must be pumped within five years. In the Santa Paula Basin, the allocation is based on a seven-year running average, so the City can also pump more in dry years and less in wet years as long as the 7-year total is not exceeded in any given 7-year period.

3.7 Planned Water Supply Projects and Programs

Continued new and infill development that is already entitled, along with anticipated future entitlements, will continue to increase overall demand for water in the service area, despite developer contributions to future water supplies through dedication of water rights, implementing extraordinary conservation measures, and/or payment of Water Resource Net Zero fees. Consequently, combined with legal and regulatory requirements on both groundwater and surface water supplies and impacts of climate change, the City has recognized that consumption is nearing available supply and new supply projects need to be implemented. Consistent with Article X, Section 2 of the California Constitution, in order to mitigate the water resource impacts of new or intensified development, it is necessary and desirable for new or intensified development to provide supplemental water resources to the City water system in an amount proportional to the new demand, implement extraordinary conservation measures to offset demand, and/or to pay a water resource fee based upon the cost of obtaining water supplies to meet the demand of new or intensified development. Upon direction from City Council, Ventura Water prepared and evaluated a Water Rights Dedication and Water Resources Net Zero Policy (Net Zero Policy). The Net Zero Policy was developed after months of review and input from the Ventura Water Commission. The City Council adopted the Net Zero Policy in Ordinance 2016-004 and Resolution 2016-027. Revenues from the Net Zero Policy will provide funding for new water supply projects, such as the VenturaWaterPure Program.

Revenues from rates, grants, and loans will finance the following planned supply projects:

- SWP Water
- VenturaWaterPure

Ventura Water has conceptually studied ocean desalination. However, in the Ventura Water Supply Projects Environmental Impact Report (EIR), it was only evaluated at the programmatic level and not the project level of detail. Further evaluation would be required if ocean desalination were pursued as a future supply source.

3.7.1 SWP Water

The City does not physically take SWP Water because it lacks the facilities to do so. However, since at least 1999 has sold, transferred, or exchanged the water to other SWP Contractors. The City has a 10,000 acre-foot per year entitlement from the SWP. The base contractual agreements concerning the City's annual entitlement to 10,000 acre-feet of SWP are: (1) the 1963 State Water Supply Contract of 20,000 acre-feet entitlement of SWP water between the Department of Water Resources (DWR) and Ventura County Watershed Protection District (VCWPD) known formerly as Ventura County Flood Control District (VCFCD); (2) the 1970 agreement between VCFCD and Casitas known formerly as the Ventura Municipal Water District that assigned the 20,000 acre-feet entitlement to Casitas; and (3) the 1971 agreements between Casitas and the City providing the City with an annual entitlement of 10,000 acre-feet and Casitas and United with an annual entitlement of 5,000 acre-feet each.

In the contract with Casitas, the City retains full authority and responsibility for determining the point and method of delivery of the allocation. To date, the City has not constructed the improvements necessary to receive direct delivery of its allocation.

The City pays annual SWP Table A water fees to DWR, which cover construction costs for SWP facilities and administration to deliver allotments of water throughout the state. In addition, the citizens of Ventura participated in an advisory vote on November 3, 1992 and selected desalinating seawater over importing water through the SWP, as the preferred supplemental water supply option. However, based on the City Attorney Office's review of the City's SWP Table A water, the City cannot unilaterally end its involvement in the SWP's financial obligations and SWP Table A water without great risk.

The Monterey Amendment to the State Water Contract in 1999 provided the City a formal mechanism to allow the City to place their SWP water into a "turn back" pool to be purchased by other SWP contractors. The City has taken part in the SWP "turn back" pool over the past several years which has provided a small annual revenue offset. Since 2018, the City has participated in exchanges with San Geronio Pass Water Agency which allows the City to receive revenue to offset current SWP fixed costs and receive additional SWP in the future. The City has also worked recently with United who requested to receive the City's allocation at the "turn back" pool rate which provided water benefits to the County area as a whole.

On January 23, 2017, City Council authorized an alignment study to determine how the interconnection project could be designed and operated to supply water to serve the regional needs of the City, Calleguas, Casitas Municipal Water District, and United Water Conservation District (United). The final alignment study was completed in 2018, and the environmental review process pursuant to CEQA was commenced.

On August 5, 2019, the City of San Buenaventura City Council voted to certify the State Water Interconnection Project Final Environmental Impact Report. As stated in the Final EIR, the project will enable delivery of SWP water by wheeling through Metropolitan Water District of Southern California and Calleguas to the City. The connection will also facilitate direct delivery of SWP water to United and direct or in-lieu delivery of SWP water to Casitas. In addition, the interconnection would allow the City to deliver water to Calleguas during an outage of its imported water supplies and for Calleguas to deliver water to the City during an outage of the City's water supplies. In both outage scenarios, water delivered would be returned by the receiving party to the providing party following the outage. The interconnection will be a pipeline used to transport water between Calleguas' and the City's distribution systems. The pipeline will be approximately 7 miles in length originating in the eastern portion of the City, traversing southerly and easterly through unincorporated Ventura County, to the southwestern end of the City of Camarillo. Final design on the Interconnection began in mid-2020 and construction is anticipated to start the end of 2022.

Benefits to the City include making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River, and groundwater), improving water quality, and providing a backup supply for the City's other potential, long-term water supply options. Operational details will be developed through the project design and planning process and negotiations with project partners. These details will be reflected in future CWRRs and UWMPs when available.

While the City's water supply contract for SWP water provides the City with a maximum annual allocation of 10,000 AF, the actual allocation of available water is set DWR annually. DWR allocations are finalized in the Spring of each year and consider the following:

- hydrologic conditions

- existing storage in reservoirs
- operational and regulatory constraints
- contractor demands

To improve system water quality, Ventura Water anticipates using approximately 1,300 AF of SWP in any year it is available, but this amount may increase to compensate for deficiencies in other supply sources or decrease based on the amount of SWP that might be available.

While the City of San Buenaventura’s SWP entitlement (Table A Entitlement) is 10,000 AFY this amount is not the long-term average supply expected. According to Department of Water Resources, Technical Addendum to the State Water Project Final Delivery Capability Report 2019 (August 26, 2020) Table B-32. Ventura County Watershed Protection District Future Conditions:

- The Long-Term Average delivery of SWP to the City of San Buenaventura will be 54% of the Table A Entitlement (5,400 AFY). So, 5,400 AFY is the assumed SWP Normal Year Supply. The City estimates it will need 1,300 AFY to blend with groundwater to improve water quality. Additional water may be used to rest groundwater sources in wet years or if other sources are unavailable.
- The State Water Project Final Delivery Capability Report is based on hydrology from 1922 to 2003 (e.g., the current modeling does not consider years past 2003, including 2015). The single-dry year delivery was in year 1977 and (had the City of San Buenaventura had a means to take the water) delivery would have been 9% of Table A or 900 AFY – this is the Single-Dry Year Supply, according to the 2020 SWP Delivery Capability Report.
- The driest 5-year period would be if years 1930-1934 were replicated.
 - In 1930 about 20% of allocation was available, or about 2,000 AF
 - In 1931 about 33% of allocation was available, or about 3,300 AF
 - In 1932 about 13% of allocation was available, or about 1,300 AF
 - In 1933 about 38% of allocation was available, about 3,800 AF
 - In 1934 about 11% of allocation was available, about 1,100 AF

These amounts may be supplemented based on an agreement with San Geronio Pass Water Agency (SGPWA). In 2018 and 2019, the City executed agreements with SGPWA to exchange its State Water Project Allocation. As a result of these agreements, SGPWA is obligated to return 2,075 AF of water to City by 2030 (Ventura Water 2021).

3.7.1.1 Delta Reliance

In the future, a small portion of the water received by Ventura Water may come from the Sacramento-San Joaquin Delta (Delta). The 2020 UWMP Guidebook describes how urban water suppliers that anticipate participating in or receiving water from a “covered action” related to the Delta should provide information in their 2020 UWMPs to demonstrate consistency with *Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water*

Self-Reliance (Reduced Reliance Policy). DWR has suggested that any entity receiving imported water from the SWP should anticipate being part of a “covered action”.

DWR suggests suppliers do the following to demonstrate consistency with WR-P1:

- *Establish a base period for evaluation of Delta water.* Ventura Water has not taken Delta water directly in the past. Rather Ventura Water has paid for participation in the SWP and in some years participated in the “turnback pool” to recoup some costs or sold/exchanged/transferred to others.
- *Provide data on State Water Project Water received in the past.* No SWP water has been received directly in the past.
- *Provide information on supplier contribution to regional self-reliance (local supplies brought online 2010-2045 in 5-year increments).* Ventura Water has been locally self-reliant for its entire history. To improve local supplies, starting in 2010 Ventura Water developed a recycled water system capable of delivering 700 AFY. Starting in 2025 Ventura Water anticipates producing and utilizing 2,800 AFY advanced treated water (VenturaWaterPure, see section 3.7.2). This has been accompanied with aggressive measures to reduce demand, including public outreach and drought rates. There has been a consistent decline in gallons per capita per day, demonstrating the success of water use efficiency for improving local self-reliance.
- *Project SWP water that will be received by Ventura Water through 2045.* Ventura Water anticipates taking an average of 1,300 AFY SWP starting in year 2025.

Data related to Delta reliance is provided in Appendix J.

3.7.2 VenturaWaterPure

The City of San Buenaventura is currently in the planning phases for the proposed VenturaWaterPure Program which includes additional diversion of tertiary treated effluent discharge from the Santa Clara River Estuary to a new proposed Advanced Water Purification Facility (AWPF) for potable reuse. Potable reuse is the proven use of recycled water to supplement drinking water supplies. After years of special studies, environmental assessment, demonstration facility testing, and stakeholder meetings, the City determined the best way to enhance environmental protection while improving local water quality and supply reliability is to divert highly treated wastewater discharges for potable reuse. The final product of this state-of-the-art AWPF would be a new, locally owned source of highly purified drinking water that provides the City of San Buenaventura with a long-term drought resilient water supply solution. On October 14, 2019, the City of San Buenaventura City Council unanimously voted to certify the EIR for the Ventura Water Supply Projects, which included a project level environmental review of the VenturaWaterPure Program. The City is currently working on the next steps on this Program including land acquisition, permitting, final design, and bidding for construction.

Based on the completion of the Special Studies and additional assessments detailed in the Final EIR, the future water supply provided by the VenturaWaterPure Program is projected to be at least 2,800 AFY in Phase 1a and 4,000 AFY in Phase 1b.

3.7.3 Ocean Desalination

In 2013, City staff was engaged in discussions with local water agencies in regard to potential regional desalination projects. In the City's 2015 UWMP, seawater desalination was included as a potential future part of the City's long term water supply portfolio and as an additional emergency water supply during times of drought. The desalination facility would be designed with a delivery capacity of up to 2.7 million gallons per day or 3,000 AFY.

According to the Ventura Water Supply Projects EIR certified on October 14, 2019, if sufficient water supply is not available from the VenturaWaterPure Program, then the City may need to develop desalination facilities to meet future water supply needs. Phase 2 of the proposed projects would augment water supplies to meet future water needs, including the accommodation of planned growth, either through increasing the amount of recycled water produced, or construction of an ocean desalination facility. This would be accomplished through either the expansion of the AWP as a first option pending regulatory approvals, or, if this option is not approved or does not meet the City's water supply needs, through construction of an ocean desalination facility. Since ocean desalination was only evaluated at a program level in the Ventura Water Supply Projects EIR and environmental impacts were not evaluated in detail, ocean desalination is not quantified as a potential additional future supply source.

3.8 Anticipated Water Supply Sources in Normal, Single Dry, and Multiple Dry Years

Table 3-5 shows Ventura Water supplies in 2020. Tables 3-6, 3-7, and 3-8 provide details on supplies anticipated to be available to Ventura Water in average/normal, single-dry, and multiple dry years given existing and planned supplies.

**TABLE 3-5
WATER PRODUCTION CALENDAR YEAR 2020 (AF)**

Water Supply Source	Volume (AF)	Type
Casitas Municipal Water District ^a	2,533	Drinking Water
Ventura River ^b	2,417	Drinking Water
Groundwater ^c	8,606	Drinking Water
Recycled Water ^d	564	Recycled Water
Total Supplies	14,120	

Notes:

- a City records
- b See Section 3.2.2.
- c See Section 3.3
- d See Section 4.1.1

**TABLE 3-6
WATER SUPPLY ESTIMATES - AVERAGE/NORMAL YEAR (AF)**

Water Supply Source	2025	2030	2035	2040	2045
Casitas Municipal Water District ^a	5,805	5,963	6,126	6,293	6,465
Ventura River ^b	4,200	4,200	4,200	4,200	4,200
Groundwater ^c	11,939	11,325	10,710	10,096	10,096
Recycled Water ^d	576	576	576	576	576
SWP Water ^e	1,300	1,300	1,300	1,300	1,300
Planned Potable Reuse ^f	0	2,800	4,000	4,000	4,000
Total Supplies ^g	23,820	26,164	26,912	26,465	26,637

a See Table 3-1

b See Table 3-2

c See Table 3-4

d See Section 4.1

e See Section 3.7. The City estimates it will need 1,300 AFY to blend with groundwater to improve water quality. Additional water may be used to rest groundwater sources in wet years or if other sources are unavailable.

f See Section 3.7.

g Maximum supplies do not account for reduction to meet water quality objectives.

**TABLE 3-7
WATER SUPPLY ESTIMATES - SINGLE-DRY YEAR (AF)**

Water Supply Source	2025	2030	2035	2040	2045
Casitas Municipal Water District ^a	5,805	5,963	6,126	6,293	6,465
Ventura River ^b	1,298	1,298	1,298	1,298	1,298
Groundwater ^c	11,939	11,325	10,710	10,096	10,096
Recycled Water ^d	576	576	576	576	576
SWP Water ^e	900	900	900	900	900
Planned Potable Reuse ^f	0	2,800	4,000	4,000	4,000
Total Supplies^g	20,518	22,862	23,610	23,163	23,335

a See Table 3-1

b See Table 3-2

c See Table 3-4

d See Section 4.1

e See Section 3.7. In a single dry year its estimated that the SWP will be able to supply up to 900 AF, SWP supply may be used in-lieu of groundwater or other supplies when available and when those supplies are, or are expected to be, reduced. This table represents a dry-year scenario where other supplies are reduced and hence use of SWP supplies is assumed.

f See Section 3.7.

g Maximum supplies do not account for reduction to meet water quality objectives.

**TABLE 3-8
WATER SUPPLY ESTIMATES - MULTIPLE-DRY YEARS (AF)**

Water Supply Source	2025	2030	2035	2040	2045
Casitas Municipal Water District ^a					
Year 1	5,805	5,963	6,126	6,293	6,465
Year 2	4,644	4,771	4,901	5,035	5,172
Year 3	4,064	4,174	4,288	4,405	4,526
Year 4	4,064	4,174	4,288	4,405	4,526
Year 5	4,064	4,174	4,288	4,405	4,526
Ventura River ^b					
Year 1	1,298	1,298	1,298	1,298	1,298
Year 2	1,298	1,298	1,298	1,298	1,298
Year 3	1,298	1,298	1,298	1,298	1,298
Year 4	1,298	1,298	1,298	1,298	1,298
Year 5	1,298	1,298	1,298	1,298	1,298
Groundwater ^c					
Year 1	11,939	11,325	10,710	10,096	10,096
Year 2	11,939	11,325	10,710	10,096	10,096
Year 3	11,939	11,325	10,710	10,096	10,096
Year 4	11,939	11,325	10,710	10,096	10,096
Year 5	11,939	11,325	10,710	10,096	10,096
Recycled Water ^d					
Year 1	576	576	576	576	576
Year 2	576	576	576	576	576
Year 3	576	576	576	576	576
Year 4	576	576	576	576	576
Year 5	576	576	576	576	576
SWP Water ^e					
Year 1	2,000	2,000	2,000	2,000	2,000
Year 2	3,300	3,300	3,300	3,300	3,300
Year 3	1,300	1,300	1,300	1,300	1,300
Year 4	3,800	3,800	3,800	3,800	3,800
Year 5	1,100	1,100	1,100	1,100	1,100
Planned Potable Reuse ^f					
Year 1	0	2,800	4,000	4,000	4,000
Year 2	0	2,800	4,000	4,000	4,000
Year 3	0	2,800	4,000	4,000	4,000
Year 4	0	2,800	4,000	4,000	4,000
Year 5	0	2,800	4,000	4,000	4,000
Water Available In Multiple Year Drought ^g					
Year 1	21,618	23,962	24,710	24,263	24,435
Year 2	21,757	24,070	24,785	24,305	24,442
Year 3	19,177	21,473	22,172	21,675	21,796
Year 4	21,677	23,973	24,672	24,175	24,296
Year 5	18,977	21,273	21,972	21,475	21,596
a See Table 3-1	e See Section 3.7. Because other supplies are likely to be reduced in multi-year drought use of SWP water is assumed.				
b See Table 3-2	f See Section 3.7.				
c See Table 3-4	g Maximum supplies do not account for reduction to meet water quality objectives.				
d See Section 4.1					

3.9 Energy Intensity of the City of San Buenaventura's Water System

Water energy intensity is the amount of energy, calculated on a whole-system basis, required for use of water in a specific location, such as the Ventura Water service area. DWR provides guidance for calculating the operational energy intensity of water, defined as the total amount of energy expended by the urban water supplier on a per AF basis to take water from the location where the urban water supplier acquires the water to its point of delivery. DWR requires that urban water suppliers only report the energy intensity associated with water management processes occurring within their operational control and not include energy embedded in water supplies purchased from a wholesale water agency. Table 3-9 below provides an estimate, using the total utility approach, of the water energy intensity of Ventura Water's potable water system. DWR's Energy Intensity spreadsheet is provided in Appendix K.

**Table 3-9
Energy Intensity Ventura Water Potable Water Supply -Total Utility Approach**

	Sum of All Water Management Processes	Non-Consequential Hydropower	
Start Date for Reporting	10/1/2017		
End Date for Reporting	9/30/2018	<i>Total Utility</i>	<i>Hydropower</i>
Volume of Water Entering Process (AF)	13850.54	0	<i>Net Utility</i>
Energy Consumed (kWh)	10,042,668	0	10,042,668
Energy Intensity (kWh/MG)	2225.2	0	2225.2

Section 4: Recycled Water and Reuse

This section of the Plan describes the existing and future recycled water opportunities available to the City service area. The description includes estimates of potential supply and demand for 2020 to 2045 in five-year increments, as well as the City's incentives and optimization plan.

4.1 Recycled Water Planning

The City has access to recycled water supply through the Ventura Water Reclamation Facility (VWRF). The City has sole ownership in the wastewater treatment and water recycling facilities in its service area. Currently, the VWRF discharges most of its tertiary treated effluent to the Santa Clara River Estuary with approximately 576 AFY diverted as recycled water for landscape irrigation.

The City has been planning a potable reuse facility to increase their recycled water supply. The City began planning for the VenturaWaterPure facility in 2015 and has since nearly completed the planning phase. As such, the City is not planning to expand their recycled water system beyond this but will continue to deliver the recycled water that they have historically delivered from the VWRF.

4.1.1 Wastewater Collection and Treatment

The VWRF is permitted at 14 million gallons per day (MGD) and discharges up to 9 MGD. The VWRF currently discharges an average of 6.6 MGD. The VWRF provides wastewater collection and treatment service for approximately 98 percent of City residences as well as McGrath State Beach Park and the North Coast Communities (County Service Area No 29). In February 2016, the City took over sewer service for the formerly unincorporated Montalvo community served by Montalvo Community Services District. The VWRF produces recycled water that is treated to tertiary Title 22 standards through tertiary filtration and disinfection. Currently, approximately 6 percent of the treated effluent is reused as recycled water; the rest is discharged to the SCRE.

The City's wastewater collection system consists of approximately 290 miles of sewer pipelines ranging in size from 4 to 42 inches, 11 wastewater lift stations, and the VWRF, a tertiary treatment plant. In addition, the City has recently taken over the 7.5 miles of sewer mains formerly owned by the Montalvo Community Services District. The collection system conveys flows generally from east to west and north to south, culminating at the VWRF for treatment.

The City first provided a municipal sewer system more than a century ago. In 1888, this system extended from Crimea Street west to the Ventura River and from the Pacific Ocean north to Ramona Street. The City later built and operated a primary treatment facility that included an ocean outfall at the foot of Figueroa Street between 1929 and 1959. At that time the outfall was abandoned, and the treatment plant replaced with a pump station, which delivered all wastewater flow from the western portion of Ventura through a 3-mile force main to the VWRF. The VWRF, at 1400 Spinnaker Drive, was constructed in 1958 as a 4 MGD secondary treatment facility utilizing trickling filters. The facility is located on the north bank of, and discharges treated effluent to the SCRE. The facility has provided reclaimed water since the

1970's to the City owned Olivas Park Municipal Golf Course approximately one-quarter mile east of the treatment plant. In 1972 the facility was expanded with the addition of a 10 MGD Activated Sludge treatment process. At that time tertiary filters were also constructed to provide filtered effluent for both reclamation and discharge to the SCRE. Subsequent facility construction projects have added solids treatment, nutrient removal, improved chloramine contact and expanded reclamation pumping and distribution facilities.

Table 4-1 documents wastewater collection in 2020; Table 4-2 documents wastewater treatment and discharge in 2020.

**TABLE 4-1
WASTEWATER COLLECTED WITHIN SERVICE AREA 2020 (AF)**

Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected in 2020	Name of Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of San Buenaventura	Metered	8,108	City of San Buenaventura	Ventura Water Reclamation Facility	Yes	No

Note: Currently, approximately 6% of the treated effluent is reused as recycled water, the remaining is discharged to the Santa Clara River Estuary.

**TABLE 4-2
WASTEWATER TREATED AND DISCHARGED WITHIN SERVICE AREA 2020**

Wastewater Treatment Plant Name	Discharge Location/ Method of Disposal	Does the Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level
Ventura Water Reclamation Facility	Discharge to Santa Clara River Estuary	No	Tertiary

Wastewater Treated (AF)	Discharged Treated Wastewater (AF)	Recycled Within Service Area (AF)	Recycled Outside of Service Area (AF)
8,108	7,544	564	0

Current Recycled Water Uses

Recycled water from the VWRP is used for general irrigation of two public golf courses, a City park and nearby landscape areas. After the VenturaWaterPure facility is constructed and

operational, the City still plans to provide recycled water from the VWRP for the same irrigation purposes. Existing recycled water uses include:

- Golf courses - Olivas Links Golf Course and Buenaventura Golf Course irrigation
- Parks - Marina Park irrigation
- Others - Landscape irrigation near Olivas Drive and in the Harbor area.

The two golf course customers, Olivas Links Golf Course and the Buenaventura Golf Course, account for approximately 90 percent of the total recycled water. In addition, discharge to the Estuary is also considered a beneficial use of the recycled water. Table 4-3 provides a summary of existing actual recycled water uses compared to the projected values in the 2015 UWMP.

In 2016, in response to the drought, the City increased its efforts to replace potable demand with recycled water demand. The City implemented a program, referred to as the mobile reuse program, whereby commercial and industrial entities and City residents can use a recycled water filling station at the VWRP. The filling station is used by multiple entities such as AERA Energy, the Ventura County Transportation Department, the City of San Buenaventura City Parks Department, and the San Buenaventura State Park, in addition to City residents, for the self-hauling of recycled water for irrigation and dust control. The mobile reuse program was in operation through part of 2020, however, was paused due to the COVID-19 pandemic.

**TABLE 4-3
2015 UWMP RECYCLED WATER USE PROJECTION
COMPARED TO 2020 ACTUAL (AF)**

Beneficial Use Type	2015 Projection for 2020 (AF)	Actual 2020 Use (AF)
Agriculture	0	0
Landscape Irrigation	700	564
Commercial Use	0	0
Industrial Use	0	0
Geothermal/Energy	0	0
Seawater Intrusion Barrier	0	0
Recreational Impoundment	0	0
Wetlands or Wildlife Habitat	0	0
Groundwater Recharge	0	0
Surface Water Augmentation	0	0
Direct Potable Reuse	0	0
Other	0	0
Total	700	564

4.1.2 Potential and Projected Use

Recycled water could be put to potable reuse at the VenturaWaterPure facility. In 2015, the City initiated a pilot project to test the feasibility of constructing an advanced water purification facility (AWPF) to maximize quantity and reliability of potable supplies by purifying tertiary treated effluent produced by the VWRP and optimizing its potable reuse, rather than discharging into the SCRE. The pilot facility operated for 9 months and produced favorable results, indicating highly reliable purification technologies, providing information on operational needs and costs, and the absence of risk to public health and safety. As a result, the City is proceeding with the design of a full-scale AWPF.

Other Methods to Expand Recycled Water Use

The City will expand their recycled water use significantly via the VenturaWaterPure facility and is not planning to further expand traditional recycled water use.

Projected Recycled Water Demand

Table 4-4 shows the projected recycled water uses including the historic uses for golf course, park, and landscape irrigation (excluding the VenturaWaterPure facility).

**TABLE 4-4
PROJECTED RECYCLED WATER USES**

Beneficial Use Type	2025	2030	2035	2040	2045
Agriculture	0	0	0	0	0
Landscape Irrigation	576	576	576	576	576
Commercial Use	0	0	0	0	0
Industrial Use	0	0	0	0	0
Geothermal/Energy	0	0	0	0	0
Seawater Intrusion Barrier	0	0	0	0	0
Recreational Impoundment	0	0	0	0	0
Wetlands or Wildlife Habitat	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0
Surface Water Augmentation	0	0	0	0	0
Direct Potable Reuse ^a	0	0	0	0	0
Other	0	0	0	0	0
Total	576	576	576	576	576

Notes:

a VenturaWaterPure accounted for in Tables 3-6 through 3-8.

4.1.3 Methods to Encourage Recycled Water Use

Ventura Water is focusing efforts on potable reuse through the VenturaWaterPure facility but will encourage customers to continue to participate in the mobile reuse program and will require new construction projects to utilize recycled water for landscape irrigation if located adjacent to a recycled water pipeline.

Section 5: Water Quality

The quality of any natural water is dynamic in nature. This is true for surface water and local groundwater. During periods of intense rainfall or snowmelt, routes of surface water movement are changed; new constituents are mobilized and enter the water while other constituents are diluted or eliminated. The quality of water changes over the course of a year. These same basic principles apply to groundwater. Depending on water depth, groundwater will pass through different layers of rock and sediment and leach different materials from those strata. Water depth is a function of local rainfall and snowmelt. During periods of drought, the mineral content of groundwater increases. Water quality is not a static feature of water, and these dynamic variables must be recognized.

The City's water sources are within current and anticipated Environmental Protection Agency (EPA) and State Water Resources Control Board Division of Drinking Water (DDW) levels for primary water quality standards. Based on current conditions and knowledge, water quality is not anticipated to affect water supply reliability. However, water quality issues are constantly evolving. It is well recognized water quality treatment can have significant costs.

The City's east side receives its water from groundwater wells and has significantly higher levels of TDS and minerals (hardness) compared to the water delivered to the City of San Buenaventura's west end. As such, TDS levels in excess of 1,000 parts per million (ppm) are experienced on a daily basis in the eastern portions of the system. To meet secondary water quality standards, the DDW encourages the City to explore ways to limit TDS levels to 1,000 ppm. At this time, groundwater from multiple wells in both the Mound and Oxnard Plain basins are treated and blended at the Bailey Treatment Plant to achieve the lowest TDS levels possible without sacrificing supplies. Groundwater in the Mound Basin is high in TDS and sulfate. Some portions of the groundwater exceed the sulfate maximum contaminant level (MCL) of 500 ppm, with conditions between 421 and 790 ppm in the distribution system (Ventura Water 2020). To improve TDS water quality additional westside water supplies or treatment of eastside sources will be required (Ventura Water 2020). The initial target is to lower TDS levels in the eastern portion of the system to 1,000 ppm by 2025 with possible further reduction in the future. The City continues to monitor for regulated as well as unregulated contaminants, in the event they are added to the contaminants list in future drinking water standards.

The City is also planning a blending strategy to improve groundwater quality. Some of the City's SWP allocation would help mitigate water quality issues via blending at the Saticoy Conditioning Facility. Water from the VenturaWaterPure facility would also be used to blend water at the Bailey Treatment Plant.

Section 6: Reliability Planning

6.1 Overview

The Act requires urban water suppliers to assess water supply reliability that compares total projected water use with the expected water supply over the planning period in five-year increments. The Act also requires an assessment for a single dry year and a multiple year drought lasting 5 years. This chapter presents the reliability assessment for the Ventura Water service area.

6.2 Normal Water Year

The normal/average year is a year in the historical sequence that most closely represents median runoff levels and patterns. This section summarizes Ventura Water supplies available to meet demands over the 25-year planning period during an average/normal year and compares them to demands for the same period. Assumptions about supplies and demands are provided in Chapters 2 and 3. Table 6-1 demonstrates that with planned supplies (see section 3.7) the City anticipates adequate supplies for years 2025 to 2045 under Normal conditions.

**TABLE 6-1
COMPARISON OF SUPPLY CAPACITY AND PROJECTED DEMANDS IN
AVERAGE/NORMAL YEAR (AF)**

	2025	2030	2035	2040	2045
Supplies					
Casitas Municipal Water District ^a	5,805	5,963	6,126	6,293	6,465
Ventura River ^a	4,200	4,200	4,200	4,200	4,200
Groundwater ^a	11,939	11,325	10,710	10,096	10,096
Recycled Water ^a	576	576	576	576	576
SWP ^a	1,300	1,300	1,300	1,300	1,300
Planned Potable Reuse ^a	0	2,800	4,000	4,000	4,000
Total Supplies ^b	23,820	26,164	26,912	26,465	26,637
Estimated Demands (Table 2-7)	14,804	15,193	15,591	16,001	16,422
Difference (Supply - Demand)	9,016	10,972	11,321	10,465	10,216
Difference as % of Demand	61%	72%	73%	65%	62%

Notes:

a See Table 3-6

b Maximum supplies do not account for potential reductions to meet water quality objectives.

During the Water Commission Meeting on October 27, 2015 the Water Commission determined that it was appropriate to use a supply surplus buffer of 20% for normal hydrological years. The buffer has been used for the purpose of determining water supply needs and capital cost estimates for building or attaining new supply sources that will meet the surplus buffer. Table 6-1 demonstrates that, per Water Commission policy and as a result of the water supply planning conducted over the last 5 years, City water supplies after 2025 will be adequate.

6.2.1 Single-Dry Year

The water supplies and demands for the Ventura Water service area over the 25-year planning period were analyzed in the event that a single-dry year occurs. Table 6-2 summarizes the existing and planned supplies available to meet demands during an assumed single-dry year. Table 6-2 anticipates that with the planned supplies coming online after 2025, supplies will be sufficient to meet demands in a single-dry year.

**TABLE 6-2
COMPARISON OF SUPPLIES AND DEMANDS IN SINGLE-DRY YEAR (AF)**

	2025	2030	2035	2040	2045
Supplies					
Casitas Municipal Water District ^a	5,805	5,963	6,126	6,293	6,465
Ventura River ^a	1,298	1,298	1,298	1,298	1,298
Groundwater ^a	11,939	11,325	10,710	10,096	10,096
Recycled Water ^a	576	576	576	576	576
SWP ^a	900	900	900	900	900
Planned Potable Reuse ^a	0	2,800	4,000	4,000	4,000
Total Supplies ^b	20,518	22,862	23,610	23,163	23,335
Estimated Demands (Table 2-8)	16,226	16,655	17,092	17,543	18,006
<i>Difference (Supply - Demand)</i>	4,292	6,208	6,518	5,620	5,329
<i>Difference as % of Demand</i>	26%	37%	38%	32%	30%

Notes:

a See Table 3-7

b Maximum supplies do not account for potential reductions to meet water quality objectives.

6.2.2 Multiple-Dry Year

The water supplies and demands for Ventura Water's service area over the 25-year planning period were analyzed in the event that a five-year multiple-dry year event occurs. Table 6-3 summarizes the existing and planned supplies available to meet demands during multiple-dry years. Table 6-3 documents that with planned supplies, Ventura Water should be able to meet demands in a multiple-dry year period.

**TABLE 6-3
COMPARISON OF SUPPLIES AND DEMANDS IN MULTIPLE-DRY YEARS (AF)**

	2025	2030	2035	2040	2045
Supplies ^{a, b}					
Year 1	21,618	23,962	24,710	24,263	24,435
Year 2	21,757	24,070	24,785	24,305	24,442
Year 3	19,177	21,473	22,172	21,675	21,796
Year 4	21,677	23,973	24,672	24,175	24,296
Year 5	18,977	21,273	21,972	21,475	21,596
Estimated Demands (Table 2-8)					
Year 1	16,226	16,655	17,092	17,543	18,006
Year 2	16,226	16,655	17,092	17,543	18,006
Year 3	16,226	16,655	17,092	17,543	18,006
Year 4	16,226	16,655	17,092	17,543	18,006
Year 5	16,226	16,655	17,092	17,543	18,006
Difference (Supply - Demand)					
Year 1	5,392	7,308	7,618	6,720	6,429
Year 2	5,531	7,415	7,693	6,762	6,436
Year 3	2,950	4,819	5,080	4,132	3,789
Year 4	5,450	7,319	7,580	6,632	6,289
Year 5	2,750	4,619	4,880	3,932	3,589
Difference as % of Demands					
Year 1	25%	30%	31%	28%	26%
Year 2	25%	31%	31%	28%	26%
Year 3	15%	22%	23%	19%	17%
Year 4	25%	31%	31%	27%	26%
Year 5	14%	22%	22%	18%	17%

Notes:

a See Table 3-8

b Maximum supplies do not account for potential reductions to meet water quality objectives.

6.2.3 Summary of Comparisons

As shown in the analyses above, with planned supplies, Ventura Water has adequate supplies to meet demands during average, single-dry, and multiple-dry years.

6.3 Drought Risk Assessment

The Water Code requires that every urban water supplier include in its UWMP, a drought risk assessment for its water service to its customers. This is to benefit and inform the demand management measures and water supply projects and programs to be included in the urban water management plan.

Annually Ventura Water prepares a CWRR. This report will form the basis for the Annual Assessment of shortage (see Appendix L). As part of preparing the CWRR, Ventura Water looks in detail at anticipated supplies and demands for the current year and two future years and also provides longer term projections.

6.3.1 Data and Methodologies Used

6.3.1.1 Water Demands

The water demands for this UWMP utilize water demand factors developed in April 2020, used in the 2021 CWRR. These water demand factors have been applied to the existing and anticipated land uses in the Ventura Water service area. The water demand factors looked at billing data for the City, for various uses, for the period 2013 through 2018, a water loss factor was applied to the raw factor, and a planning-level contingency factor was applied to account for variability due to weather and drought. The water demand factors capture changes in demand due to water conservation and codes and standards that have occurred overtime. Because growth in the Ventura Water service area is minimal (approximately 0.54% a year) it is not necessary to apply a different water demand factor to new dwellings. The current water demand factors are used and have been adjusted to account for new dwellings. Applying an optimistically “low” water demand factor on new development could skew demand trends when it is uncertain if (a) the development will truly occur and (b) the development will have a truly low water demand.

To evaluate water demand, Ventura Water has examined current and projected land uses. The land use evaluation started with the current general plan and a summary of built dwelling-units (residential) and square footage (non-residential). Using known development projects constructed since the adoption of the general plan, a summarized total of the existing land use within the City service area through the end of the recent calendar year was developed.

The City of San Buenaventura maintains a database of projects that are in the City’s planning process and categorizes the projects as: “In Planning Process,” “In Plan Check,” “Under Construction,” or have “All Planning Approvals.” Ventura Water has evaluated the database for projects that are either “Under Construction,” or have “All Planning Approvals.” In coordination with City Planning, Ventura Water has created a table of the “Under Construction and Approved Projects” anticipated to utilize water in the near term, which is defined as the next five years.

Using the anticipated land uses and the water demand factors Ventura Water has estimated water demands 2021 through 2025 shown in Table 6-11 below.

6.3.1.2 Water Supplies

This Drought Risk Assessment looks at all the water supplies anticipated to be available 2021 through 2025, including any limitations due to infrastructure, regulations, and assuming drought conditions.

Casitas Municipal Water District

As of February 2020, Casitas is currently in a Stage 3 water supply condition per Casitas Resolution No. 16-00. The current lake level as of February 19, 2020 was 41.6 percent full. The Casitas Board of Directors made the final decision to remain in a Stage 3 water supply condition in June of 2020. The City’s calendar year 2020 supply from Casitas was 3,794 AF.

Although the Lake is currently slightly above 40% capacity, it is likely that Casitas will remain in a Stage 3 water supply condition. To be conservative, a reduction of 30% to the City’s Casitas supply for 2021 and a 40% reduction for 2022, and a 30% reduction 2023 to 2025 are assumed. However, due to growth in the Casitas service area, there is a slight increase in the amount of water the City is eligible to receive from Lake Casitas. This growth is also accounted for in the anticipated drought supplies shown in Table 6-4.

**TABLE 6-4
ANTICIPATED SUPPLIES FROM CASITAS CONSECUTIVE DRY YEARS 2021-2025 (AF)**

2021	2022	2023	2024	2025
3,798	3,864	3,369	2,864	2,185

Notes:

Assumes 30% reduction in supply Years 2021, 2023, 2024, and 2025

Assumes 40% reduction in supply Year 2022

Ventura River

Production from the Ventura River is limited by infrastructure, the settlement with Santa Barbara Channelkeeper, and low-flow hydrology as detailed in section 3.2.2 and summarized in Table 6-5 below.

**TABLE 6-5
ANTICIPATED SUPPLIES FROM VENTURA RIVER
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

2021	2022	2023	2024	2025
736	1,298	1,298	1,298	1,298

Notes:

Assumes repeat of the average two driest years (2015-2016) for year 2021

Assumes repeat of single-driest year (2015) for years 2022-2025

Groundwater

As described in Sections 3.3 and 3.4, groundwater supplies are anticipated to be reliable sources of supply for the City. Table 6-6 reflects the anticipated supplies. In Table 6-6 a gradual turn-down of supply from the Oxnard Plain subbasin is assumed to account for pumping reductions anticipated as part of implementation of the GSP.

**TABLE 6-6
ANTICIPATED GROUNDWATER SUPPLIES
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

	2021	2022	2023	2024	2025
Mound	3,270	4,000	4,000	4,000	4,000
Oxnard Plain	5,304	5,181	5,058	4,936	4,813
Santa Paula Basin	2,661	2,661	2,661	2,661	3,126
<i>Total</i>	<i>11,235</i>	<i>11,842</i>	<i>11,719</i>	<i>11,597</i>	<i>11,939</i>

State Water Project

SWP water is not anticipated to be available in the Ventura Water service area until 2025. For the purposes of the Drought Risk Assessment, it is assumed the SWP is also experiencing a 5-year drought and supply is assumed to be similar to year 1935 hydrology (State Water Project Final Delivery Capability Report 2019 (August 26, 2020) Table B-32), see Table 6-7.

**TABLE 6-7
ANTICIPATED SWP SUPPLIES
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

2021	2022	2023	2024	2025
-	-	-	-	1,100

Notes:

No delivery infrastructure until 2025. Assumes year 1934 hydrology based on State Water Project Final Delivery Capability Report 2019 (August 26, 2020) Table B-32

VenturaWaterPure

The VenturaWaterPure Project is planned to be operable in 2025, but may not be producing regular supply until after 2025. Therefore, Table 6-8 does not include supply from VenturaWaterPure. For subsequent years, supply from VenturaWaterPure is estimated to be 2,800 AFY after 2025 and 4,000 AF after year 2030, in all hydrologic year types.

**TABLE 6-8
ANTICIPATED VENTURAWATERPURE SUPPLIES
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

2021	2022	2023	2024	2025
-	-	-	-	-

Recycled Water

As described in Section 4 and reflected in Table 6-9, recycled water is anticipated to provide a reliable 576 AFY of supply.

**TABLE 6-9
ANTICIPATED RECYCLED WATER SUPPLIES
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

2021	2022	2023	2024	2025
576	576	576	576	576

Summary All Supplies Consecutive Drought Years 2021-2025

In Table 6-10 below a summary of all anticipated supplies for consecutive drought years is provided. Table 6-11 provides a comparison of supplies and demands assuming consecutive drought 2021-2025.

**TABLE 6-10
SUMMARY ANTICIPATED SUPPLIES
CONSECUTIVE DRY YEARS 2021-2025 (AF)**

	2021	2022	2023	2024	2025
Casitas	3,798	3,864	3,369	2,864	2,185
Ventura River	736	1,298	1,298	1,298	1,298
Mound	3,270	4,000	4,000	4,000	4,000
Oxnard Plain	5,304	5,181	5,058	4,936	4,813
Santa Paula	2,661	2,661	2,661	2,661	3,126
Recycled Water	576	576	576	576	576
State Water Project	0	0	0	0	1,100
VenturaWaterPure	0	0	0	0	0
<i>Total</i>	16,345	17,580	16,962	16,335	17,098

**TABLE 6-11
FIVE YEAR DROUGHT RISK ASSESSMENT**

2021		Total	2024		Total
Gross Water Use ¹		15,631	Gross Water Use ¹		16,223
Total Supplies		16,345	Total Supplies		16,335
Surplus/Shortfall w/o WSCP Action		714	Surplus/Shortfall w/o WSCP Action		112
Planned WSCP Actions (use reduction and supply augmentation)			Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		0	WSCP - supply augmentation benefit		0
WSCP - use reduction savings benefit		0	WSCP - use reduction savings benefit		0
Revised Surplus/(shortfall)		0	Revised Surplus/(shortfall)		0
Resulting % Use Reduction from WSCP action		0%	Resulting % Use Reduction from WSCP action		0%
2022		Total	2025		Total
Gross Water Use ¹		15,828	Gross Water Use ¹		16,226
Total Supplies		17,580	Total Supplies		17,098
Surplus/Shortfall w/o WSCP Action		1,752	Surplus/Shortfall w/o WSCP Action		872
Planned WSCP Actions (use reduction and supply augmentation)			Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		0	WSCP - supply augmentation benefit		0
WSCP - use reduction savings benefit		0	WSCP - use reduction savings benefit		0
Revised Surplus/(shortfall)		0	Revised Surplus/(shortfall)		0
Resulting % Use Reduction from WSCP action		0%	Resulting % Use Reduction from WSCP action		0%
2023		Total	Notes:		
Gross Water Use ¹		16,026	1. The gross water use value assumes the worst-case scenario of less than 50% of normal rainfall and applies a 10% upward adjustment to the demand projections.		
Total Supplies		16,962			
Surplus/Shortfall w/o WSCP Action		936			
Planned WSCP Actions (use reduction and supply augmentation)					
WSCP - supply augmentation benefit		0			
WSCP - use reduction savings benefit		0			
Revised Surplus/(shortfall)		0			
Resulting % Use Reduction from WSCP action		0%			

Section 7: Demand Management Measures

7.1 Demand Management

The purpose of the Demand Management Measures (DMM) section of this UWMP is to (a) provide a description of the past water conservation programs that Ventura Water has implemented since 2016 to meet its urban water use reduction targets and (b) describe the activities and actions Ventura Water plans to use in the future to meet its urban water use reduction targets. For the purposes of this UWMP the DMMs are categorized as “Foundational” and “Other”. Foundational DMMs, listed below, are those DMMs that the UWMP Act and Water Code specifically mention:

- a. Water waste prevention ordinances
- b. Metering
- c. Conservation pricing
- d. Public education and outreach
- e. Programs to assess and manage distribution system real loss
- f. Water conservation program coordination and staffing support

Activities outside of the Foundational DMMs that encourage less water use in the City service area fall in the “Other DMM” category.

This chapter discusses the DMMs that Ventura Water undertakes as part of normal business. However, given the extraordinary and continuing drought, this chapter also describes those measures that were undertaken specifically to address dry conditions.

7.1.1 Foundational DMMs

7.1.1.1 Water Waste Prohibition

Ventura Water prohibits water waste through its Water Conservation Ordinance (Division 22 – Public Utilities, Chapter 22.170). Specifically, Section 22.170.010 states:

“Water waste prohibited.

A. Prohibited uses. No person shall use or permit the use of water:

1. For the watering of turf, ornamental landscape, open ground crops and trees, including agricultural irrigation, in a manner or to an extent which allows water to run to waste;
2. Such that the escape of water through leaks, breaks or malfunction within the water user's plumbing or distribution system occurs for any period of time beyond which such break or leak should reasonably have been discovered and corrected. It shall be presumed that a period of 48 hours after the water user discovers such leak, break or malfunction, or receives notice from the city of such

condition, whichever occurs first, is a reasonable time within which to correct such condition;

3. In conjunction with use of a handheld hose to wash automobiles, trucks, trailers, boats, or other types of mobile equipment without the use of a workable positive shutoff nozzle;
4. For the operation of any ornamental fountain, or similar structures, unless water for such use is recycled for lawful reuse without substantial loss;
5. For washing of sidewalks, walkways, driveways, parking lots or any other hard-surfaced areas by hose or flooding, except as otherwise necessary to prevent or eliminate conditions dangerous to the public health and safety or for other legitimate necessity;
6. For serving of water by a restaurant to its customers without first being requested by the customer;
7. The application of potable water to outdoor landscaped during and within 48 hours of measurable rainfall; or
8. Knowingly for any indiscriminate running of water or washing with water not otherwise prohibited above which is wasteful and without reasonable purpose.”

7.1.1.2 Metering

All existing services and new service connections in the City are metered and billed volumetrically

Efforts in 2020

In March 2016, the City Council adopted the Meter Upgrade Project to replace all manually-read water meters with advanced metering infrastructure (AMI) that automatically relay water usage to the City’s billing system through a secured network. The project launched in October 2018, with plans to replace all 32,000 Ventura Water meters by October 2021. To date, the project is 75 percent complete with over 25,000 meters installed.

In April 2020, Ventura Water launched Home Connect, a new online portal that allows Ventura Water customers to track their hourly water usage, set water-use budgets, and receive leak detection notifications for improved water use management. Upon completion, the Meter Upgrade Project is projected to save more than 600 acre-feet of water per year.

7.1.1.3 Conservation Pricing

All of the City’s retail customers are metered and billed with commodity rates for both water and sewer service. The City does not have any unmetered services and all new connections are metered and billed volumetrically.

Efforts in 2020

Every five years, a Cost of Service and Rate Design Study is conducted for the water and wastewater enterprises to ensure fair and equitable rates for all City customers and to generate sufficient revenue to meet operating and capital costs. In response to seasonal drought conditions, the City has periodically adopted and implemented new rate structures. These

events occurred in Fiscal Year (FY) 2012-2013, FY 2014-2015, and FY 2015-2016, in response to water shortage events. New rates were established to achieve full revenue recovery during drought and non-drought years. In May 2020, the City declared a Stage 2 Water Shortage Event, shifting from the Stage 3 Water Shortage Event declared in September 2015 that remained in effect through June 30, 2020. The City is currently conducting a new Water and Wastewater Rate Design Study. If adopted by City Council, new rates will be implemented in July 2021.

7.1.1.4 Public Education and Outreach

Ventura Water has consistently and actively encouraged water conservation through an extensive public education and outreach campaign. Outreach has utilized multiple venues including social media, printed media (bill inserts, handouts), outdoor advertising (billboards), radio, television, hosting of water conservation workshops, participation in community events (parades and street fairs). These outreach activities are summarized in Table 7-1.

**TABLE 7-1
VENTURA WATER OUTREACH PROGRAMS**

Action	Description	2016	2017	2018	2019	2020
Monthly E-Newsletter	The monthly Pipeline Newsletter provides information on capital improvement projects, conservation programs, public meetings, workshops, and special events.	X	X	X	X	X
Website	Ventura Water regularly updates the website with FAQs, public notices, water quality data, water conservation information, public meeting information, project updates, and more.	X	X	X	X	X
Outreach Events	15-20 public outreach events per year, consisting of job fairs, City-sponsored events, Chamber of Commerce events, with giveaways and informational handouts.	X	X	X	X	X
Social Media	Ventura Water maintains an active and engaged presence on Facebook, Twitter, YouTube, and Instagram.	X	X	X	X	X
Public Engagement Materials	Water quality Consumer Confidence Report. Brochures "Protecting our Pipes"; "Understanding Water and Wastewater Charges"; "Customer Assistance Program"; "Water Disaster Preparedness"; and "Fats, Oils, and Grease".	X	X	X	X	X
Targeted Outreach	Brochures, annual mailer, postcards, and door hangers.	X	X	X	X	X
Conservation Giveaways	Ventura Water continues to offer customers water conservation giveaways including materials such as "Doing Our Part to Save Water" yard signs, low-flow showerheads, faucet aerators, toilet leak detection kits, shower times, dish squeegees, and more.	X	X	X	X	X

Table 7-1 cont.

Action	Description	2016	2017	2018	2019	2020
WaterWise Gardening Series	Ventura Water, in partnership with the city's Environmental Sustainability Department, offers monthly workshops that cover water wise and sustainable gardening practices.	X	X	X	X	X
Townhall Meetings/ Public Informational Meetings	Ventura Water plans, attends, and hosts public meetings to share water shortage rates information, ordinance changes, and customer programs to provide an opportunity for residents to voice concerns	X	X	X	X	X
Customer Water Waste Hotline	Hotline where customers can report water waste.	X	X	X	X	X
Water Take 1	A home grown international short film contest that brings awareness to the value of water.	X	X	X	X	X

Between September 2016 and July 2018, Ventura Water held nine water conservation contests to bring awareness of saving water during drought periods to the community.

The Ventura Water Outreach team, an assembly of Ventura Water staff who represent the laboratory, the wastewater collections system, the wastewater plant operations, water distribution, and the General Managers office host and attend multiple events to perform face to face public engagement related to drought messaging (see Table 7-2).

7.1.1.5 Programs to Assess and Manage Distribution System Real Loss

Consistent with Senate Bill 555, Ventura Water conducts a water loss audit each year and provides a report to DWR. For the January to December 2019 period, Ventura Water utilized the Water Audit Methodology (Appendix L of the Guidebook) to estimate both real and apparent water loss. Based on this recent audit, the City estimates that apparent losses (meter inaccuracies) account for about one percent of total water loss; real losses are estimated to be about 7 percent of production. The Water Loss Audit Reports for 2015-2019 are provided in Appendix E.

7.1.1.6 Water Conservation Program Coordination and Staffing Support

The conservation program is managed by Ventura Water's Management Analyst, who oversees water resources management for the City. Program activities are managed by various City staff as part of their regular assignment, which equates to one full time employee.

**TABLE 7-2
DROUGHT SPECIFIC OUTREACH PROGRAMS**

Monthly class March – October 2016 - 2019	Water Wise Gardening Class
March 2016 - 2018	Wild and Scenic Film Festival
March 2016 - 2019	Water Take 1 Event
April 2016 - 2019	AWA Water Symposium
April 2016 - 2019	Earth Day Ecofest
March 2017 – December 2018	Channel Islands Native Garden Plant Sale
April 2017	Pierpont Elementary Earth Day Event
April 2017	E.P. Foster Earth Day Event
May 2016 - 2018	Surf N Suds
July 2017	Smart Sprinkler Controller Workshop
April 2018	Walk for Water
May 2018	Ocean Friendly Garden/Water Conservation Workshop
May 2019	Water Wise Workshop with WDCD
August 2019	Summer Open House Event at Ventura Water Reclamation Facility

7.1.2 Other DMMs

7.1.2.1 Wholesale Agency Assistance Programs

Ventura Water will continue to work cooperatively with Casitas Municipal Water District to participate in regional DMM programs, informational groups and projects, determination of the most cost-effective DMMs, and tailoring programs specific to the City. Ventura Water customers that are within the Casitas service area qualify for many conservation incentives, including water audits, free low flow showerheads and aerators, and rebates for high efficiency toilets and washing machines. These conservation opportunities are described at Casitas' website (www.casitaswater.org). Water conservation activities undertaken by Casitas in the Ventura Water area are summarized in Table 7-3.

An example of coordination between Ventura Water and Casitas is the Water Wise Incentive Program. The Water Wise Incentive Program is a new regional water conservation program that provides outdoor water use efficiency incentives to customers of Ventura Water, the City of Santa Paula and Casitas Municipal Water District. Starting in 2016, the Water Wise Incentive Program began offering rebates for turf removal, weather-based irrigation controllers, high-efficiency nozzles, and rainwater harvesting and reuse. The City, Casitas, and the City of Santa Paula cooperatively designed the program and successfully pursued grant funding for the project.

**TABLE 7-3
VENTURA WATER PARTICIPATION IN WHOLESALE AGENCY PROGRAMS**

Description	2016	2017	2018	2019	2020
Water Efficiency Surveys	72	81	116	94	98
High Efficiency Toilets (1.1 gpf)	-	-	-	21	33
High Efficiency Washing Machine Rebates	29	56	14	53	106
Weather-Based Irrigation Controllers	14	134	130	113	82
High Efficiency Sprinkler Nozzles	873	1,629	4,465	2,578	1,205
Instant Hot Water Recirculating Pump	-	-	-	227	241
Rain Barrel Voucher	295	122	92	109	62

To date, Ventura Water’s Water-Wise program has resulted in an estimated water savings of 104 AFY.

7.1.2.2 Ventura Water Partnerships with Ventura Unified School District

Since 2009, the City of San Buenaventura Water Department and Environmental Sustainability Division have provided environmental educational programming to Ventura Unified School District in the form of classroom presentations, assemblies, special event participation, special projects and equipment (i.e. recycle bins, composting bins, gardening supplies). Over 30,000 students have received education on water conservation, stormwater pollution prevention and waste reduction.

In 2017, Ventura Water provided financial support and technical staff support to Juanamaria Elementary School and ATLAS Elementary schools for projects and programs that increase recycling, build wildlife habitats, and reduce waste and water consumption.

In 2017, Ventura Water provided financial support and technical staff support to Ventura High School Greener World Action Team for replacing 1,100 square feet of turf with a water wise landscape at Ventura High School.

In 2018, Ventura Water provided financial support and technical staff support to ATLAS Elementary School for implementing a water wise garden on campus.

Green School Program

Ventura Water offers free education classroom presentations to students in Kindergarten through 12th grade. Lesson plans are grade-specific and aligned with Next Generation Science Standards. All lesson plans included hands-on activities, covering topics such as water conservation, water resource management, watershed protection, and more. This program aims to bring awareness of the importance of local water resource management and water conservation as a way of life.

Table 7-4 summarizes the school outreach metrics.

**TABLE 7-4
SCHOOL OUTREACH METRICS**

	2016	2017	2018	2019	2020
# of students	-	6,210	5,800	4,150	*
# of presentations	-	240	234	125	-

*Postponed due to COVID-19.

Field Trips

Beginning in 2016, Ventura Water partnered with MERITO Foundation, a local-based nonprofit organization dedicated to providing meaningful watershed experiences to multicultural youth and their community. Students, parents, and educators were invited to visit the Ventura Water Reclamation Facility for a day of hands-on science-based learning. Students tour the Ventura Water Reclamation Facility, conduct water quality testing out of Ventura Water’s on-site wildlife ponds and assess ecosystem health through bird species identification. Through this field experience, students are exposed to careers in water science and the many roles and responsibilities necessary to sustain a safe and healthy environment. Ventura Water offers free field trips to the reclamation and drinking water treatment plants throughout the school year. Teachers and educators can schedule a field trip on Ventura Water’s website. Since 2016, Ventura Water has provided field trips for over 1,600 students.

7.1.2.3 Efforts In 2020

WaterWise Turf and Replacement Program

Since 2015, the City has offered \$2 per square foot rebates to qualifying customers that replace their lawn with a water wise landscape. To date, approximately 633 projects have been completed with more than 520,000 square feet of turf removed, resulting in a project water savings of 21 AFY. This program continues to be offered to Ventura Water customers.

Mobile Reuse Program

In June 2016, the City launched a Residential Mobile Reuse Program which provides high-quality recycled water for local residents and commercial businesses. The recycled water can be picked up at the Fill Station located at the Ventura Water Reclamation Facility. Residents, City Parks, and State Parks utilize the water for landscape irrigation while AERA Energy and the Ventura County Transportation Department utilize the water for dust control mitigation. Benefits of the program include expanded recycled water usage in the City and conservation of potable water. To date, the Residential Mobile Reuse Program has provided over 51 acre-feet in recycled water.

Enforcement of Water Waste Prohibition

Ventura Water staff continues to monitor and respond to water waste incidents. Residents are encouraged to anonymously report water waste through a website form or by calling Ventura Water Customer Care. City staff investigates an average of 10 water waste incidents per month.

7.2 Planned DMMs to Meet Water Use Targets

Ventura Water customers have already achieved demand reductions sufficient to meet SBX7-7 water use targets. Ventura Water will continue to perform Foundational DMMs. These DMMs, expanding opportunities for new recycled water use customers in the service area, as well as potable reuse, will help the City to keep its GPCD within or lower than the SBX7-7 water use targets.

Section 8: Water Shortage Event Contingency Plan

Ventura Water has prepared a separate standalone Water Shortage Event Contingency Plan (WSECP), contained in Appendix L. The WSECP was adopted by the City Council on April 26th, 2021. This section includes a brief summary of the WSECP and includes the drought risk assessment required by the UWMP Guidelines.

8.1 Purpose of the WSECP

The City of San Buenaventura has developed a WSECP to provide guidance if triggering events occur — whether from reduced supply, increased demand, or an emergency declaration — and to identify corresponding actions to be taken during the various stages of a water shortage. The plan includes voluntary and mandatory stages which are intended to be fair to all water customers and users while having the least impact on business, employment, and quality of life for residents.

8.2 Annual Assessment

New provisions in Water Code Section 10632.1. require that an urban water supplier such as Ventura Water, conduct an annual water supply and demand assessment (“Annual Assessment”), on or before July 1 of each year, to be submitted to DWR. As part of the WSECP Ventura Water has identified the timeline, staff and outside agency coordination, and other actions necessary to conduct the Annual Assessment.

8.3 Shortage Stages

The WSECP describes six water shortage stages corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage.

8.4 Water Shortage Response Actions

The WSECP identifies water shortage response actions, including:

- Communication with customers
- Public outreach
- Supply augmentation
- Operational changes
- Customer demand reduction measures (including enforcement)
- Monitoring of production and demand

Section 9: References

California Department of Water Resources (DWR). 2021. Final Urban Water Management Plan Guidebook. March

_____. 2003. California's Groundwater, Bulletin 118 Update 2003. October.

City of San Buenaventura. 2013. San Buenaventura General Plan Housing Element Update. September 2013 Housing Element Technical Report, Page 2-39, Chart 2-26.

_____. 2011. Water Master Plan. March.

Fugro West, Inc. June 1997. "Mound Groundwater Basin Annual Report

Oakley, N.S., Hatchett, B.J., McEvoy, D., Rodriguez, L., 2019. Projected Changes in Ventura County Climate. Western Regional Climate Center, Desert Research Institute, Reno, Nevada. Available at: wrcc.dri.edu/Climate/reports.php. Available at: www.countyofventura.org.

Ventura Water. 2021. 2021 Comprehensive Water Resources Report. April.

_____. 2020. 2020 Drinking Water Consumer Confidence Report. May.

_____. 2017. State Water Interconnection Alignment Study Water Quality Assessment Technical Memorandum. September.

Ventura County Watershed Protection District's web site for Station 066E, https://www.vcwatershed.net/hydrodata/php/getstations.php?dataset=rain_hour&order=site_id, for the period October 2005 to September 2020.

Western Regional Climate Center, Station 049285. Available at: www.wrcc.dri.edu

Wastewater



- About
- Fats, Oils, Grease
- Private Sewer Lateral

Treatment Facility

The Ventura Water Reclamation Facility is a tertiary treatment plant, located in the Ventura Harbor area near the mouth of the Santa Clara River, where the river meets the Pacific Ocean.

It provides treatment services to approximately 98% of City residences, with a total population of over 109,000.

- Treats 8 to 9 million gallons of wastewater per day,
- More than 300 miles of sewer mains
- 14 lift stations

Currently, following a 3-step treatment process at the facility, most of the treated wastewater is discharged into the Estuary after flowing through a series of wildlife ponds for about four days or delivered to reclaimed water customers.

"F.O.G."

See our [F.O.G. page](#) for more details.

✕ Hello 🙋. How can we help you?

Select Language ▼

Google Translate



Bacon Grease, Butter, Margarine, Cooking Oil, Mayonnaise, Salad Dressings, Sour Cream, Food Scraps, Gravy, Lard, Meat Fats and Shortening

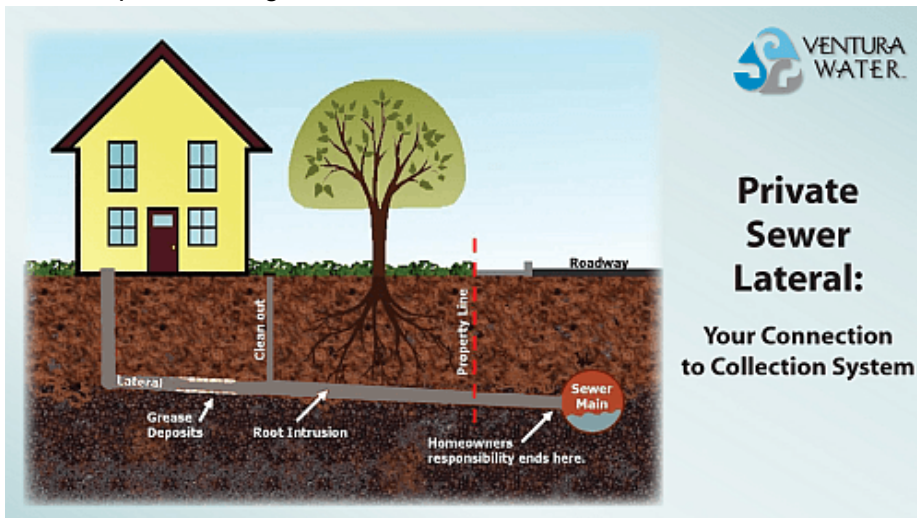
When "FOG" is poured down kitchen drains, it accumulates inside sewer system pipes. As FOG builds up, it restricts the flow in the pipes and can cause untreated wastewater to back up into homes, businesses and streets, resulting in high costs for clean-up and restoration.

For more information see

- [F.O.G Information Page](#)
- [F.O.G. FAQ \(PDF\)](#)
- [F.O.G. Brochure \(PDF\)](#)
- [F.O.G. Rules Regs \(PDF\)](#)
- [F.O.G. Regulations Presentation \(PDF\)](#)

Your Connection to the Collection

See our [Inspection Program](#) for more details.



A private sewer lateral is the pipe that connects a business or home's plumbing system to the City's wastewater collection main pipeline. The lateral is considered the "private" segment when it is located on private property and serves the purposes of an individual, privately-owned building. The property owner is responsible for entire pipe length, including the wye or saddle at the point of connection to the City's mainline.

Related Resources

Wastewater

- [2020 Ventura Water Reclamation Facility NPDES](#)
- [2013 Ventura Water Reclamation Facility NPDES](#)



VENTURA
WATER™

Trusted life source for generations.

CONTACT US

Ventura Water

[Email the
Department](#)

Physical Address
336 Sanjon Road
Ventura, CA 93002

Phone: : 805-667-
6500

**After-Hours
(Emergency Only):**
[805-650-8010](tel:805-650-8010)

[Directory](#)

SOCIAL MEDIA

[Pipeline E-Newsletter](#)

[Ventura Water on
Facebook](#)

[Ventura Water
Instagram](#)

[Ventura Water on
Twitter](#)

[Ventura Water YouTube](#)

USING THIS SITE

[Home](#)

[Site Map](#)

[Resource Agencies](#)

[Accessibility](#)

[Copyright Notices](#)